

Configuration Guide for Google  
CCAI Call Recording Using  
AudioCodes VE SBC  
7.40A.500.786



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# 1 Audience

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This document is intended for the SIP Trunk customer's technical staff and Value-Added Reseller (VAR) having installation and operational responsibilities.

## 1.1 Introduction

This configuration guide describes configuration steps for **Google CCAI Call Recording** using **AudioCodes Virtual Edition Session Border Controller 7.40A.500.786**

### 1.1.1 TekVizion Labs

TekVizion Labs™ is an independent testing and verification facility offered by TekVizion, Inc. TekVizion Labs offers several types of testing services including:

- Remote Testing – provides secure, remote access to certain products in TekVizion Labs for pre-Verification and ad hoc testing.
- Verification Testing – Verification of interoperability performed on-site at TekVizion Labs between two products or in a multi-vendor configuration.
- Product Assessment – independent assessment and verification of product functionality, interface usability, assessment of differentiating features as well as suggestions for added functionality, stress, and performance testing, etc.

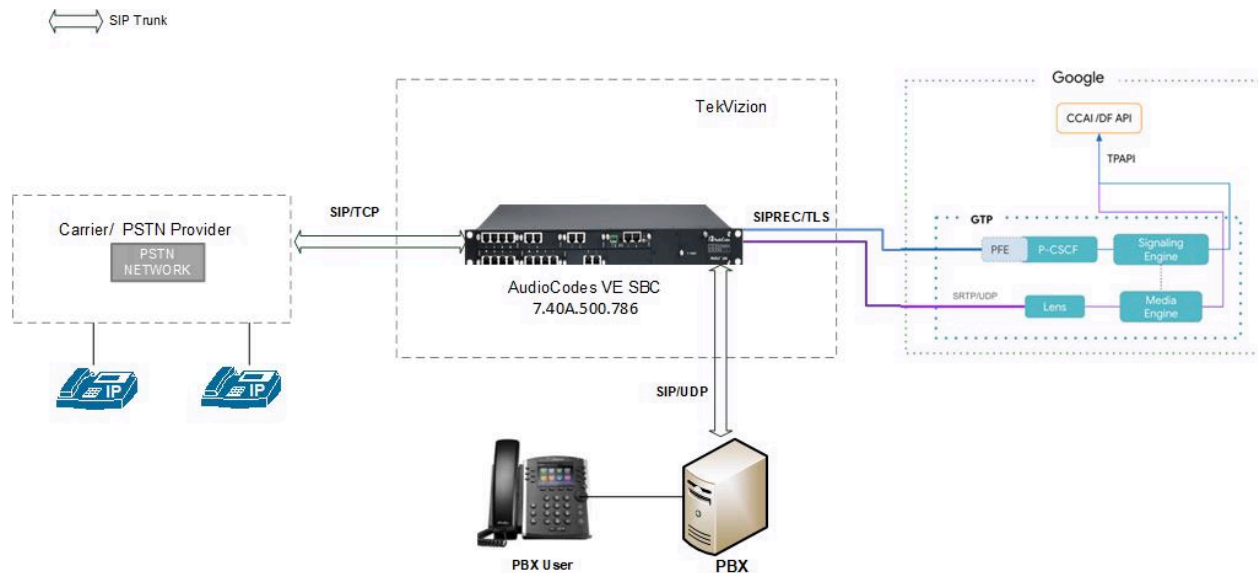
TekVizion is a systems integrator specifically dedicated to the telecommunications industry. Our core services include consulting/solution design, interoperability/Verification testing, integration, custom software development and solution support services. Our services help service providers achieve a smooth transition to packet-voice networks, speeding delivery of integrated services. While we have expertise covering a wide range of technologies, we have extensive experience surrounding our practice areas which include SIP Trunking, Packet Voice, Service Delivery, and Integrated Services.

The TekVizion team brings together experience from the leading service providers and vendors in telecom. Our unique expertise includes legacy switching services and platforms, and unparalleled product knowledge, interoperability, and integration experience on a vast array of VoIP and other next-generation products. We rely on this combined experience to do what we do best: help our clients advance the rollout of services that excite customers and result in new revenues for the bottom line. TekVizion leverages this real-world, multi-vendor integration and test experience and proven processes to offer services to vendors, network operators, enhanced service providers, large enterprises and other professional services firms. TekVizion's headquarters, along with a state-of-the-art test lab and Executive Briefing Center, is located in Plano, Texas.

*For more information on TekVizion and its practice areas, please visit [TekVizion Labs website](#).*

## 2 SIP Trunking Network Components

The network for the SIP Trunk reference configuration is illustrated below and is representative of Google CCAI Call Recording with AudioCodes Virtual Edition Session Border Controller 7.40A.500.786.



**Figure 1: SIP Trunk Lab Reference Network.**

The lab network consists of the following components.

- Google CCAI cloud Environment
- AudioCodes VE SBC 7.40A.500.786
- OnPrem PBX

### 3 Hardware Components

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- AudioCodes VE SBC

### 4 Software Requirements

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- AudioCodes VE version: 7.40A.500.786

### 5 Features

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#### 5.1 Features tested for Google CCAI Call Recording

- Basic Inbound calls
- Call Hold and Resume
- Call Transfer (Blind and Consultative transfer)
- Conference

#### 5.2 Features Not tested for Google CCAI Call Recording

- TCP Keep Alive is not tested due to SBC issue. We have reached out to Audiocodes to check this issue. Will update the test results later.

#### 5.3 Caveats and Limitations

DTLS	DTLS towards Google CCAI is not tested
------	--

## 6 Configuration

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### 6.1 Configuration Checklist

Below are the steps that are required to configure AudioCodes VE SBC.

**Table 1 – AudioCodes VE SBC Configuration Steps**

Step	Description	Reference
Step 1	Network Interface IP	<a href="#">Section 6.4.1</a>
Step 2	Configure TLS Context for Google CCAI	<a href="#">Section 6.4.2</a>
Step 3	Configure Media Realms	<a href="#">Section 6.4.3</a>
Step 4	Configure SIP Signaling Interfaces	<a href="#">Section 6.4.4</a>
Step 5	Configure Proxy Sets and Proxy Address	<a href="#">Section 6.4.5</a>
Step 6	Configure Coders	<a href="#">Section 6.4.6</a>
Step 7	Configure IP Profiles	<a href="#">Section 6.4.7</a>
Step 8	Configure IP Groups	<a href="#">Section 6.4.8</a>
Step 9	Configure SRTP	<a href="#">Section 6.4.9</a>
Step 10	Configure IP to IP Call Routing	<a href="#">Section 6.4.10</a>
Step 11	Configure SIP Recording	<a href="#">Section 6.4.11</a>
Step 12	Configure Message Manipulation Rules	<a href="#">Section 6.4.12</a>

## 6.2 IP Address Worksheet

The specific values listed in the table below and in subsequent sections are used in the lab configuration described in this document are for **illustrative purposes only**.

**Table 2 - IP Address Worksheet**

Component	IP Address
<b>Google CCAI</b>	
Signaling	tekvision.telephony.goog:5672
Media	74.125.X.X
<b>OnPrem PBX</b>	
LAN IP Address	172.16.29.18
<b>AudioCodes VE SBC</b>	
LAN IP Address	10.80.X.X
WAN IP Address	192.65.X.X

## 6.3 Google CCAI API Configuration

Below link can be referred to configure Google CCAI call recording.

-----Link to be provided by Google team-----



## 6.4 AudioCodes VE-SBC Configuration

The following is the example configuration of AudioCodes VE SBC for Google CCAI Call Recording.

### 6.4.1 Network Interface IP

- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **CORE ENTITIES** folder ☐ **IP Interfaces**
- Configure IP Interfaces for PBX, PSTN and Google CCAI as shown below.

The screenshot shows the AudioCodes VE-SBC configuration interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The 'IP NETWORK' tab is selected under the 'CORE ENTITIES' folder. The left sidebar shows 'IP Interfaces (3)' selected. The main table displays the following data:

INDEX	NAME	APPLICATION TYPE	INTERFACE MODE	IP ADDRESS	PREFIX LENGTH	DEFAULT GATEWAY	PRIMARY DNS	SECONDARY DNS	ETHERNET DEVICE
0	PBX	QAMP + Media + C	IPv4 Manual	10.80.11.140	16	10.80.11.1	10.85.0.12	0.0.0.0	vlan 1
1	PSTN	Media + Control	IPv4 Manual	10.80.11.146	16	10.80.11.1	10.85.0.12	0.0.0.0	vlan 1
2	Google CCAI	Media + Control	IPv4 Manual	192.65.79.97	27	192.65.79.97	8.8.8.8	0.0.0.0	vlan2

Below the table, there is a search bar and a button labeled '#0[PBX]'.

Figure 2: IP Interfaces.

#### 6.4.1.1 Configure LAN and WAN VLANs

- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **CORE ENTITIES** folder ☐ **Ethernet Devices**
- Configure VLANs for LAN and WAN interfaces as shown below.

The screenshot shows the AudioCodes VE-SBC configuration interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The 'IP NETWORK' tab is selected under the 'CORE ENTITIES' folder. The left sidebar shows 'Ethernet Devices (2)' selected. The main table displays the following data:

INDEX	VLAN ID	UNDERLYING INTERFACE	NAME	TAGGING	MTU
0	1	GROUP_1	vlan 1	Untagged	1500
1	1	GROUP_2	vlan2	Untagged	1500

Figure 3: VLAN configuration.

### 6.4.1.2 Configure Network Interfaces

- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **CORE ENTITIES** folder ☐ **IP Interfaces**
- Configure the IP Network interfaces for PBX, PSTN and Google CCAI as shown below.

INDEX	NAME	APPLICATION TYPE	INTERFACE MODE	IP ADDRESS	PREFIX LENGTH	DEFAULT GATEWAY	PRIMARY DNS	SECONDARY DNS	ETHERNET DEVICE
0	PBX	OAMP + Media + C	IPv4 Manual	10.80.11.140	16	10.80.11.1	10.85.0.12	0.0.0.0	vlan1
1	PSTN	Media + Control	IPv4 Manual	10.80.11.146	16	10.80.11.1	10.85.0.12	0.0.0.0	vlan1
2	Google CCAI	Media + Control	IPv4 Manual	192.65.79.97	27	192.65.79.97	8.8.8.8	0.0.0.0	vlan2

Figure 4: Network interface configuration.

### 6.4.2 Configure TLS Context for Google CCAI

SBC and Google CCAI connection need to establish with TLS, configure TLS context for Google CCAI.

#### 6.4.2.1 Create a TLS Context for Google CCAI

- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **Security** folder ☐ **TLS Contexts**
- Configure TLS context for Google CCAI as shown below.

INDEX	NAME	TLS VERSION	DTLS VERSION	CIPHER SERVER
0	Default	TLSv1.0 TLSv1.1 and TLSv1.2	DTLSv1.0 and DTLSv1.2	DEFAULT
1	Google CCAI	TLSv1.2	DTLSv1.0 and DTLSv1.2	DEFAULT

Figure 5: TLS Context for Google CCAI.

**TLS Contexts [Google CCAI]**

GENERAL		OCSP	
Index	1	OCSP Server	Disable
Name	Google CCAI	OCSP Interface	-- <a href="#">View</a>
<b>TLS Version</b>	TLSv1.2	Primary OCSP Server	0.0.0.0
DTLS Version	DTLSv1.0 and DTLSv1.2	Secondary OCSP Server	0.0.0.0
Cipher Server	DEFAULT	OCSP Port	2560
Cipher Client	DEFAULT	OCSP Default Response	Reject
Cipher Server TLS 1.3	TLS_AES_256_GCM_SHA384:TLS_CHACHA20_P		
Cipher Client TLS 1.3	TLS_AES_256_GCM_SHA384:TLS_CHACHA20_P		
Key Exchange Groups	X25519:P-256:P-384:X448		
Strict Certificate Extension Validation	Disable		
DH key Size	2048		
TLS Renegotiation	Enable		
Use default CA Bundle	Disable		

**Figure 6: TLS Context for Google CCAI Cont.**

#### 6.4.2.2 Generate a CSR and Obtain the Certificate from a Supported CA

- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **SECURITY** folder ☐ **TLS Contexts**
- In the TLS context page, select the **Google CCAI** TLS context index row and click on **Change Certificate** option.
- Fill the required details in the Change certificate link such as 'Common Name'(CN), 'Subject Alternative Name'(SAN), Private key size and generate a private key and CSR and submit CSR to Certified Authority Administrator for signing.

**Mediant VE SBC** | **IP NETWORK** | **SIGNALING & MEDIA** | **ADMINISTRATION**

Save Restart Actions Admin ?

Entity, parameter, value

SRD All

**NETWORK VIEW**

- CORE ENTITIES
- SECURITY**
  - TLS Contexts (2)**
    - Default CA Bundle
    - SNI-to-TLS Context Mapping (0)
    - Firewall (0)
    - Security Settings
- QUALITY
- DNS
- WEB SERVICES
- HTTP PROXY
- AAA SERVERS
- MEDIA CLUSTER
- ADVANCED

INDEX	NAME	TLS VERSION	DTLS VERSION	CIPHER SERVER
0	Default	TLSv1.0 TLSv1.1 and TLSv1.2	DTLSv1.0 and DTLSv1.2	DEFAULT
1	Google CCAI	TLSv1.2	DTLSv1.0 and DTLSv1.2	DEFAULT

**#1[Google CCAI]** [Edit](#)

GENERAL		OCSP	
Name	Google CCAI	OCSP Server	Disable
<b>TLS Version</b>	TLSv1.2	OCSP Interface	-- <a href="#">View</a>
DTLS Version	DTLSv1.0 and DTLSv1.2	Primary OCSP Server	0.0.0.0
Cipher Server	DEFAULT	Secondary OCSP Server	0.0.0.0
Cipher Client	DEFAULT	OCSP Port	2560
Cipher Server TLS 1.3	TLS_AES_256_GCM_SHA384:TLS_CHACHA20_POLY1305_SHA256...	OCSP Default Response	Reject
Cipher Client TLS 1.3	TLS_AES_256_GCM_SHA384:TLS_CHACHA20_POLY1305_SHA256...		
Key Exchange Groups	X25519:P-256:P-384:X448		
Strict Certificate Extensl...	Disable		
DH key Size	2048		
TLS Renegotiation	Enable		
Use default CA Bundle	Disable		

Certificate Information >> **Change Certificate >>** Trusted Root Certificates >>

**Figure 7: CSR Generation for Google CCAI TLS Context.**

### 6.4.2.3 Deploy the SBC and Root/Intermediate Certificates on the SBC

- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **SECURITY** folder ☐ **TLS Contexts**
- In the TLS context page, select the Google CCAI TLS context index row and click on **Change Certificate** option.
- Scroll further down and opt for **Load Device Certificate File** to upload the SBC certificate to it.

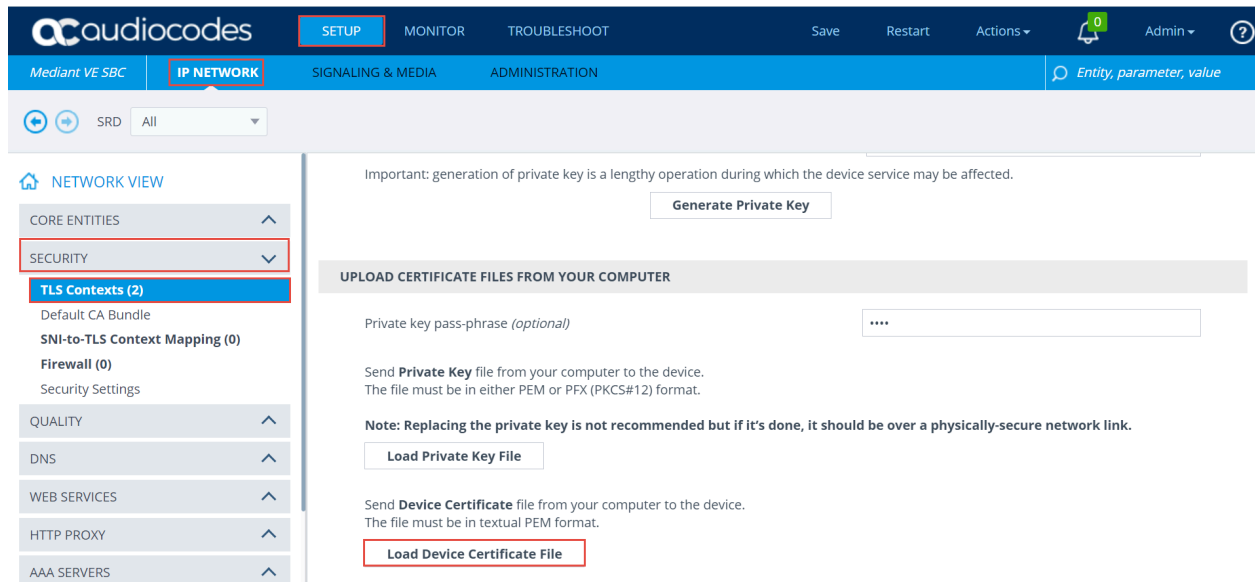


Figure 8: SBC Certificate upload.

- In the TLS context page, select the Google CCAI TLS context index row and click on **Trusted Root Certificates** option.
- Within the Trusted Root Certificates page, click the **Import** button and load all Root/Intermediate Certificates obtained from your Certification Authority.

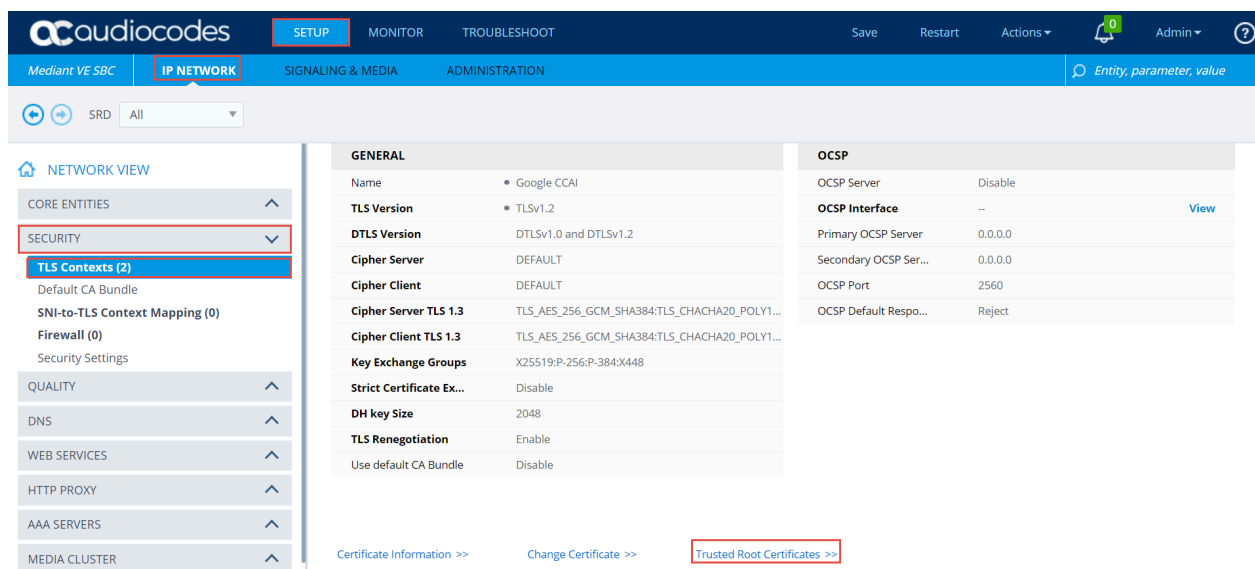
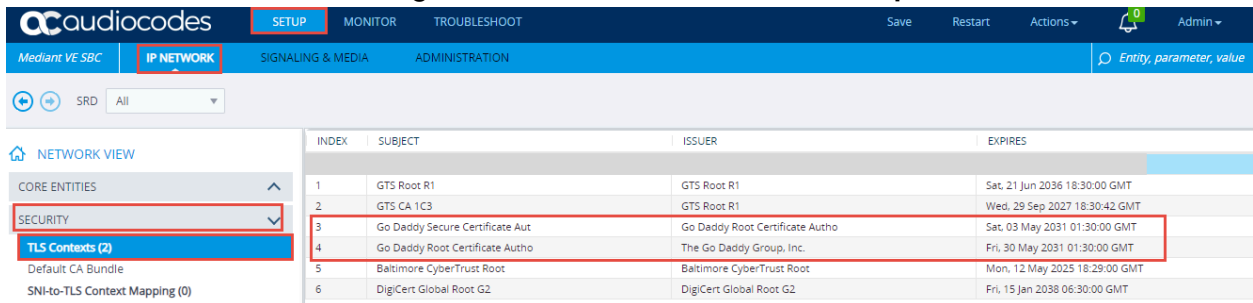


Figure 9: Trusted Root Certificates Upload.

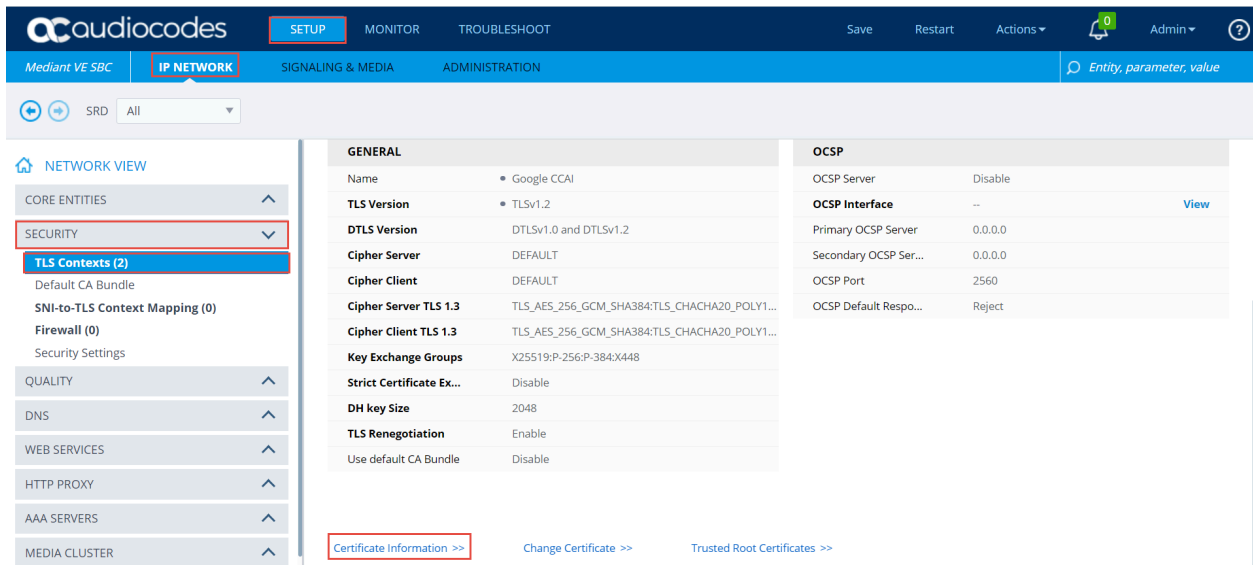


The screenshot shows the Audiocodes IP Network configuration page. The left sidebar has 'SECURITY' and 'TLS Contexts (2)' highlighted. The main table lists trusted root certificates with columns for INDEX, SUBJECT, ISSUER, and EXPIRES. Rows 3 and 4 are highlighted with a red box.

INDEX	SUBJECT	ISSUER	EXPIRES
1	GT5 Root R1	GT5 Root R1	Sat, 21 Jun 2036 18:30:00 GMT
2	GT5 CA 1 C3	GT5 Root R1	Wed, 29 Sep 2027 18:30:42 GMT
3	Go Daddy Secure Certificate Aut	Go Daddy Root Certificate Autho	Sat, 03 May 2031 01:30:00 GMT
4	Go Daddy Root Certificate Autho	The Go Daddy Group, Inc.	Fri, 30 May 2031 01:30:00 GMT
5	Baltimore CyberTrust Root	Baltimore CyberTrust Root	Mon, 12 May 2025 18:29:00 GMT
6	DigiCert Global Root G2	DigiCert Global Root G2	Fri, 15 Jan 2038 06:30:00 GMT

Figure 10: Trusted Root Certificates Upload Cont.

- In the TLS context page, select the Google CCAI TLS context index row and click on **Certificate Information** link and validate the Key size, Certificate Status and Subject Name.



The screenshot shows the Audiocodes IP Network configuration page with the 'Certificate Information' section expanded. The left sidebar has 'SECURITY' and 'TLS Contexts (2)' highlighted. The main content area shows configuration details for the Google CCAI TLS context, including General and OSCP settings. The 'Certificate Information' link is highlighted with a red box.

GENERAL		OCSP	
Name	Google CCAI	OCSP Server	Disable
TLS Version	TLSv1.2	OCSP Interface	-- <a href="#">View</a>
DTLS Version	DTLSv1.0 and DTLSv1.2	Primary OCSP Server	0.0.0.0
Cipher Server	DEFAULT	Secondary OCSP Ser...	0.0.0.0
Cipher Client	DEFAULT	OCSP Port	2560
Cipher Server TLS 1.3	TLS_AES_256_GCM_SHA384:TLS_CHACHA20_POLY1...	OCSP Default Respo...	Reject
Cipher Client TLS 1.3	TLS_AES_256_GCM_SHA384:TLS_CHACHA20_POLY1...		
Key Exchange Groups	X25519:P-256:P-384:X448		
Strict Certificate Ex...	Disable		
DH key Size	2048		
TLS Renegotiation	Enable		
Use default CA Bundle	Disable		

[Certificate Information >>](#) [Change Certificate >>](#) [Trusted Root Certificates >>](#)

Figure 11: Certificate information.

#### 6.4.2.4 Deploy Google Trusted Root Certificates

- Download the Google Root Certificates from the following link <https://pki.goog/repository/>
- Navigate to **SETUP** menu ☐ **IP NETWORK** tab ☐ **SECURITY** folder ☐ **TLS Contexts**
- In the TLS context page, select the Google CCAI TLS context index row and click on the **Trusted Root Certificates** option.
- Within the Trusted Root Certificates page, click the **Import** button and load Google Root Certificates as shown below.

INDEX	SUBJECT	ISSUER	EXPIRES
1	GTS Root R1	GTS Root R1	Sat, 21 Jun 2036 18:30:00 GMT
2	GTS CA 1 C3	GTS Root R1	Wed, 29 Sep 2027 18:30:42 GMT
3	Go Daddy Secure Certificate Aut	Go Daddy Root Certificate Autho	Sat, 03 May 2031 01:30:00 GMT
4	Go Daddy Root Certificate Autho	The Go Daddy Group, Inc.	Fri, 30 May 2031 01:30:00 GMT
5	Baltimore CyberTrust Root	Baltimore CyberTrust Root	Mon, 12 May 2025 18:29:00 GMT
6	DigiCert Global Root G2	DigiCert Global Root G2	Fri, 15 Jan 2038 06:30:00 GMT

Figure 12: Google Root Certificates.

#### 6.4.3 Configure Media Realms

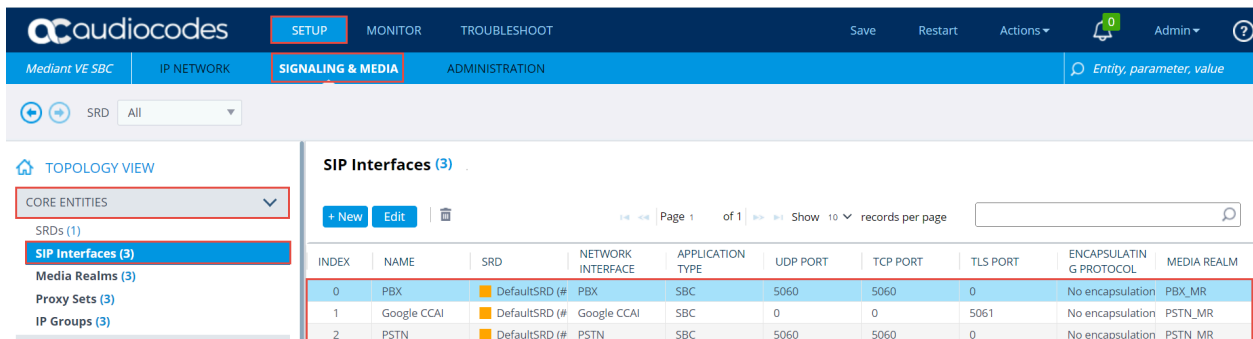
- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CORE ENTITIES** folder ☐ **Media Realms**
- Configure Media Realms for PBX, PSTN and Google CCAI as shown below.

INDEX	NAME	IPV4 INTERFACE NAME	UDP PORT RANGE START	NUMBER OF MEDIA SESSION LEGS	UDP PORT RANGE END	DEFAULT MEDIA REALM
0	PBX_MR	PBX	6000	100	6399	Yes
1	Google CCAI	Google CCAI	7000	100	7399	No
2	PSTN_MR	PSTN	8000	100	8399	No

Figure 13: Configure Media Realms.

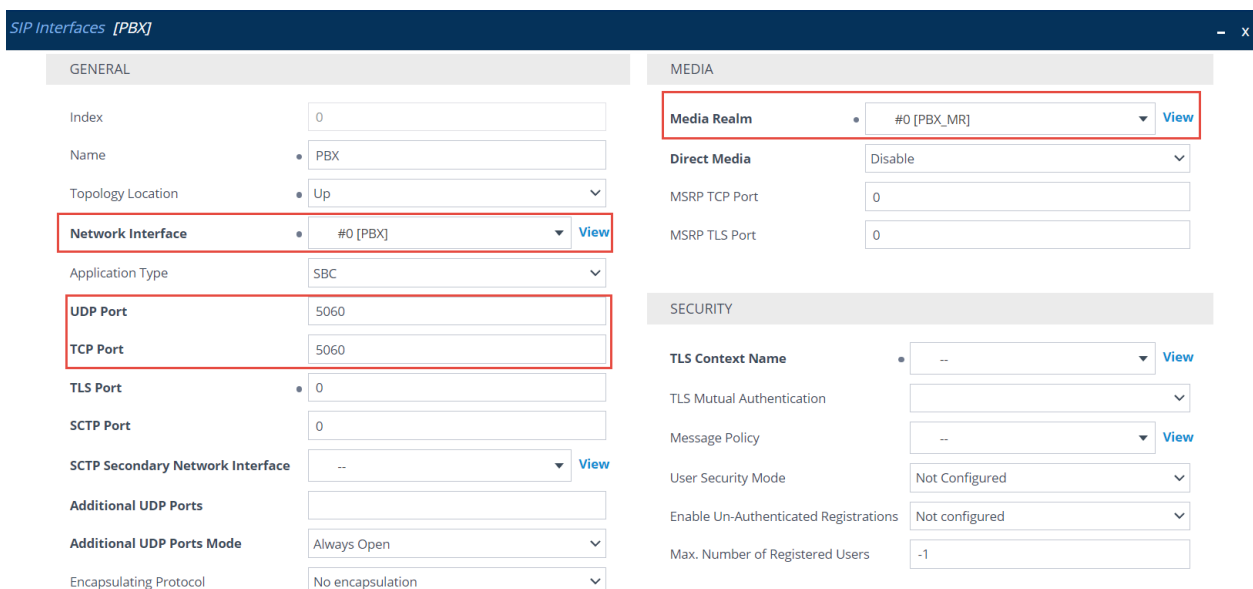
## 6.4.4 Configure SIP Signaling Interfaces

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CORE ENTITIES** folder ☐ **SIP Interfaces**
- Configure SIP Signaling Interfaces for PBX, PSTN and Google CCAI.



INDEX	NAME	SRD	NETWORK INTERFACE	APPLICATION TYPE	UDP PORT	TCP PORT	TLS PORT	ENCAPSULATING PROTOCOL	MEDIA REALM
0	PBX	DefaultSRD (#	PBX	SBC	5060	5060	0	No encapsulation	PBX_MR
1	Google CCAI	DefaultSRD (#	Google CCAI	SBC	0	0	5061	No encapsulation	PSTN_MR
2	PSTN	DefaultSRD (#	PSTN	SBC	5060	5060	0	No encapsulation	PSTN_MR

Figure 14: SIP Signaling Interfaces.



**GENERAL**

Index: 0

Name: PBX

Topology Location: Up

Network Interface: #0 [PBX] [View](#)

Application Type: SBC

UDP Port: 5060

TCP Port: 5060

TLS Port: 0

SCTP Port: 0

SCTP Secondary Network Interface: -- [View](#)

Additional UDP Ports:

Additional UDP Ports Mode: Always Open

Encapsulating Protocol: No encapsulation

**MEDIA**

Media Realm: #0 [PBX\_MR] [View](#)

Direct Media: Disable

MSRP TCP Port: 0

MSRP TLS Port: 0

**SECURITY**

TLS Context Name: -- [View](#)

TLS Mutual Authentication:

Message Policy: -- [View](#)

User Security Mode: Not Configured

Enable Un-Authenticated Registrations: Not configured

Max. Number of Registered Users: -1

Figure 15: SIP Signaling Interfaces for PBX.

Enable TCP Keepalive	Disable	▼
Used By Routing Server	Not Used	▼
Pre-Parsing Manipulation Set	--	▼ <a href="#">View</a>
CAC Profile	--	▼ <a href="#">View</a>

CLASSIFICATION

Classification Failure Response Type	500
Pre-classification Manipulation Set ID	-1
Call Setup Rules Set ID	-1

**Figure 16: SIP Signaling Interfaces for PBX cont.**

SIP Interfaces [Google CCAI]

GENERAL		MEDIA	
Index	1	Media Realm	#1 [Google CCAI] <a href="#">View</a>
Name	Google CCAI	Direct Media	Disable
Topology Location	Down	MSRP TCP Port	0
Network Interface	#2 [Google CCAI] <a href="#">View</a>	MSRP TLS Port	0
Application Type	SBC	SECURITY	
UDP Port	0	TLS Context Name	#1 [Google CCAI] <a href="#">View</a>
TCP Port	0	TLS Mutual Authentication	Enable
TLS Port	5061	Message Policy	-- <a href="#">View</a>
SCTP Port	0	User Security Mode	Not Configured
SCTP Secondary Network Interface	-- <a href="#">View</a>	Enable Un-Authenticated Registrations	Not configured
Additional UDP Ports		Max. Number of Registered Users	-1
Additional UDP Ports Mode	Always Open		
Encapsulating Protocol	No encapsulation		

**Figure 17: SIP Signaling Interfaces for Google CCAI.**

Enable TCP Keepalive	Enable	▼
Used By Routing Server	Not Used	▼
Pre-Parsing Manipulation Set	--	▼ <a href="#">View</a>
CAC Profile	--	▼ <a href="#">View</a>

CLASSIFICATION

Classification Failure Response Type	500
Pre-classification Manipulation Set ID	-1
Call Setup Rules Set ID	-1

Cancel [APPLY](#)

**Figure 18: SIP Signaling Interfaces for Google CCAI Cont.**



SIP Interfaces [PSTN]

GENERAL

Index2
NamePSTN
Topology LocationDown
Network Interface#1 [PSTN]View
Application TypeSBC
UDP Port5060
TCP Port5060
TLS Port0
SCTP Port0
SCTP Secondary Network Interface--View
Additional UDP Ports
Additional UDP Ports ModeAlways Open
Encapsulating ProtocolNo encapsulation

MEDIA

Media Realm#2 [PSTN\_MR]View
Direct MediaDisable
MSRP TCP Port0
MSRP TLS Port0

SECURITY

TLS Context Name--View
TLS Mutual Authentication
Message Policy--View
User Security ModeNot Configured
Enable Un-Authenticated RegistrationsNot configured
Max. Number of Registered Users-1

Figure 19: SIP Signaling Interfaces for PSTN.

Enable TCP KeepaliveDisable
Used By Routing ServerNot Used
Pre-Parsing Manipulation Set--View
CAC Profile--View

CLASSIFICATION

Classification Failure Response Type500
Pre-classification Manipulation Set ID-1
Call Setup Rules Set ID-1

Figure 20: SIP Signaling Interfaces for PSTN cont.

## 6.4.5 Configure Proxy Sets and Proxy Address

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CORE ENTITIES** folder ☐ **Proxy Sets**
- Configure proxy sets for PBX, PSTN and Google CCAI as shown below.

The screenshot shows the Audiocodes Setup interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The left sidebar shows 'CORE ENTITIES' with a dropdown menu. The main content area displays 'Proxy Sets (3)' with a table of configurations.

INDEX	NAME	SRD	SBC IPV4 SIP INTERFACE	PROXY KEEP-ALIVE TIME [SEC]	REDUNDANCY MODE	PROXY HOT SWAP MODE
0	PBX_PS	DefaultSRD (#0)	PBX	60		Disable
1	Google CCAI SIPREC	DefaultSRD (#0)	Google CCAI	60		Disable
2	PSTN_PS	DefaultSRD (#0)	PSTN	60		Disable

Figure 21: Configurations of Proxy Sets.

The screenshot shows the 'Proxy Sets [PBX\_PS]' configuration page. It is divided into several sections: GENERAL, REDUNDANCY, KEEP ALIVE, and ADVANCED. The 'SBC IPv4 SIP Interface' is highlighted in the GENERAL section.

**GENERAL**

- Index: 0
- Name: PBX\_PS
- SBC IPv4 SIP Interface**: #0 [PBX] [View](#)
- TLS Context Name: -- [View](#)

**REDUNDANCY**

- Redundancy Mode:
- Proxy Hot Swap Mode: Disable
- Proxy Load Balancing Method: Disable
- Min. Active Servers for Load Balancing: 1

**KEEP ALIVE**

- Proxy Keep-Alive: Using OPTIONS
- Proxy Keep-Alive Time [sec]: 60
- Keep-Alive Failure Responses:
- Success Detection Retries: 1
- Success Detection Interval: 10
- Failure Detection Retransmissions: -1

**ADVANCED**

- Classification Input: IP Address only
- DNS Resolve Method:
- Accept DHCP Proxy List: Disable
- TLS Remote Subject Name:
- Peer Host Name Verification Mode: Use Global Settings

Figure 22: Proxy set configuration of PBX.

Proxy Sets [Google CCAI SIPREC]

GENERAL

Index1
NameGoogle CCAI SIPREC
SBC IPv4 SIP Interface#1 [Google CCAI]View
TLS Context Name#1 [Google CCAI]View

REDUNDANCY

Redundancy ModeHoming
Proxy Hot Swap ModeEnable
Proxy Load Balancing MethodRandom Weights
Min. Active Servers for Load Balancing1

KEEP ALIVE

Proxy Keep-AliveUsing OPTIONS
Proxy Keep-Alive Time [sec]60
Keep-Alive Failure Responses
Success Detection Retries1
Success Detection Interval10
Failure Detection Retransmissions-1

ADVANCED

Classification InputIP Address only
DNS Resolve MethodSRV
Accept DHCP Proxy ListDisable
TLS Remote Subject Name
Peer Host Name Verification ModeUse Global Settings

Figure 23: Proxy set configuration of Google CCAI.

Proxy Sets [PSTN\_PS]

GENERAL

Index2
NamePSTN\_PS
SBC IPv4 SIP Interface#2 [PSTN]View
TLS Context Name--View

REDUNDANCY

Redundancy Mode
Proxy Hot Swap ModeDisable
Proxy Load Balancing MethodDisable
Min. Active Servers for Load Balancing1

KEEP ALIVE

Proxy Keep-AliveUsing OPTIONS
Proxy Keep-Alive Time [sec]60
Keep-Alive Failure Responses
Success Detection Retries1
Success Detection Interval10
Failure Detection Retransmissions-1

ADVANCED

Classification InputIP Address only
DNS Resolve Method
Accept DHCP Proxy ListDisable
TLS Remote Subject Name
Peer Host Name Verification ModeUse Global Settings

Figure 24: Proxy set configuration of PSTN.

- Navigate into **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CORE ENTITIES** folder ☐ **Proxy Sets**
- Select the PBX Proxy Set and add the Proxy Address by clicking **Proxy Address X items>>** and **+New**

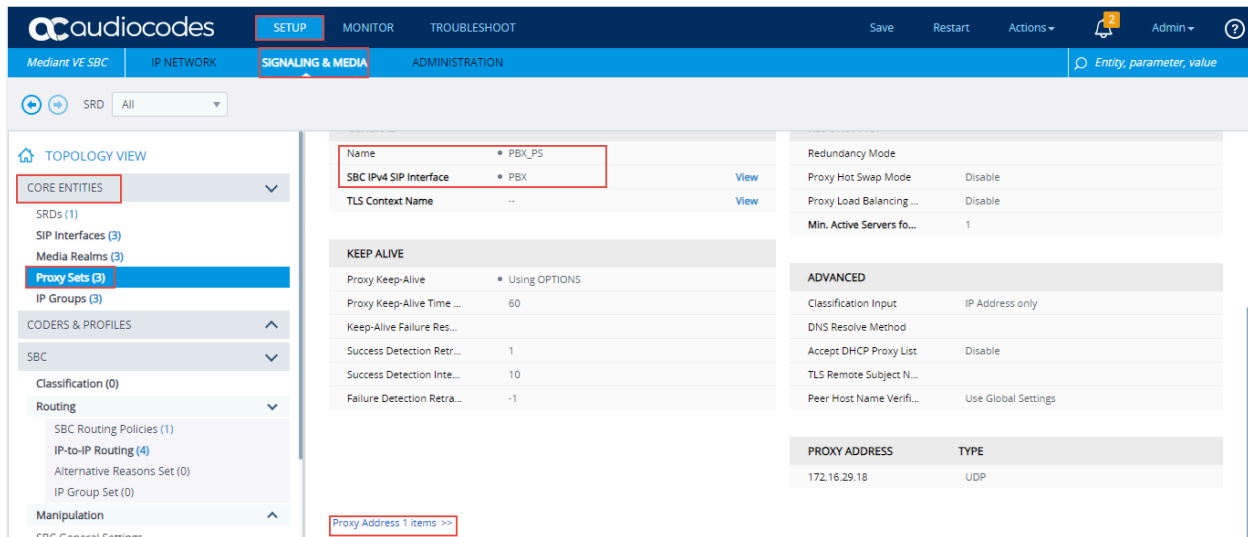


Figure 25: Proxy Address configuration of PBX.

- Enter the Onprem PBX IP as Proxy Address in the PBX Proxy set and select transport type as UDP

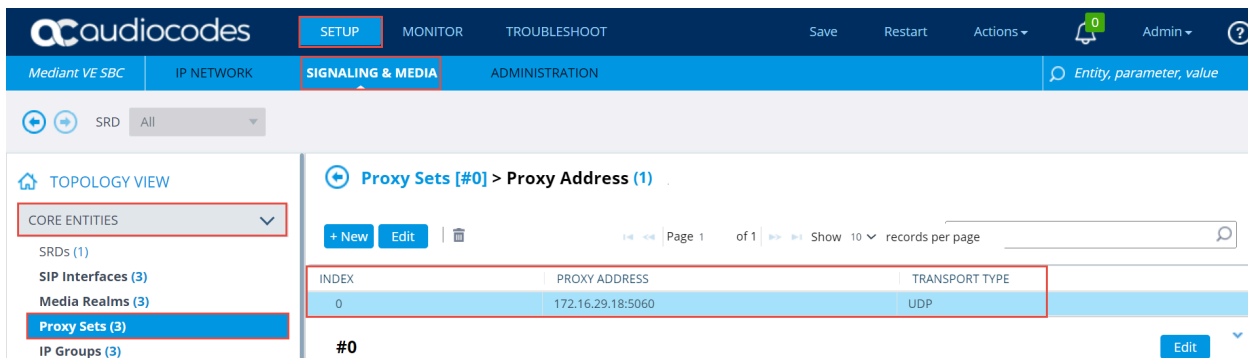


Figure 26: Proxy Address Configuration of PBX cont.

- Select the Google CCAI SIPREC Proxy Set and add the Proxy Address by clicking **Proxy Address X items>>** and **+New**

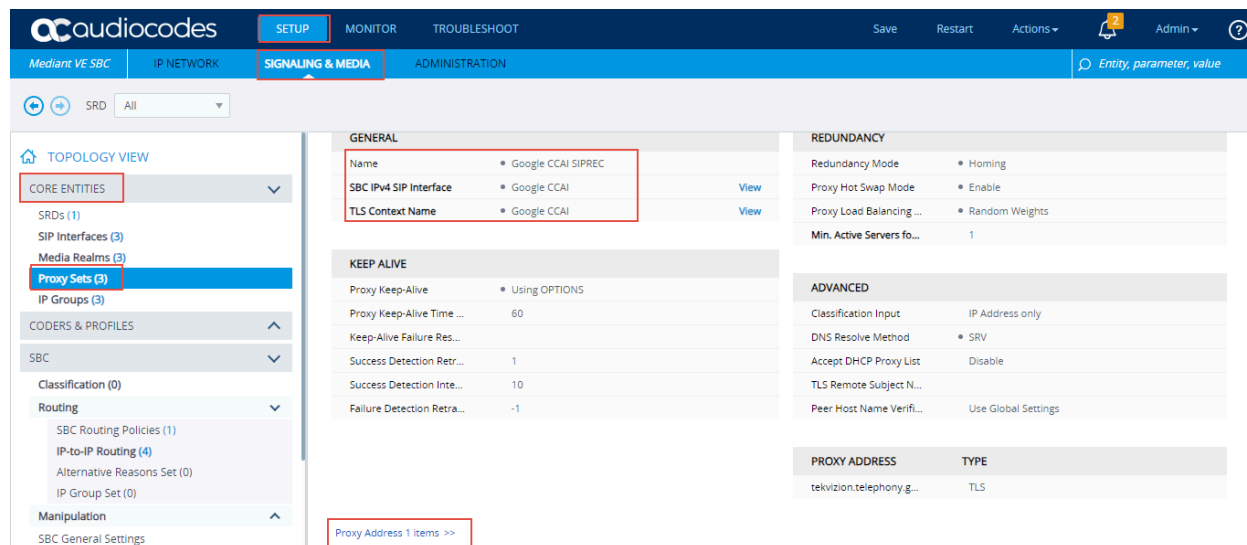


Figure 27: Proxy Address configuration of Google CCAI.

- Enter the Google FQDN as proxy Address in the Google Proxy set and select transport type as TLS

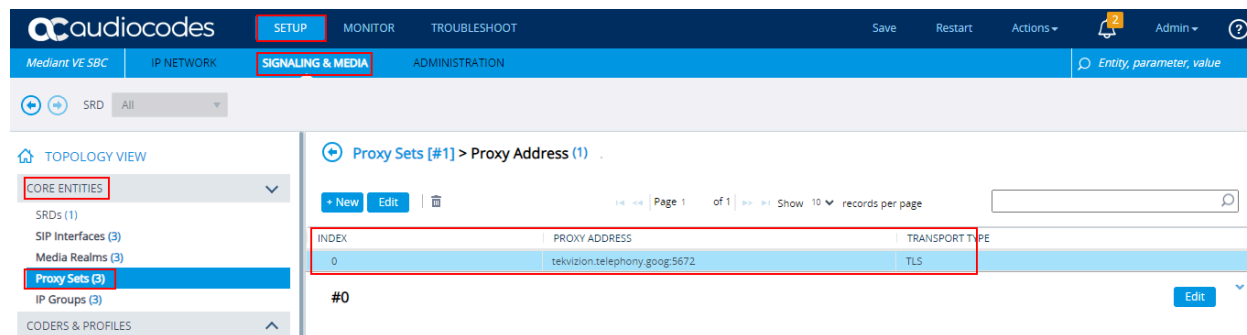


Figure 28: Proxy Address configuration of Google CCAI cont.

- Select the PSTN Proxy Set and add the Proxy Address by clicking **Proxy Address X items>>** and **+New**

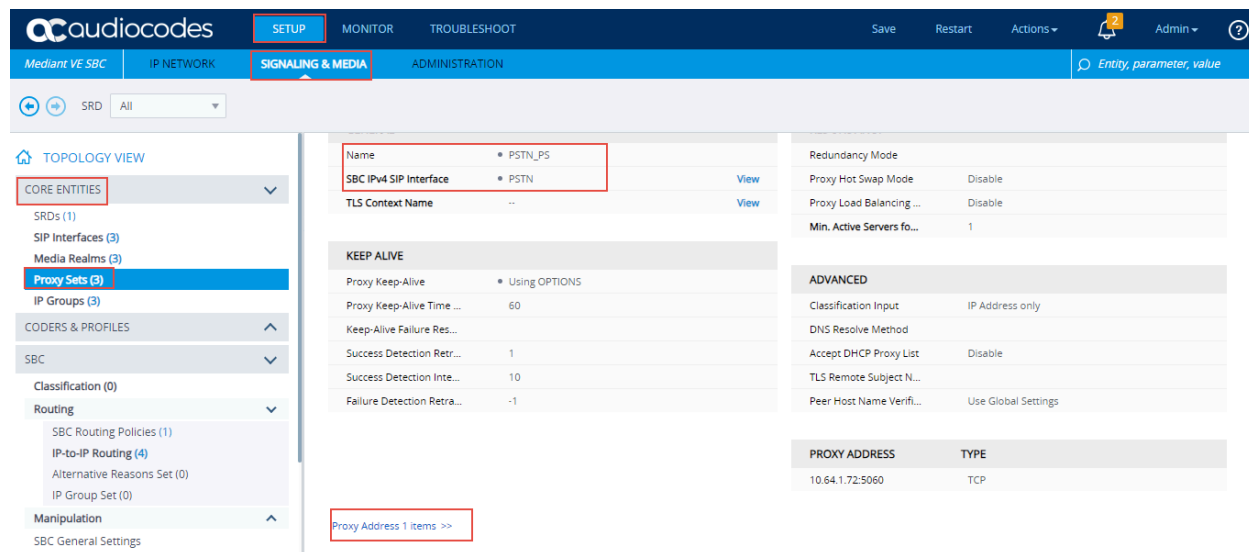


Figure 29: Proxy Address configuration of PSTN.

- Enter the PSTN gateway IP as Proxy Address in the PSTN proxy set and select transport as TCP

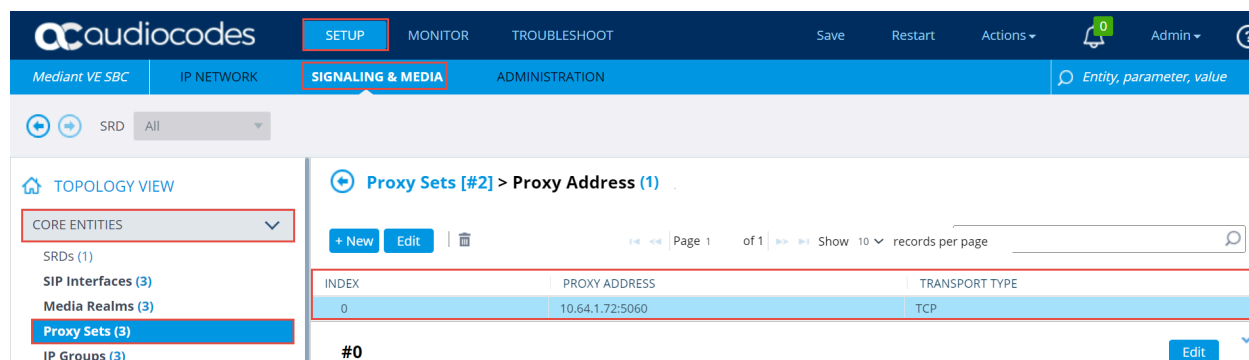


Figure 30: Proxy Address configuration of PSTN.

6.4.6 Configure Coders

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CODERS & PROFILE** folder ☐ **Coder Groups**
- Configure the required Codecs as shown below.

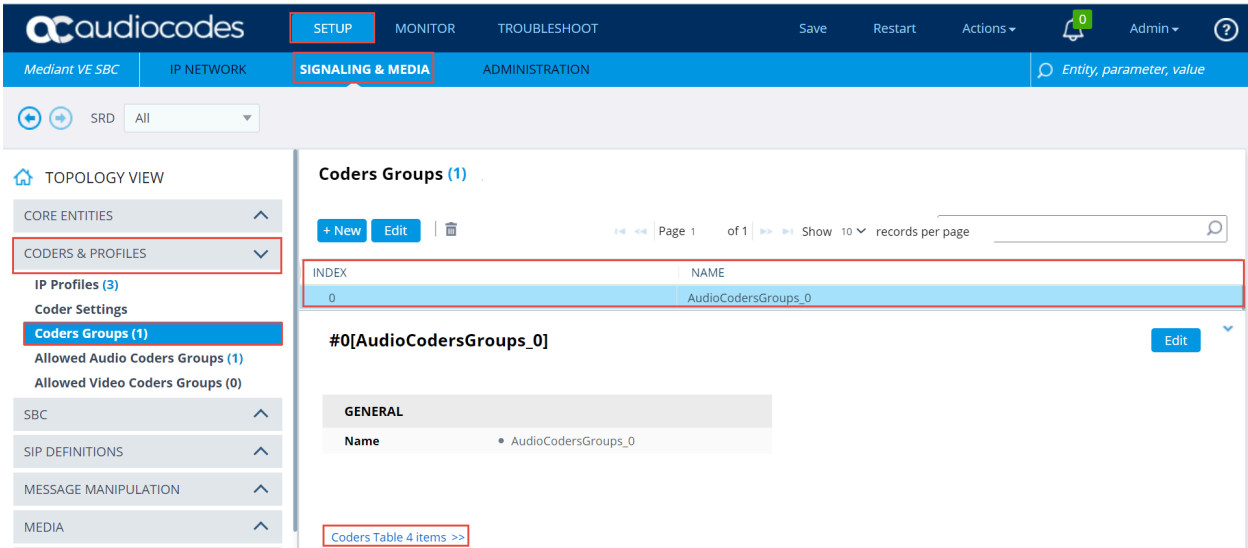


Figure 31: Coders Configurations.

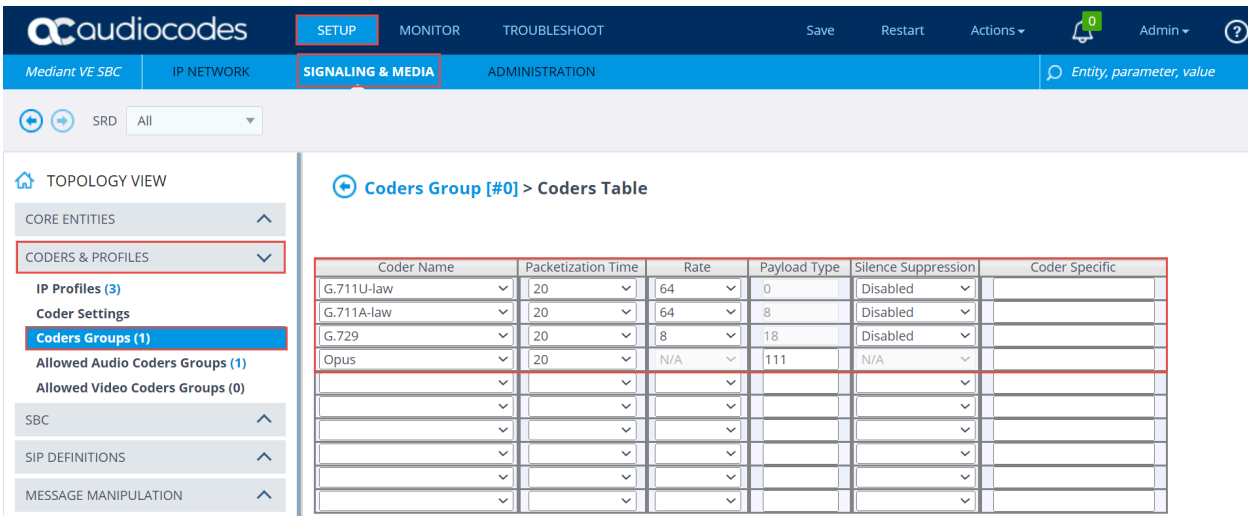


Figure 32: Coders Configurations Cont.

To Set a preferred coder for the Google CCAI:

- Navigate to the **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CODERS & PROFILE** folder ☐ **Allowed Audio Coders Groups**.
- Click **+New** and configure a new Allowed Audio Coders Group for Google CCAI with your preferred Codec list.
- Assign the configured Allowed Audio Coders Group to the respective Google CCAI IP Profile.

The screenshot shows the Audiocodes management console interface. The top navigation bar includes 'Mediant VE SBC', 'IP NETWORK', 'SIGNALING & MEDIA' (highlighted), and 'ADMINISTRATION'. The left sidebar shows a 'TOPOLOGY VIEW' with a tree structure where 'Allowed Audio Coders Groups (1)' is selected. The main content area displays 'Allowed Audio Coders Groups (1)' with a table containing one entry: INDEX 0, NAME G711. Below the table, the configuration details for '#0[G711]' are shown, including a 'GENERAL' section with 'Name' set to 'G711'. A link 'Allowed Audio Coders 1 items >>' is visible at the bottom.

Figure 33: Coders Configurations Cont.

The screenshot shows the Audiocodes management console interface. The top navigation bar includes 'Mediant VE SBC', 'IP NETWORK', 'SIGNALING & MEDIA' (highlighted), and 'ADMINISTRATION'. The left sidebar shows a 'TOPOLOGY VIEW' with a tree structure where 'Allowed Audio Coders Groups (1)' is selected. The main content area displays 'Allowed Audio Coders Groups [#0] > Allowed Audio Coders (1)' with a table containing one entry: INDEX 0, CODER G.711 U-law, USER-DEFINED CODER. Below the table, the configuration details for '#0' are shown, including an 'Edit' button.

Figure 34: Coders Configurations Cont.



## 6.4.7 Configure IP Profiles

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CODERS & PROFILE** folder ☐ **IP Profiles**
- IP Profile configuration for Google CCAI, OnPrem PBX and PSTN Gateway are shown below.

The screenshot shows the Audiocodes Mediant VE SBC interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The 'SIGNALING & MEDIA' tab is selected. On the left, the 'CORE ENTITIES' menu is expanded, showing 'CODERS & PROFILES' and 'IP Profiles (3)'. The main area displays a table of IP Profiles:

INDEX	NAME
0	PBX
1	PSTN
2	Google CCAI

Figure 35: IP profile configurations.

The screenshot shows the 'IP Profiles [PBX]' configuration page. It is divided into two main sections: 'GENERAL' and 'SBC SIGNALING'.

**GENERAL**

Index	0
Name	PBX
Created by Routing Server	No
Used By Routing Server	Not Used

**MEDIA SECURITY**

SBC Media Security Mode	Not Secured
Symmetric MKI	Disable
MKI Size	0
SBC Enforce MKI Size	Don't enforce
SBC Media Security Method	SDES
Reset SRTP Upon Re-key	Disable
Generate SRTP Keys Mode	Only If Required

**SBC SIGNALING**

PRACK Mode	Transparent
P-Asserted-Identity Header Mode	As Is
Diversion Header Mode	As Is
History-Info Header Mode	As Is
Session Expires Mode	Transparent
SIP UPDATE Support	Supported
Remote re-INVITE	Supported
Remote Delayed Offer Support	Supported
MSRP re-INVITE/UPDATE	Supported
MSRP Offer Setup Role	ActPass
MSRP Empty Message Format	Default
Remote Representation Mode	According to Operation Mode
Keep Incoming Via Headers	According to Operation Mode

Figure 36: IP Profile configurations of PBX.

SBC Remove Crypto Lifetime in SDP	No	Keep Incoming Routing Headers	According to Operation Mode
SBC Remove Unknown Crypto	No	Keep User-Agent Header	According to Operation Mode
Crypto Suites Group	--	Handle X-Detect	No
Encryption on RTCP Packets	As Is	ISUP Body Handling	Transparent
		ISUP Variant	Itu92
		Max Call Duration [min]	0

SBC EARLY MEDIA

Remote Early Media	Supported
Remote Multiple 18x	Supported
Remote Early Media Response Type	Transparent
Remote Multiple Early Dialogs	According to Operation Mode
Remote Multiple Answers Mode	Disable
Remote Early Media RTP Detection Mode	By Media
Remote RFC 3960 Support	Not Supported
Remote Can Play Ringback	Yes

SBC REGISTRATION

User Registration Time	0
NAT UDP Registration Time	-1
NAT TCP Registration Time	-1

SBC FORWARD AND TRANSFER

Remote REFER Mode	Regular
-------------------	---------

Figure 37: IP Profile configurations of PBX Cont.

Generate RTP	None	Remote Replaces Mode	Standard
		Play RBT To Transferee	No
		Remote 3xx Mode	Transparent
		Send Header for Transfer	None

SBC MEDIA

Mediation Mode	RTP Mediation
Extension Coders Group	--
Allowed Audio Coders	#0 [G711]
Allowed Coders Mode	Restriction
Allowed Video Coders	--
Allowed Media Types	
Direct Media Tag	
RFC 2833 Mode	As Is
RFC 2833 DTMF Payload Type	0
Alternative DTMF Method	As Is
Send Multiple DTMF Methods	Disable

SBC HOLD

Remote Hold Format	Transparent
Reliable Held Tone Source	Yes
Play Held Tone	No

SBC FAX

Fax Coders Group	--
Fax Mode	As Is
Fax Offer Mode	All coders

Figure 38: IP Profile configurations of PBX Cont.

Receive Multiple DTMF Methods	Disable	Fax Answer Mode	Single coder
Adapt RFC2833 BW to Voice coder BW	Disabled	Remote Renegotiate on Fax Detection	Transparent
SDP Ptime Answer	Remote Answer	Fax Rerouting Mode	Disable
Preferred PTime	0		
Use Silence Suppression	Transparent		
RTP Redundancy Mode	As Is		
RTCP Mode	Transparent		
Jitter Compensation	Disable		
ICE Mode	Disable		
SDP Handle RTCP	Don't Care		
RTCP Mux	Not Supported		
RTCP Feedback	Feedback Off		
Re-number MID	Disable		
Voice Quality Enhancement	Disable		

**MEDIA**

<b>Broken Connection Mode</b>	Disconnect
Media IP Version Preference	Only IPv4
RTP Redundancy Depth	Disable

**LOCAL TONES**

Local Ringback Tone Index	-1
Local Held Tone Index	-1

**Figure 39: IP Profile configurations of PBX Cont.**

Voice Quality Enhancement	Disable
Max Opus Bandwidth	0
Generate No-Op Packets	Disable
Enhanced PLC	Disable
SBC Multiple Coders	Not Supported
SBC Allow Only Negotiated PT	Disable
<b>Remove CSRC</b>	Disable
SBC Precondition	Not Supported

**QUALITY OF SERVICE**

RTP IP DiffServ	40
Signaling DiffServ	24
Data DiffServ	0

**Figure 40: IP Profile configurations of PBX Cont.**

IP Profiles [PSTN]

GENERAL

Index1
NamePSTN
Created by Routing ServerNo
Used By Routing ServerNot Used

SBC SIGNALING

PRACK ModeTransparent
P-Asserted-Identity Header ModeAs Is
Diversion Header ModeAs Is
History-Info Header ModeAs Is
Session Expires ModeTransparent
SIP UPDATE SupportSupported
Remote re-INVITESupported
Remote Delayed Offer SupportSupported
MSRP re-INVITE/UPDATESupported
MSRP Offer Setup RoleActPass
MSRP Empty Message FormatDefault
Remote Representation ModeAccording to Operation Mode
Keep Incoming Via HeadersAccording to Operation Mode

MEDIA SECURITY

SBC Media Security ModeNot Secured
Symmetric MKIDisable
MKI Size0
SBC Enforce MKI SizeDon't enforce
SBC Media Security MethodSDES
Reset SRTP Upon Re-keyDisable
Generate SRTP Keys ModeOnly If Required

Figure 41: IP Profile configurations of PSTN.

SBC Remove Crypto Lifetime in SDPNo
SBC Remove Unknown CryptoNo
Crypto Suites Group--View
Encryption on RTCP PacketsAs Is

Keep Incoming Routing HeadersAccording to Operation Mode
Keep User-Agent HeaderAccording to Operation Mode
Handle X-DetectNo
ISUP Body HandlingTransparent
ISUP VariantItu92
Max Call Duration [min]0

SBC EARLY MEDIA

Remote Early MediaSupported
Remote Multiple 18xSupported
Remote Early Media Response TypeTransparent
Remote Multiple Early DialogsAccording to Operation Mode
Remote Multiple Answers ModeDisable
Remote Early Media RTP Detection ModeBy Signaling
Remote RFC 3960 SupportNot Supported
Remote Can Play RingbackYes

SBC REGISTRATION

User Registration Time0
NAT UDP Registration Time-1
NAT TCP Registration Time-1

SBC FORWARD AND TRANSFER

Remote REFER ModeRegular

Figure 42: IP Profile configurations of PSTN Cont.

Generate RTP	None	Remote Replaces Mode	Standard
<b>SBC MEDIA</b>		Play RBT To Transferee	No
Mediation Mode	RTP Mediation	<b>Remote 3xx Mode</b>	Transparent
<b>Extension Coders Group</b>	--	<b>Send Header for Transfer</b>	None
<b>Allowed Audio Coders</b>	--	<b>SBC HOLD</b>	
<b>Allowed Coders Mode</b>	Restriction	<b>Remote Hold Format</b>	Transparent
Allowed Video Coders	--	Reliable Held Tone Source	Yes
Allowed Media Types		Play Held Tone	No
Direct Media Tag		<b>SBC FAX</b>	
<b>RFC 2833 Mode</b>	As Is	Fax Coders Group	--
<b>RFC 2833 DTMF Payload Type</b>	0	Fax Mode	As Is
Alternative DTMF Method	As Is	Fax Offer Mode	All coders
Send Multiple DTMF Methods	Disable		

**Figure 43: IP Profile configurations of PSTN Cont.**

Receive Multiple DTMF Methods	Disable	Fax Answer Mode	Single coder
Adapt RFC2833 BW to Voice coder BW	Disabled	Remote Renegotiate on Fax Detection	Transparent
SDP Ptime Answer	Remote Answer	Fax Rerouting Mode	Disable
Preferred PTime	0	<b>MEDIA</b>	
Use Silence Suppression	Transparent	<b>Broken Connection Mode</b>	Disconnect
RTP Redundancy Mode	As Is	Media IP Version Preference	Only IPv4
RTCP Mode	Transparent	RTP Redundancy Depth	Disable
Jitter Compensation	Disable	<b>LOCAL TONES</b>	
ICE Mode	Disable	Local Ringback Tone Index	-1
SDP Handle RTCP	Don't Care	Local Held Tone Index	-1
RTCP Mux	Not Supported		
RTCP Feedback	Feedback Off		
Re-number MID	Disable		
Voice Quality Enhancement	Disable		

**Figure 44: IP Profile configurations of PSTN Cont.**

Max Opus Bandwidth	0
Generate No-Op Packets	Disable
Enhanced PLC	Disable
SBC Multiple Coders	Not Supported
SBC Allow Only Negotiated PT	Disable
<b>Remove CSRC</b>	Disable
SBC Precondition	Not Supported

QUALITY OF SERVICE	
RTP IP DiffServ	40
Signaling DiffServ	24
Data DiffServ	0

**Figure 45: IP Profile configurations of PSTN Cont.**

IP Profiles [Google CCAI]

GENERAL

Index

2

Name

Google CCAI

Created by Routing Server

No

Used By Routing Server

Not Used

MEDIA SECURITY

SBC Media Security Mode

Secured

Symmetric MKI

Disable

MKI Size

0

SBC Enforce MKI Size

Don't enforce

SBC Media Security Method

SDES

Reset SRTP Upon Re-key

Disable

Generate SRTP Keys Mode

Only If Required

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

Supported

SIP UPDATE Support

Supported

Remote re-INVITE

Supported

Remote Delayed Offer Support

Supported

MSRP re-INVITE/UPDATE

Supported

MSRP Offer Setup Role

ActPass

MSRP Empty Message Format

Default

Remote Representation Mode

According to Operation Mode

Keep Incoming Via Headers

According to Operation Mode

**Figure 46: IP Profile configurations of Google CCAI.**

SBC Remove Crypto Lifetime in SDP	Yes	Keep Incoming Routing Headers	According to Operation Mode
SBC Remove Unknown Crypto	No	Keep User-Agent Header	According to Operation Mode
Crypto Suites Group	#0 [WAN]	Handle X-Detect	No
Encryption on RTCP Packets	As Is	ISUP Body Handling	Transparent
		ISUP Variant	Itu92
		Max Call Duration [min]	0

SBC EARLY MEDIA	
Remote Early Media	Supported
Remote Multiple 18x	Supported
Remote Early Media Response Type	Transparent
Remote Multiple Early Dialogs	According to Operation Mode
Remote Multiple Answers Mode	Disable
Remote Early Media RTP Detection Mode	By Signaling
Remote RFC 3960 Support	Not Supported
Remote Can Play Ringback	Yes

SBC REGISTRATION	
User Registration Time	0
NAT UDP Registration Time	-1
NAT TCP Registration Time	-1

SBC FORWARD AND TRANSFER	
Remote REFER Mode	Regular

**Figure 47: IP Profile configurations of Google CCAI Cont.**

Generate RTP	None	Remote Replaces Mode	Standard
		Play RBT To Transferee	No
		Remote 3xx Mode	Transparent
		Send Header for Transfer	None

SBC MEDIA	
Mediation Mode	RTP Mediation
Extension Coders Group	--
Allowed Audio Coders	#0 [G711]
Allowed Coders Mode	Restriction
Allowed Video Coders	--
Allowed Media Types	
Direct Media Tag	
RFC 2833 Mode	As Is
RFC 2833 DTMF Payload Type	0
Alternative DTMF Method	As Is
Send Multiple DTMF Methods	Disable

SBC HOLD	
Remote Hold Format	Transparent
Reliable Held Tone Source	Yes
Play Held Tone	No

SBC FAX	
Fax Coders Group	--
Fax Mode	As Is
Fax Offer Mode	All coders

**Figure 48: IP Profile configurations of Google CCAI Cont.**

Receive Multiple DTMF Methods	Disable	Fax Answer Mode	Single coder
Adapt RFC2833 BW to Voice coder BW	Disabled	Remote Renegotiate on Fax Detection	Transparent
SDP Ptime Answer	Remote Answer	Fax Rerouting Mode	Disable
Preferred PTime	0		
Use Silence Suppression	Transparent	<b>MEDIA</b>	
RTP Redundancy Mode	As Is	<b>Broken Connection Mode</b>	Disconnect
RTCP Mode	Transparent	Media IP Version Preference	Only IPv4
Jitter Compensation	Disable	RTP Redundancy Depth	Disable
ICE Mode	Disable	<b>LOCAL TONES</b>	
SDP Handle RTCP	Don't Care	Local Ringback Tone Index	-1
RTCP Mux	Not Supported	Local Held Tone Index	-1
RTCP Feedback	Feedback Off		
Re-number MID	Disable		
Voice Quality Enhancement	Disable		

**Figure 49: IP Profile configurations of Google CCAI Cont.**

Re-number MID	Disable
Voice Quality Enhancement	Disable
Max Opus Bandwidth	0
Generate No-Op Packets	Disable
Enhanced PLC	Disable
SBC Multiple Coders	Not Supported
SBC Allow Only Negotiated PT	Disable
<b>Remove CSRC</b>	Disable
SBC Precondition	Not Supported

<b>QUALITY OF SERVICE</b>	
RTP IP DiffServ	40
Signaling DiffServ	24
Data DiffServ	0

**Figure 50: IP Profile configurations of Google CCAI Cont.**



## 6.4.8 Configure IP Groups

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **CORE ENTITIES** folder ☐ **IP Groups**
- IP Groups Config towards Google CCAI, OnPrem PBX and PSTN Gateway are shown below.

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	PBX	DefaultSRD	Server	B2BUA	PBX_PS	PBX	PBX_MR	172.16.29.18	Enable	-1	-1
1	GOOGLE SIP_RI	DefaultSRD	Server	B2BUA	Google CCAI SI	Google CCAI	tekvizion.teleph	tekvizion.teleph	Enable	-1	1
2	PSTN	DefaultSRD	Server	B2BUA	PSTN_PS	PSTN	PSTN_MR	10.64.1.72:5060	Enable	-1	2

Figure 51: IP Group configurations

- Select the respective Proxy Set, IP Profile and Media Realm for PBX IP Group and enter the PBX IP as SIP Group name

IP Groups [PBX]

SRD: #0 [DefaultSRD]

**GENERAL**

Index: 0

Name: PBX

Topology Location: Up

Type: Server

Proxy Set: #0 [PBX\_PS] View

IP Profile: #0 [PBX] View

Media Realm: #0 [PBX\_MR] View

Internal Media Realm: -- View

Contact User:

SIP Group Name: 172.16.29.18

**QUALITY OF EXPERIENCE**

QoE Profile: -- View

Bandwidth Profile: -- View

User Voice Quality Report: Disable

**MESSAGE MANIPULATION**

Inbound Message Manipulation Set: -1

Outbound Message Manipulation Set: -1

Message Manipulation User-Defined String 1:

Message Manipulation User-Defined String 2:

Proxy Keep-Alive using IP Group settings: Disable

Cancel APPLY

Figure 52: IP Group configurations of PBX.

SBC GENERAL	
Classify By Proxy Set	Enable
<b>Validate Source IP</b>	Disable
SBC Operation Mode	B2BUA
SBC Client Forking Mode	Sequential
CAC Profile	-- <a href="#">View</a>
SIP Source Host Name	

ADVANCED	
Local Host Name	
UUI Format	Disable
Always Use Src Address	No

Registration Mode	User Initiates Registration
Dedicated Connection Mode	Disable
User Stickiness	Disable
User UDP Port Assignment	Disable
Authentication Mode	User Authenticates
Authentication Method List	
SBC Server Authentication Type	According to Global Parameter
OAuth HTTP Service	-- <a href="#">View</a>
Username As Client	
Password As Client	
Username As Server	
Password As Server	

GW GROUP STATUS	
-----------------	--

**Figure 53: IP Group configurations of PBX Cont.**

Always Use Src Address	No
------------------------	----

SBC ADVANCED	
Source URI Input	
Destination URI Input	
SIP Connect	No
SBC PSAP Mode	Disable
Route Using Request URI Port	Disable
Media TLS Context	#0 [Default] <a href="#">View</a>
<b>Keep Original Call-ID</b>	No
<b>Dial Plan</b>	-- <a href="#">View</a>
Call Setup Rules Set ID	-1
Tags	

GW GROUP STATUS	
GW Group Registered IP Address	
GW Group Registered Status	NA

**Figure 54: IP Group configurations of PBX Cont.**

<b>SBC Alternative Routing Reasons Set</b>	-- <a href="#">View</a>
Teams Local Media Optimization Handling	None
Teams Local Media Optimization Initial Behavior	DirectMedia
Teams Local Media Optimization Site	
Teams Local Media Optimization Sync	Disable
Teams Direct Routing Mode	Disable
<b>Metering Remote Type</b>	Regular
<b>Report Metering</b>	Enable

**Figure 55: IP Group configurations of PBX Cont.**

- Select the respective Proxy Set, IP Profile, Media Realm and Media TLS Context for Google IP Group and enter Google FQDN as SIP Group Name

IP Groups [GOOGLE SIP\_REC]

GENERAL		QUALITY OF EXPERIENCE	
Index	1	QoE Profile	-- View
Name	GOOGLE SIP_REC	Bandwidth Profile	-- View
Topology Location	Down	User Voice Quality Report	Disable
Type	Server		
Proxy Set	#1 [Google CCAI SIPREC] View		
IP Profile	#2 [Google CCAI] View		
Media Realm	#1 [Google CCAI] View		
Internal Media Realm	-- View		
Contact User			
SIP Group Name	tekvizion.telephony.goog:5672		
Created By Routing Server	No		
Used By Routing Server	Not Used		
Proxy Set Connectivity	Connected		
		MESSAGE MANIPULATION	
		Inbound Message Manipulation Set	-1
		Outbound Message Manipulation Set	1
		Message Manipulation User-Defined String 1	
		Message Manipulation User-Defined String 2	
		Proxy Keep-Alive using IP Group settings	Enable
		SBC REGISTRATION AND AUTHENTICATION	
		Max. Number of Registered Users	-1

Cancel APPLY

Figure 56: IP Group configurations of Google CCAI.

Used By Routing Server	Not Used	SBC REGISTRATION AND AUTHENTICATION	
Proxy Set Connectivity	Connected	Max. Number of Registered Users	-1
SBC GENERAL		Registration Mode	User Initiates Registration
Classify By Proxy Set	Enable	Dedicated Connection Mode	Disable
Validate Source IP	Disable	User Stickiness	Disable
SBC Operation Mode	B2BUA	User UDP Port Assignment	Disable
SBC Client Forking Mode	Sequential	Authentication Mode	User Authenticates
CAC Profile	-- View	Authentication Method List	
SIP Source Host Name		SBC Server Authentication Type	According to Global Parameter
ADVANCED		OAuth HTTP Service	-- View
Local Host Name		Username As Client	
		Password As Client	
		Username As Server	
		Password As Server	

Figure 57: IP Group configurations of Google CCAI Cont.

UII Format	Disable
Always Use Src Address	No

SBC ADVANCED	
Source URI Input	
Destination URI Input	
SIP Connect	No
SBC PSAP Mode	Disable
Route Using Request URI Port	Disable
Media TLS Context	#1 [Google CCAI] <a href="#">View</a>
Keep Original Call-ID	No
Dial Plan	-- <a href="#">View</a>
Call Setup Rules Set ID	-1

GW GROUP STATUS	
GW Group Registered IP Address	
GW Group Registered Status	NA

**Figure 58: IP Group configurations of Google CCAI Cont.**

Tags	
SBC Alternative Routing Reasons Set	-- <a href="#">View</a>
Teams Local Media Optimization Handling	None
Teams Local Media Optimization Initial Behavior	DirectMedia
Teams Local Media Optimization Site	
Teams Local Media Optimization Sync	Disable
Teams Direct Routing Mode	Disable
Metering Remote Type	Regular
Report Metering	Enable

**Figure 59: IP Group configurations of Google CCAI Cont.**

- Select the respective Proxy Set, IP Profile and Media Realm for PSTN IP Group and enter the PSTN Gateway IP as SIP Group name

IP Groups [PSTN]																																													
SRD	#0 [DefaultSRD]																																												
<table border="1"> <thead> <tr> <th colspan="2">GENERAL</th> <th colspan="2">QUALITY OF EXPERIENCE</th> </tr> </thead> <tbody> <tr> <td>Index</td> <td>2</td> <td>QoE Profile</td> <td>-- <a href="#">View</a></td> </tr> <tr> <td>Name</td> <td>PSTN</td> <td>Bandwidth Profile</td> <td>-- <a href="#">View</a></td> </tr> <tr> <td>Topology Location</td> <td>Down</td> <td>User Voice Quality Report</td> <td>Disable</td> </tr> <tr> <td>Type</td> <td>Server</td> <td colspan="2">MESSAGE MANIPULATION</td> </tr> <tr> <td>Proxy Set</td> <td>#2 [PSTN_PS] <a href="#">View</a></td> <td>Inbound Message Manipulation Set</td> <td>-1</td> </tr> <tr> <td>IP Profile</td> <td>#1 [PSTN] <a href="#">View</a></td> <td>Outbound Message Manipulation Set</td> <td>2</td> </tr> <tr> <td>Media Realm</td> <td>#2 [PSTN_MR] <a href="#">View</a></td> <td>Message Manipulation User-Defined String 1</td> <td></td> </tr> <tr> <td>Internal Media Realm</td> <td>-- <a href="#">View</a></td> <td>Message Manipulation User-Defined String 2</td> <td></td> </tr> <tr> <td>Contact User</td> <td></td> <td>Proxy Keep-Alive using IP Group settings</td> <td>Disable</td> </tr> <tr> <td>SIP Group Name</td> <td>10.64.1.72:5060</td> <td colspan="2"></td> </tr> </tbody> </table>		GENERAL		QUALITY OF EXPERIENCE		Index	2	QoE Profile	-- <a href="#">View</a>	Name	PSTN	Bandwidth Profile	-- <a href="#">View</a>	Topology Location	Down	User Voice Quality Report	Disable	Type	Server	MESSAGE MANIPULATION		Proxy Set	#2 [PSTN_PS] <a href="#">View</a>	Inbound Message Manipulation Set	-1	IP Profile	#1 [PSTN] <a href="#">View</a>	Outbound Message Manipulation Set	2	Media Realm	#2 [PSTN_MR] <a href="#">View</a>	Message Manipulation User-Defined String 1		Internal Media Realm	-- <a href="#">View</a>	Message Manipulation User-Defined String 2		Contact User		Proxy Keep-Alive using IP Group settings	Disable	SIP Group Name	10.64.1.72:5060		
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<a href="#">Cancel</a> <a href="#">APPLY</a>																																													

**Figure 60: IP Group configurations of PSTN.**

Used By Routing Server	Not Used	<b>SBC REGISTRATION AND AUTHENTICATION</b>	
Proxy Set Connectivity	Connected	Max. Number of Registered Users	-1
<b>SBC GENERAL</b>		Registration Mode	User Initiates Registration
Classify By Proxy Set	Enable	Dedicated Connection Mode	Disable
Validate Source IP	Disable	User Stickiness	Disable
SBC Operation Mode	B2BUA	User UDP Port Assignment	Disable
SBC Client Forking Mode	Sequential	Authentication Mode	User Authenticates
CAC Profile	--	Authentication Method List	
SIP Source Host Name		SBC Server Authentication Type	According to Global Parameter
<b>ADVANCED</b>		OAuth HTTP Service	--
Local Host Name		Username As Client	
		Password As Client	
		Username As Server	
		Password As Server	

**Figure 61: IP Group configurations of PSTN Cont.**

UII Format	Disable	<b>GW GROUP STATUS</b>	
Always Use Src Address	No	GW Group Registered IP Address	
<b>SBC ADVANCED</b>		GW Group Registered Status	NA
Source URI Input			
Destination URI Input			
SIP Connect	No		
SBC PSAP Mode	Disable		
Route Using Request URI Port	Disable		
Media TLS Context	#0 [Default]		
Keep Original Call-ID	No		
Dial Plan	--		
Call Setup Rules Set ID	-1		

**Figure 62: IP Group configurations of PSTN Cont.**

Tags	
SBC Alternative Routing Reasons Set	--
Teams Local Media Optimization Handling	None
Teams Local Media Optimization Initial Behavior	DirectMedia
Teams Local Media Optimization Site	
Teams Local Media Optimization Sync	Disable
Teams Direct Routing Mode	Disable
Metering Remote Type	Regular
Report Metering	Enable

**Figure 63: IP Group configurations of PSTN Cont.**

### 6.4.9 Configure SRTP

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **MEDIA** folder ☐ **Media Security**
- Enable SRTP as shown below.

The screenshot shows the Audiocodes Mediant VE SBC configuration interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The left sidebar shows the 'SIGNALING & MEDIA' tab selected, with the 'MEDIA' folder expanded and 'Media Security' highlighted. The main content area displays the 'Media Security' configuration page. The 'GENERAL' section has 'Media Security' set to 'Enable', 'Media Security Behavior' set to 'Preferable', 'Offered SRTP Cipher Suites' set to 'All', and 'ARIA Protocol Support' set to 'Disable'. The 'AUTHENTICATION & ENCRYPTION' section has 'Authentication on Transmitted RTP Packets' set to 'Active', 'Encryption on Transmitted RTP Packets' set to 'Active', 'Encryption on Transmitted RTCP Packets' set to 'Active', 'SRTP Tunneling Authentication for RTP' set to 'Disable', and 'SRTP Tunneling Authentication for RTCP' set to 'Disable'. The 'MASTER KEY IDENTIFIER' section has 'Master Key Identifier (MKI) Size' set to '0' and 'Symmetric MKI' set to 'Disable'.

Figure 64: SRTP Configuration.

### 6.4.10 Configure IP to IP Call Routing.

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **SBC** folder ☐ **Routing** ☐ **IP-to-IP Routing**
- Configure required routing rules as shown below.

The screenshot shows the Audiocodes Mediant VE SBC configuration interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The left sidebar shows the 'SIGNALING & MEDIA' tab selected, with the 'SBC' folder expanded and 'Routing' highlighted. The main content area displays the 'IP-to-IP Routing' configuration page. The table below shows the routing rules:

INDEX	NAME	ROUTING POLICY	ALTERNATIVE ROUTE OPTIONS	SOURCE IP GROUP	REQUEST TYPE	SOURCE USERNAME PATTERN	DESTINATION USERNAME PATTERN	DESTINATION TYPE	DESTINATION IP GROUP	DESTINATION SIP INTERFACE	DESTINATION ADDRESS
0	OPTIONS	Default_SBCRt	Route Row	Any	OPTIONS	*	*	Dest Address	--	--	internal
1	PBX to PSTN	Default_SBCRt	Route Row	PBX	All	*	*	IP Group	PSTN	PSTN	
3	PSTN TO PBX	Default_SBCRt	Route Row	PSTN	All	*	*	IP Group	PBX	PBX	

Figure 65: IP to IP Routing.

### 6.4.11 Configure SIP Recording

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **SIP RECORDING** folder ☐ **SIP Recording Settings**
- Configure Recording Server (SRS) Destination Username as Pilot number of Google CCAI SIPREC number as shown below.

The screenshot shows the Audiocodes Mediant VE SBC configuration interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TROUBLESHOOT'. The left sidebar shows a tree view with 'SIP RECORDING' expanded and 'SIP Recording Settings' selected. The main panel displays the 'SIP Recording Settings' configuration page. Under the 'GENERAL' tab, the 'Recording Server (SRS) Destination Username' is set to '+1833449'. Other settings include 'SIP Recording Time Stamp Format' (Local Time), 'SIP Recording Metadata Format' (Legacy), 'Video Recording Sync Timeout' (2000), and 'Forward Signaling to SIPREC' (Disable).

Figure 66: SIP Recording Settings.

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **SIP RECORDING** folder ☐ **SIP Recording Rules**
- Create SIP recording rules by clicking **+New** tab and configure required recording rules as shown below.

The screenshot shows the 'SIP Recording Rules' configuration page. The left sidebar shows 'SIP RECORDING' expanded and 'SIP Recording Rules' selected. The main panel displays the 'SIP Recording Rules' configuration page. Under the 'GENERAL' tab, the 'Recorded IP Group' is set to '#2 [PSTN]', the 'Recorded Source Pattern' is '\*', the 'Recorded Destination Pattern' is '\*', the 'Condition' is '--', the 'Peer IP Group' is '#0 [PBX]', the 'Caller' is 'Both', and the 'Trigger' is 'Call Connect'. Under the 'RECORDING SERVER' tab, the 'Recording Server (SRS) IP Group' is set to '#1 [GOOGLE SIP\_REC]' and the 'Redundant Recording Server (SRS) IP Group' is set to '--'. Each dropdown menu has a 'View' link next to it.

Figure 67: SIP Recording Rules.

## 6.4.12 Configure Message Manipulation Rules

- Navigate to **SETUP** menu ☐ **SIGNALING & MEDIA** tab ☐ **MESSAGE MANIPULATION** folder ☐ **Message Manipulations**
- Configure message manipulation towards Google CCAI as shown below.

The screenshot shows the Audiocodes Setup interface. The left sidebar has a tree view with 'MESSAGE MANIPULATION' expanded, showing 'Message Manipulations (14)'. The main area displays a table of message manipulation rules. The table has columns: INDEX, NAME, MANIPULATION SET ID, MESSAGE TYPE, CONDITION, ACTION SUBJECT, ACTION TYPE, ACTION VALUE, and ROW ROLE. The rules are as follows:

INDEX	NAME	MANIPULATION SET ID	MESSAGE TYPE	CONDITION	ACTION SUBJECT	ACTION TYPE	ACTION VALUE	ROW ROLE
4	call-info Google	3	Invite		Header.call-info	Add	'<http://dialogflow.g	Use Current Condit
6	removecallinfo	3	Any.Request	Header.Call-Info reg	Header.Call-Info	Modify	'\$1+\$3	Use Current Condit
7	Request URI	3	Any.Request		Header.Request-URI	Modify	'*18334496000	Use Current Condit
8	from	3	Any.Request		Header.From.URL	Modify	'192.65.	Use Current Condit
9	Contact	3	Any.Request		Header.Contact.URI	Modify	'Audiocodes'	Use Current Condit

Figure 68: Message Manipulation towards Google CCAI.

The screenshot shows the Audiocodes Setup interface. The left sidebar has a tree view with 'MESSAGE MANIPULATION' expanded, showing 'Message Manipulations (14)'. The main area displays a table of message manipulation rules. The table has columns: INDEX, NAME, MANIPULATION SET ID, MESSAGE TYPE, CONDITION, ACTION SUBJECT, ACTION TYPE, ACTION VALUE, and ROW ROLE. The rules are as follows:

INDEX	NAME	MANIPULATION SET ID	MESSAGE TYPE	CONDITION	ACTION SUBJECT	ACTION TYPE	ACTION VALUE	ROW ROLE
10	PAI modify	3	any		Header.P-Asserted-	Modify	'sbc12.tekvizionlabs	Use Current Condit
13	from	3	Any.Request		Header.From.URL	Add	'Audiocodes'	Use Current Condit
14	Contact	3	Invite.Request		Header.Contact.URI	Modify	'192.65.79.185'	Use Current Condit

Below the table, there is a section for rule #13[from] with tabs for GENERAL and ACTION.

Figure 69: Message Manipulation towards Google CCAI continue.

- Below header rule is created to add Call-Info header towards Google CCAI with the Dialog Flow API request along with the Conversation ID.
- **Conversation on the Fly** is set to True in Google CCAI using REST API. Conversation ID is randomly generated by AudioCodes SBC for each call.
- New Value is set to `<http://dialogflow.googleapis.com/v2beta1/projects/ccai-389811/conversations/Ac_+Header.Call-ID+>;purpose=Goog-ContactCenter-Conversation`



Message Manipulations [Call info Google]

GENERAL		ACTION	
Index	0	Action Subject	Header.Call-Info <a href="#">Editor</a>
Name	Call info Google	Action Type	Add
Manipulation Set ID	1	Action Value	'<http://dialogflow.googleapis.com/v2bet. <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	Invite <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

**Figure 70: Message Manipulation: Call Info towards Google CCAI.**

- Below header rule is created to eliminate 192.65.X.X SBC WAN IP details from the call-Info header towards Google CCAI.

Message Manipulations [removecallInfo]

GENERAL		ACTION	
Index	2	Action Subject	header.Call-Info <a href="#">Editor</a>
Name	removecallInfo	Action Type	Modify
Manipulation Set ID	1	Action Value	\$1+\$3 <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	Any.Request <a href="#">Editor</a>
Condition	header.Call-Info regex (.*)@192. <a href="#">Editor</a>

**Figure 71: Message Manipulation: Call Info Modification towards Google CCAI.**

- Below header rule is created to change from header user part towards Google CCAI as 'Audiocodes'

Message Manipulations [Request URI]

GENERAL		ACTION	
Index	3	Action Subject	Header.From.URL.User <a href="#">Editor</a>
Name	Request URI	Action Type	Modify
Manipulation Set ID	1	Action Value	'Audiocodes' <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	any.Request <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

**Figure 72: Message Manipulation: From header user part Modification towards Google CCAI.**

- Below header rule is created to change Contact header user part towards Google CCAI as 'Audiocodes'

Message Manipulations [Contact]

GENERAL		ACTION	
Index	5	Action Subject	header.Contact.URL.User <a href="#">Editor</a>
Name	Contact	Action Type	Modify
Manipulation Set ID	1	Action Value	'Audiocodes' <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	any.Request <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

**Figure 73: Message Manipulation: Contact header user part Modification towards Google CCAI.**

- Below header rule is created to change P-Asserted Identity host part towards Google CCAI as 'sbc5.tekvizionlabs.com'

Message Manipulations [PAI modify] - x

GENERAL		ACTION	
Index	8	Action Subject	Header.P-Asserted-Identity.URL.Host <a href="#">Editor</a>
Name	PAI modify	Action Type	Modify
Manipulation Set ID	1	Action Value	'sbc5.tekvizionlabs.com' <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	any <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

**Figure 74: Message Manipulation: P-Asserted Identity host part Modification towards Google CCAI.**

- Below header rule is created to change From host part towards Google CCAI as '192.65.X.X'

Message Manipulations [from] - x

GENERAL		ACTION	
Index	8	Action Subject	Header.From.URL.Host <a href="#">Editor</a>
Name	from	Action Type	Modify
Manipulation Set ID	3	Action Value	'192.65.X.X' <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	Any.Request <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

Cancel [APPLY](#)

**Figure 75: Message Manipulation: From host part Modification towards Google CCAI.**

- Below header rule is created to change From host part towards Google CCAI as 'Audiocodes'

Message Manipulations [from] — x

GENERAL		ACTION	
Index	13	Action Subject	Header.From.URL.User <a href="#">Editor</a>
Name	from	Action Type	Add
Manipulation Set ID	3	Action Value	'Audiocodes' <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	Any.Request <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

**Figure 76: Message Manipulation: From User part Modification towards Google CCAI.**

- Below header rule is created to change Contact host part towards Google CCAI as '192.65.X.X'

Message Manipulations [Contact] — x

GENERAL		ACTION	
Index	14	Action Subject	Header.Contact.URL.Host <a href="#">Editor</a>
Name	Contact	Action Type	Modify
Manipulation Set ID	3	Action Value	'192.65' <a href="#">Editor</a>
Row Role	Use Current Condition		

MATCH	
Message Type	Invite.Request <a href="#">Editor</a>
Condition	<a href="#">Editor</a>

**Figure 77: Message Manipulation: Contact User part Modification towards Google CCAI.**

## 7 AudioCodes VE SBC Running configuration

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Attached is the AudioCodes VE SBC running configuration.



AudioCodes Running  
Config.ini

## 8 Summary of Tests and Results

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
SBC Configuration Verification					
1	SBC Configuration Verification	TLS connection SETUP. SBC initiates TLS connection with CCAI	Successful 4way handshake with Google CCAI. Validate the right certificates are being negotiated. SBC should be loaded with GTSR1 cert for Google. SBC should also send the certificate chain when sending its cert.	PASSED	TLS certificates have been verified, and a successful TLS connection has been established.
2	SBC Configuration Verification	TCP Keep Alive. SBC will perform monitoring checks by attempting TCP Keep Alive to ensure Network Connectivity	Successful 3way handshake and thereafter termination	NOT YET TESTED	
3	SBC Configuration Verification	TCP link is persistent. Establish call, send multiple calls that should all use the same TCP transport connection	Persistent TCP connection, we should establish a single connection and multiplex all calls over that connection	PASSED	
4	SBC Configuration Verification	Session Timer support. SBC should be initiator for the Session Refresh	every 900 secs the SBC should refresh the SIP session.	PASSED	Update message sent to Google CCAI every 900 secs.

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
		timer using Update or Re-Invite			
5	SBC Configuration Verification	SIP Header Manipulation (call-info header)	Validate if the Google requested header manipulation is present in the SIP INVITE. Ensure every SDP media has a label.	PASSED	
6	SBC Configuration Verification	*SBCs may need further Header manipulations based on SIP stack constraints. Verify required manipulation are added in SBC to support Google CCAI Example: FROM, TO header manipulations HOST part change in headers etc.,	All signaling in e.164 format	PASSED	
7	SBC Configuration Verification	SDES for SRTP. Configure the SDES parameters for crypto negotiation for the BYOT trunk	Validate the crypto is successfully negotiated and media is encrypted. All SBCs should support SDES for media encryption.	PASSED	

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
8	SBC Configuration Verification	DTLS for Media Encryption. Configure the DTLS parameters for crypto negotiation for the BYOT trunk, certificate for DTLS must be self-signed by the SBC.	Validate the crypto is successfully negotiated and media is encrypted.	NOT SUPPORTED	
<b>Inbound</b>					
9	Inbound	SIP OPTIONS. SBC send SIP options every 60 seconds	Verify SBC sends SIP OPTIONS every 60 seconds and responded with 200 OK	PASSED	
10	Inbound	Inbound call: Calling Party disconnects the call. Inbound siprec call, ensure recording are present, disconnect call from calling party and confirm proper disconnect	Verify Call is established with audio and transcripts from both participants Verify call is disconnected properly	PASSED	
11	Inbound	Inbound call: Called Party disconnects the call. Inbound siprec call, ensure recording are present,	Verify Call is established with audio and transcripts from both participants Verify call is	PASSED	



ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
		disconnect call from called party and confirm proper disconnect	disconnected properly		
12	Inbound	Long duration call-Outbound Call- 1 hour max. Long duration siprec call	Ensure siprec calls stay up for an hour, confirm transcripts are present for entire duration	PASSED	
13	Inbound	Long duration hold and resume (wait until session audit\session refresh occurs from DUT). Long duration siprec call, have the call placed on hold by agent, have call resume. Have customer place on hold then have call resume.	Call is connected, we have two active streams, confirm once a stream goes on hold, we receive corresponding signaling events, and that we no longer record transcripts for the participant on hold.	PASSED	
14	Inbound	Handling Error codes 603 decline. User A Calls PSTN A PSTN A rejects the incoming call	Verify SBC handles Call rejected properly	PASSED	
15	Inbound	Inbound call hold scenarios. Call starts out inactive for both participants, session moves to active	Validate if media is present when expected, confirm signaling events modify sdp properly, once call is move to active validate	PASSED	Call recording is deactivated using API command. Audio during the inactive state is not recorded.

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
			media and transcripts		

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
16	Inbound	Inbound call hold scenarios. call starts out as active for both participants, session move to inactive, and transitions back to active	Validate if media is present when expected, confirm signaling events modify sdp properly, once call is moved to active validate media and transcripts	PASSED	<p>This test case is tested with Skype for Business (SFB) as PBX to simulate sending of media attribute "sendonly" during Hold from SFB. When SFB user puts the call on hold, it sends "sendonly", PSTN hears MOH, MOH is recorded.</p> <p>When PSTN user puts the call on hold, SFB user hears MOH. PSTN does not send sendonly", hence MOH along with the SFB user conversation is recorded.</p>
17	Inbound	Update. Validate that update sent prior to call establishment do not contain SDP	Validate that update prior to call establishment do not contain SDP as expected	NOT APPLICABLE	No UPDATE is sent

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
18	Inbound	Update. Validate that updates post call establishment contain SDP to modify session	If SBC uses update to modify session, ensure SDP is included	NOT APPLICABLE	No UPDATE with SDP is sent
19	Inbound	re-invites. Ensure re-invites that modify session include SDP	Ensure re-invites that modify session include SDP	PASSED	Re-INVITE is sent to Google CCAI as part of hold and Resume scenarios
20	Inbound	Codec negotiation. Ensure that g711 u-law is preferred codec	Ensure we can prioritize g711 as preferred codec, note where SBC configures preferred codec	PASSED	
21	Inbound	3 way conference. Determine requirements, record all leg.	Determine requirements, record all legs	PASSED	
22	Inbound	CCAI cloud project SETUP. Establish CCAI cloud project, provision the project with a GTP phone number for access (Create conversations/p articipants on the fly through SIP headers)	Verify project is SETUP, functional test to confirm you can connect to the GTP access phone number	PASSED	

ID	Title	Description	Expected Results	Status (Passed or Failed etc)	Observations
23	Inbound	CCAI cloud project SETUP. Establish CCAI cloud project, provision the project with a GTP phone number for access (Pre-creation of conversations/p participants)	Verify project is SETUP, functional test to confirm you can connect to the GTP access phone number	NOT APPLICABLE	This test case is not applicable for call recording
24	Inbound	Consultative transfer. Consultative transfer from 1. PSTN > User1 > User2 2. PSTN > User1 > PSTN user2		PASSED	
25	Inbound	Blind transfer. Blind transfer from 1. PSTN > User1 > User2 2. PSTN > User1 > PSTN user2		PASSED	