

SipRec Integration Guide

Integration Guide

QMS 9.4

This document looks at the configuration of QMS to support SipRec recording using a compatible border device.



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About This Document

Audience

This document is for the contact center system administrator who installs, configures, and integrates the Enghouse Interactive Quality Management Suite (QMS) recording solution for use with a border device for SipRec recording. The term border device is used throughout this document to refer to either the Cisco CUBE, Mediant Soft SBC or other supported SBC devices. The Mediant device is available as a branded device resold by AudioCodes and NEC. The supported version of the Mediant device is 7.20A.252.011.

Reference materials

The content contained in this document works in combination with the information and procedures in the following documents or Help.

- Quality Management Suite System Design Guide
- Quality Management Suite Installation Guide
- Cisco Unified Border Element Configuration Guide
- Mediant Software SBC User's manual

Document conventions

This document uses the following text formats and notation conventions.

Text format

Bold text indicates a button, field, link, option name, or similar function requiring an action.

Italicized text indicates new terms, directory paths, or references to external documents.

Notes and cautions

Icons used throughout this document identify additional details or special conditions.



Note

Provides additional information or describes special circumstances.



Caution

Warns of user actions that may cause system failure or irreversible conditions.



Stop

Describes actions that you should only perform under the supervision of Enghouse Customer Support.

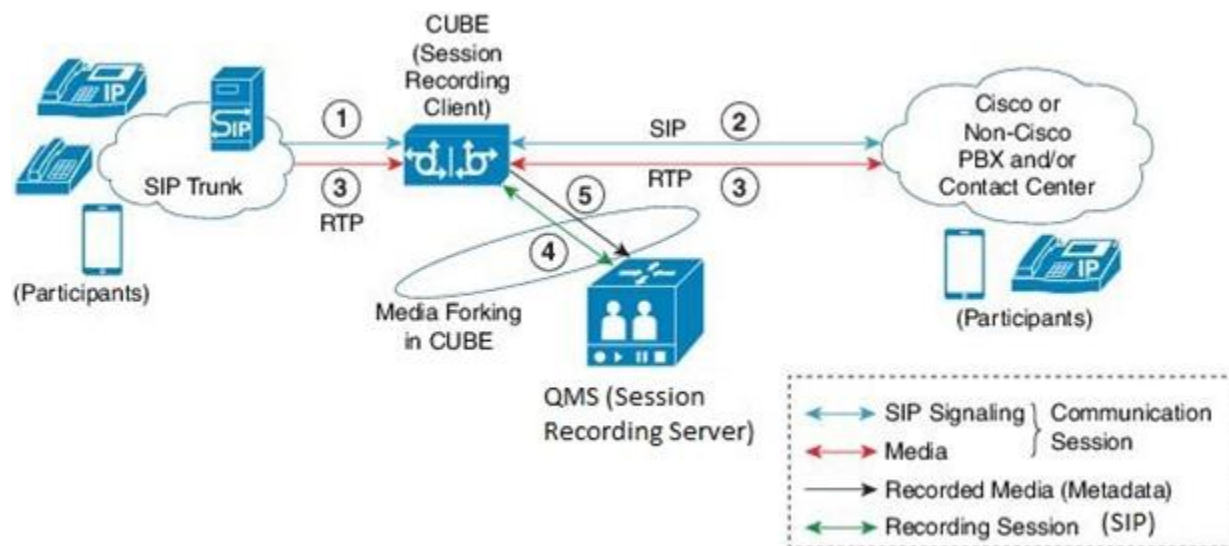


Contact information

For more information regarding Enghouse products, services, and support, please visit www.enghouse.com.

Solution Overview

The QMS product supports recording calls traversing a border device using Session Recording Protocol (SIPREC). SIPREC is an open SIP based protocol defined by the IETF to record medias. In a SIPREC implementation there are two functional roles, the Session Recording Client (SRC) and the Session Recording Server (SRS) - the SRS records calls on behalf of the SRC. In this case QMS is the SRS and the border device is the SRC. When a call is serviced at the border device that has been administered to record calls the SRC will initiate a SIP dialog with the SRS requesting that it record the call. The SIP conversation between the SRC and the SRS sets up the recording session between the two, the conversation carries participant information, media association/disassociation times and details how the media for the session will be delivered. If the SRS expresses availability and interest in recording a call the SRC will duplicate the media streams associated with the call and deliver the media to the SRS in real-time. The SIP conversation is completed at call end and any associated media streams are terminated. The SRS is responsible for persisting and cataloging the call to make it available as a recording.



A typical deployment scenario with QMS acting as the call recorder for a CUBE device. A deployment with the Mediant SBC or any other border device, would be similar with the CUBE replaced by the Mediant SBC or other border device.

QMS Configuration

- Edit the PBX type of the Recording Service to be type "SipRec" (unless using one of the Avaya variants, see the **Avaya Configuration** section for more information).
- Enter a **Sip Port** number for the SIP traffic between the border device and QMS. Default 5060.
- Enter the **Starting Audio Port** number where QMS will receive the forked media from the border device.
- Enter the maximum number of audio ports available for use in the **Audio Port Limit** field. Each RTP stream occupies two ports as even numbered ports carry the audio and odd numbered ports are reserved for RTCP traffic associated with the media stream on the prior port. Additionally, each call will have at least two RTP streams associated with it so a call will normally occupy 4 ports.
- QMS defaults to using the UDP protocol for SipRec conversations. If the SBC in the installation prefers to use TCP, **SBCEnableTCPSipChannel** and **SBCTCPSipChannelPort** must be configured on any Call Recorder as **Advanced Settings** on the Recording Service tab. SBCEnableTCPSipChannel is set to TRUE and SBCTCPSipChannelPort names the port number for the TCP traffic.
- Optionally, QMS can be configured to treat SipRec based recordings for a range of Sip URIs as inbound or outbound with respect to the recorded user by defining appropriate trunk groups using **SiprecInboundTrunkRanges** or **SiprecOutboundTrunkRanges** in the **Advanced Settings** section of the Recording Service tab. A trunk group definition is a regular expression to match a Sip user and an optional domain. For example setting SiprecInboundTrunkRanges to "sip:600{1}\d domain:external.net". Would have QMS treat calls arriving for users with Sip URIs 6000 - 6009 @ external.net as inbound calls. Multiple trunk groups can be defined with a | 'pipe' delimiter between each.
- In some contact center integrations where a recording may be preceded by a consultation call it may be desirable to have the flagging data attached to the consultation call get propagated to the subsequent recording. This behavior is optionally enabled by adding an appSettings line to the CallRecording.exe.config file on the Recording Server. For example, add key="EnableSipRecConsultFlagCopy" value="3" would enable the behavior with a call to the same agent within 3 seconds of the prior call receiving the treatment.
- Installations involving the Enghouse CC product, MS Teams and Touchpoint create recording duplication in a number of transfer scenarios. Enabling **EnableStrictNotAnchorRecording** in the **Advanced Settings** section of the Recording Service tab cures these scenarios. The setting has been tested against a Sonus/Ribbon SBC but would likely be beneficial for a Cisco SBC too. The setting isn't applicable where the SBC is a Mediant device.
- Users administered to record at this recording server will require a SIP uri be defined, there is nothing else in QMS administration that's specific to a SipRec installation. General QMS configuration information is available in the QMS **User Guide**.

Avaya Configuration

There are two hybrid QMS SipRec variants that are available on Avaya IPO platforms.

Avaya IP Office (TAPI) with SipRec

This solution has call control delivered from an Avaya TSP (TAPI Service Provider) and audio delivered from a border device via SipRec.

- Edit the PBX type of the Recording Service to be type "SipRec TAPI".
- Enter the **Sip Port**, **Starting Audio Port** and **Audio Port Limit** using the information in the **SipRec QMS Configuration** section.
- Install the Avaya TSP on the QMS Recording Server. Refer to the **Avaya IP Office Configuration** section for more information.

Refer to the **Avaya IP Office Integration Guide** for more information about this platform.

Avaya IP Office Web Services with SipRec

This solution has call control delivered from Avaya IP Office Web Services and audio delivered from a border device via SipRec.

- Edit the PBX type of the Recording Service to be type "SipRec using Avaya IP Office Web Services".
- Enter the **Sip Port**, **Starting Audio Port** and **Audio Port Limit** using the information in the **SipRec QMS Configuration** section
- Enter the **PBX Host Name**, **API Port**, **Username** and **Password** fields using the information in the **Avaya IP Office Web Services QMS Configuration** section.

Optional Configuration

These two integrations have audio being delivered by an SBC and call control being delivered by either TAPI or IPO Web Services eventing. Audio streams are matched to calls by comparing the metadata delivered by the SBC to the metadata contained in the call control eventing. In some environments the metadata from a source may have prefixed data that the other source doesn't. For example, the metadata delivered by the SBC may carry a country code where the metadata from the call control layer doesn't have the country code, this difference prevents QMS from matching the audio to the call control. QMS can optionally be configured to ignore named prefixes when matching audio streams to call control events.

Ignored prefixes can be configured by adding an appSettings line to the CallRecording.exe.config file on the Recording Server. For example:

- add key="IgnoredMetadataPrefixesKeyName" value="041, 88"

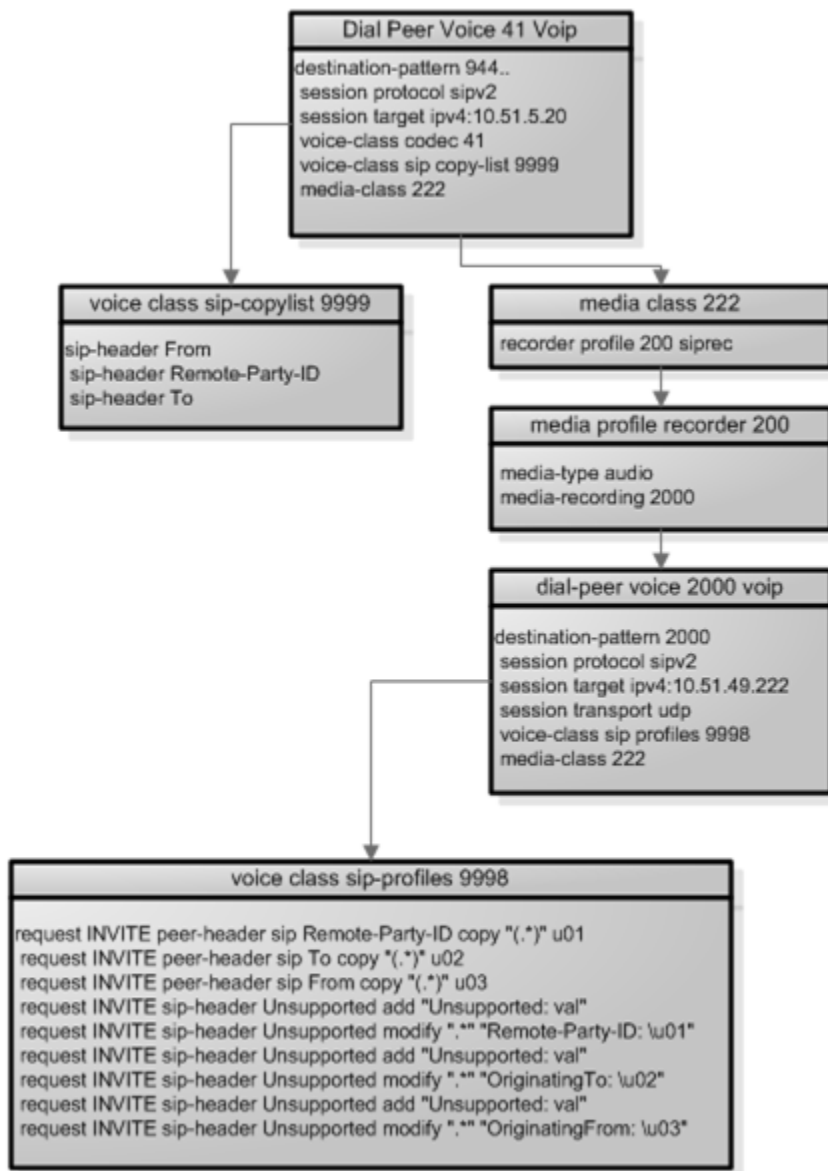
This setting would have QMS ignore prefixes "041" and "88". Any changes to **IgnoredMetadataPrefixesKeyName** require a Call Recording Service restart to take effect.

Refer to the **Avaya IP Office Web Services Integration Guide** for more information about this platform.

Cisco CUBE Configuration

Configuring the CUBE device to use SipRec with QMS involves creating several constructs in the CUBE configuration. Making a call a candidate for recording via SipRec in QMS requires that the inbound or outbound dialing peer servicing call have a media-class (222) assigned that defines a SipRec recorder. The call must also have a voice-class assigned that names a QMS specific sip-copylist (9999). The media-class (222) names a media profile for the recorder (200). The media profile for the recorder names a dial-peer that routes to the recorder (2000), QMS in this case. Additionally, the dial-peer that routes to the recorder is required to have a voice class assigned naming a QMS specific sip profile (9998). These relationships are depicted in the following diagram, where the voice dial-peer named “41” has been configured to engage QMS to record calls traversing it. The sip-copylist (9999) and sip-profile (9998) are constructs that allow select SIP headers to be copied from the initial invite that traverses a dial-peer tagged for recording, to the initial invite sent to the recorder to establish the recording session. These headers are used by QMS to gather metadata for the call; for example, whether the call was inbound or outbound with respect to a user. The sip-copylist (9999), assigned to dial-peer 41, causes the CUBE to make a copy of the From, To and Remote-Party-ID headers, so that they are available for processing in the sip-profile (9998) that is assigned to the dial-peer routing to the QMS installation. The sip-profile (9998) takes the three headers that were copied by the sip-copylist and creates new non-standard headers on the initial Invite leaving the recorder dial-peer named OriginatingTo, OriginatingFrom and Remote-Party-Id with values from the headers copied by the copylist.

The identifiers used in this example, 41, 200, 222, 2000, 9998 and 9999 don't have any significance, they could be any valid Cisco identifier, they can be changed as long as they are changed consistently.



CUBE Configuration Constructs related to recording configuration.

The following steps detail setting up this configuration at the CUBE via the Cisco command line interface (CLI) over an SSH terminal. Italicized text preceded by // is an inline comment and not intended to be part of a command. The string USACHI-LAB-ISR> and USACHI-LAB-ISR# are command line prompts.

```
USACHI-LAB-ISR>enable
```

```
// Enter privileged mode.
```

USACHI-LAB-ISR#configure terminal	// Enter configure mode.
// Create the copylist 9999	
USACHI-LAB-ISR(config)#no voice class sip-copylist 9999	// Delete any sip-copylist named 9999
USACHI-LAB-ISR(config)#voice class sip-copylist 9999	// Create the copylist 9999
USACHI-LAB-ISR(config-class)#sip-header From	// Include From, To, etc.
USACHI-LAB-ISR(config-class)#sip-header Remote-Party-ID	
USACHI-LAB-ISR(config-class)#sip-header To	
USACHI-LAB-ISR(config-class)#exit	// Exit config-class mode.
// Create the SIP profile 9998	
USACHI-LAB-ISR(config)#no voice class sip-profiles 9998	// Delete any sip-profile named 9998
USACHI-LAB-ISR(config)#voice class sip-profiles 9998	// Create the profile 9998 add rules.
USACHI-LAB-ISR(config-class)# request INVITE peer-header sip Remote-Party-ID copy "(.*)" u01	
USACHI-LAB-ISR(config-class)#request INVITE sip-header Unsupported add "Unsupported: val"	
USACHI-LAB-ISR(config-class)#request INVITE sip-header Unsupported modify ".*" "Remote-Party-ID: \u01"	
USACHI-LAB-ISR(config-class)#request INVITE peer-header sip To copy "(.*)" u02	
USACHI-LAB-ISR(config-class)#request INVITE sip-header Unsupported add "Unsupported: val"	
USACHI-LAB-ISR(config-class)#request INVITE sip-header Unsupported modify ".*" "OriginatingTo: \u02"	
USACHI-LAB-ISR(config-class)#request INVITE peer-header sip From copy "(.*)" u03	

USACHI-LAB-ISR(config-class)#request INVITE sip-header Unsupported add "Unsupported: val"	
USACHI-LAB-ISR(config-class)#request INVITE sip-header Unsupported modify ".*" "OriginatingFrom: \u03"	
// Create a SIPREC recorder profile 200	
USACHI-LAB-ISR(config)# media profile recorder 200	
USACHI-LAB-ISR(cfg-mediaprofile)# media-type audio	
USACHI-LAB-ISR(cfg-mediaprofile)# media-recording 2000	
USACHI-LAB-ISR(cfg-mediaprofile)# exit	
// Create the media class that points to SIPREC recorder profile 222	
USACHI-LAB-ISR(config)# media class 222	
USACHI-LAB-ISR(cfg-mediaclass)# recorder profile 200 siprec	
USACHI-LAB-ISR(cfg-mediaclass)# exit	
// Create the outbound dial-peer that points to the QMS recording server 2000	
USACHI-LAB-ISR(config)# dial-peer voice 2000 voip	
USACHI-LAB-ISR(config-dial-peer)# media-class 222	
USACHI-LAB-ISR(config-dial-peer)# destination-pattern 2000	
USACHI-LAB-ISR(config-dial-peer)# session protocol sipv2	// Protocol is sipV2 over udp.
USACHI-LAB-ISR(config-dial-peer)# session target ipv4:10.51.49.222	// IPV4 address of the QMS server.
USACHI-LAB-ISR(config-dial-peer)# session transport udp	// Protocol is sipV2 over udp.
USACHI-LAB-ISR(config-dial-peer)# voice-class sip profiles 9998	// Assign QMS specific profile to dial peer.

USACHI-LAB-ISR(config-dial-peer)# exit	
// Add the media-class and copylist to any dial-peers where calls are recorded. 41 in this case.	
USACHI-LAB-ISR(config)# dial-peer voice 41 voip	
USACHI-LAB-ISR(config-dial-peer)# media-class 222	// Assign the recording enabled media class.
USACHI-LAB-ISR(config-dial-peer)# voice-class sip copy-list 9999	// Assign QMS specific copylist to dial peer.
USACHI-LAB-ISR(config-dial-peer)# exit	

Mediant SBC Configuration

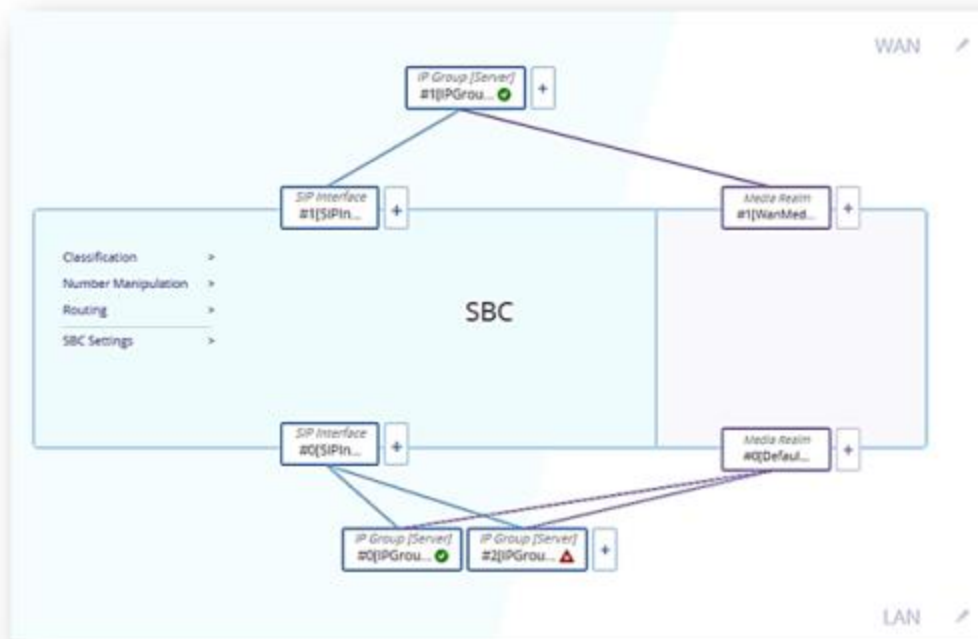
Configuring the Mediant device to use SipRec with the QMS product involves:

- Creating an IP Group and an associated Proxy Set that defines the QMS recorder
- Administering the SIP Recording Settings
- Creating SIP Recording Rules
- Creating Message Manipulation sets

The steps presented here walk through the step-up via an AudioCodes branded web interface. The same configuration can be accomplished via the device's command line interface.

The topology view below depicts a simple setup with an IP Group (#1) defined on the WAN side of the device that represents a SIP trunk communicating with an external PBX or the PSTN. The LAN side of the device has two configured IP Groups, one being an internal PBX, the other, IP Group (#2) being the QMS call recorder. This configuration will walk through:

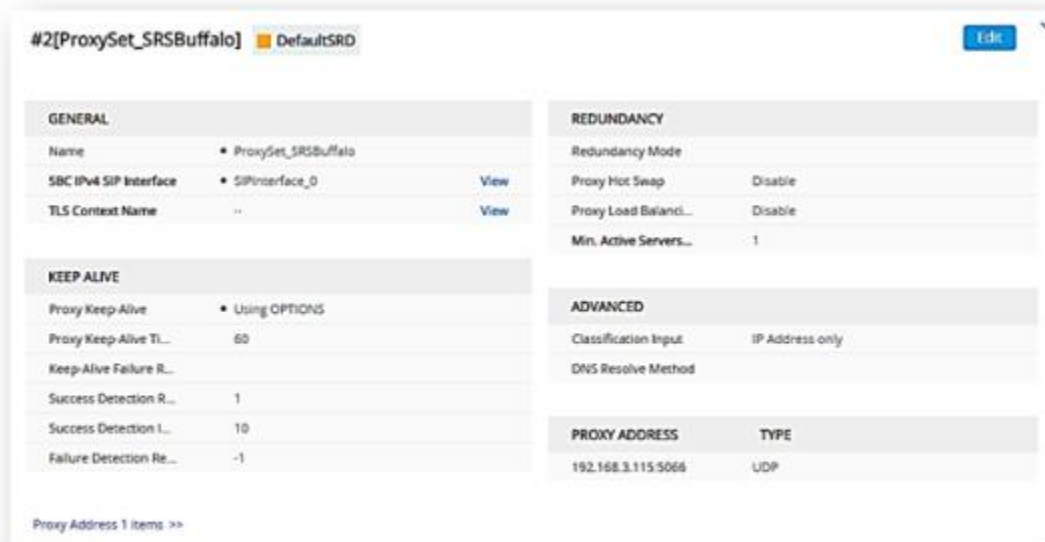
- How to create the IP Group representing the QMS call recorder
- How to create a SIP Recording Rule that will record calls between the external and internal PBXs
- How to preserve select SIP headers from the original call and attach them to the SipRec conversation the SBC has with the QMS server to support appropriate metadata being associated with the recorded calls in QMS



QMS Call Recorder IP Group Setup

Setting up the IP Group that communicates with the QMS server requires creating a Proxy Set and its associated IP Group. A Proxy Set defines the address (IP address or FQDN) and transport type of a SIP server.

1. Select Core Entities -> Proxy Sets -> New to create a new Proxy Set. In this example, we've named it ProxySet_SRSBuffalo.
2. Set it to use the SIP interface on the Lan side of the device, and set the Keep alive behavior to check the SRS's status using the OPTIONS method. Enabling the Keep alive behavior gives a visual indication of connectivity in the topology view, a green circle or a red triangle.
3. After creating and applying the new Proxy Set we select it in the table view of Proxy Sets and click the "Proxy Address 0 items" link at the bottom of the description.
4. Click the +New button to add a new address, in this case we've set the address to 192.168.3.115:5066 and set the transport to UDP.
5. Click Apply. The port named as part of the proxy address should match the port configured in QMS as the SIP Port in the Call Recording Service settings. The transport type should be UDP.



#2[ProxySet_SRSBuffalo] DefaultSRD Edit

GENERAL	
Name	ProxySet_SRSBuffalo
SBC IPv4 SIP Interface	SIPInterface_0 View
TLS Context Name	-- View

REDUNDANCY	
Redundancy Mode	
Proxy Hot Swap	Disable
Proxy Load Balanci...	Disable
Min. Active Servers...	1

KEEP ALIVE	
Proxy Keep Alive	Using OPTIONS
Proxy Keep Alive TL...	60
Keep-Alive Failure R...	
Success Detection R...	1
Success Detection L...	10
Failure Detection Re...	-1

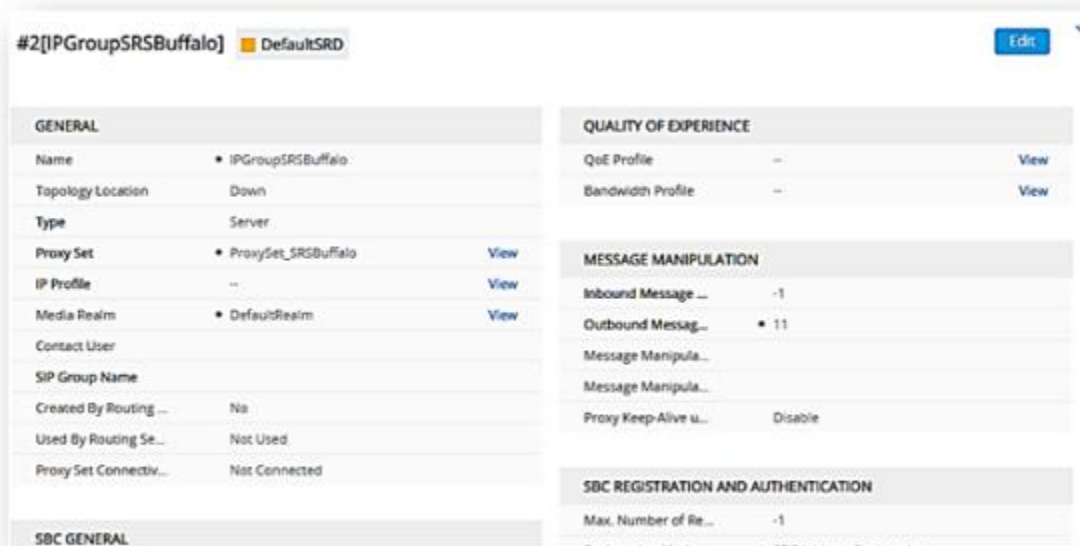
ADVANCED	
Classification Input	IP Address only
DNS Resolve Method	

PROXY ADDRESS	TYPE
192.168.3.115:5066	UDP

Proxy Address 1 items >>

Proxy Set Detail

6. Next, create the IP Group associated with the newly created Proxy Set. An IP Group represents a SIP entity in the network with which the SBC communicates, the group is the QMS server in this case.
7. Select Core Entities -> IP Groups -> New to create a new IP Group. In this example, we've named it IPGroupSRSBuffalo,
8. Set the Location to Down (Lan side),
9. Set the Type to Server,
10. Set the Proxy Set to name the Proxy Set we created in the previous step and assigned it to the Media Realm on the LAN side of the device.
11. Click Apply.



#2[IPGroupSRSSBuffalo] DefaultSRD Edit

GENERAL	
Name	• IPGroupSRSSBuffalo
Topology Location	Down
Type	Server
Proxy Set	• ProxySet_SRSSBuffalo View
IP Profile	-- View
Media Realm	• DefaultRealm View
Contact User	
SIP Group Name	
Created By Routing ...	No
Used By Routing Se...	Not Used
Proxy Set Connectiv...	Not Connected

QUALITY OF EXPERIENCE	
QoE Profile	-- View
Bandwidth Profile	-- View

MESSAGE MANIPULATION	
Inbound Message ...	-1
Outbound Messag...	• 11
Message Manipula...	
Message Manipula...	
Proxy Keep-Alive u...	Disable

SBC REGISTRATION AND AUTHENTICATION	
Max. Number of Re...	-1
Registration Mode	• SBC Initiates Registration

SBC GENERAL

IP Group Detail (partial)

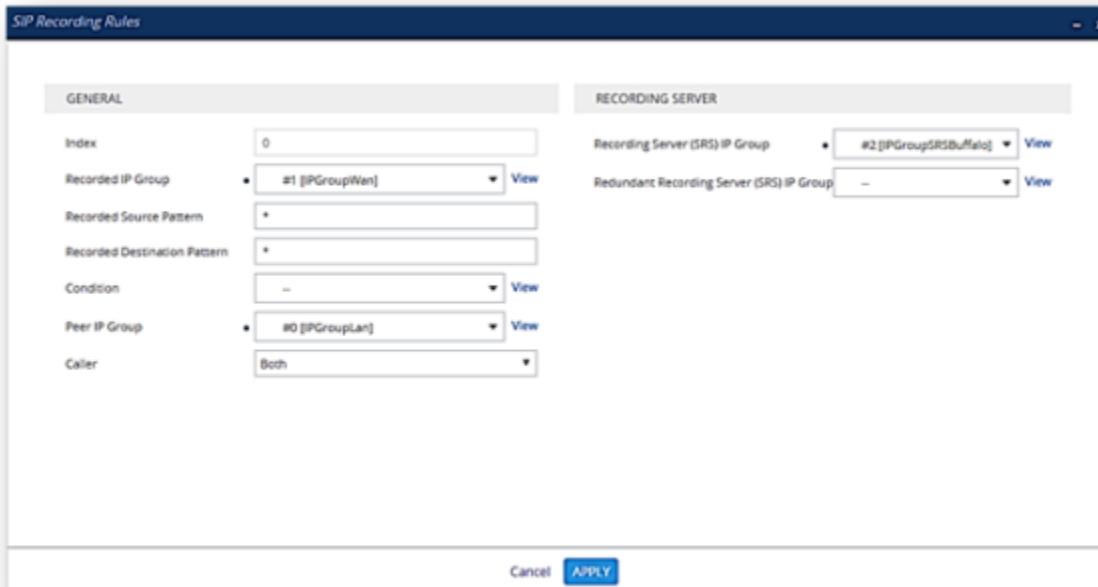
Sip Recording Settings

There is one pertinent SIP Recordings settings at SIP Recording -> SIP Recording Settings. The SIP Recording Metadata Format should be set to RFC 7865.

Sip Recording Rules

Sip Recording Rules are created to qualify a subset of call traffic for recording, a recording rule defines a call route that should be recorded. A SIP Recording Rule names two IP Groups that serve as the SIP endpoints for the call, and a third IP Group that names the location of the Call Recorder, the QMS installation in this case. Generally, a SIP Recording Rule says if a call traverses the SBC between IP Group A and IP Group B record the call at IP Group C. To create a recording rule:

1. Select SIP Recording -> SIP Recording Settings -> New. In this example we've set the Recorded IP group to the IP Group defined on the WAN side of the device that represents a SIP trunk communicating with an external PBX. We've set the Peer IP Group to the IP Group defined on the LAN side of the device that communicates with the internal PBX. We've elected to record both parties in the call and named the Recording Server IP Group as the IP Group we created that addresses the QMS server.
2. Click Apply. This rule will record any calls traversing the SBC between the external PBX and the internal PBX.



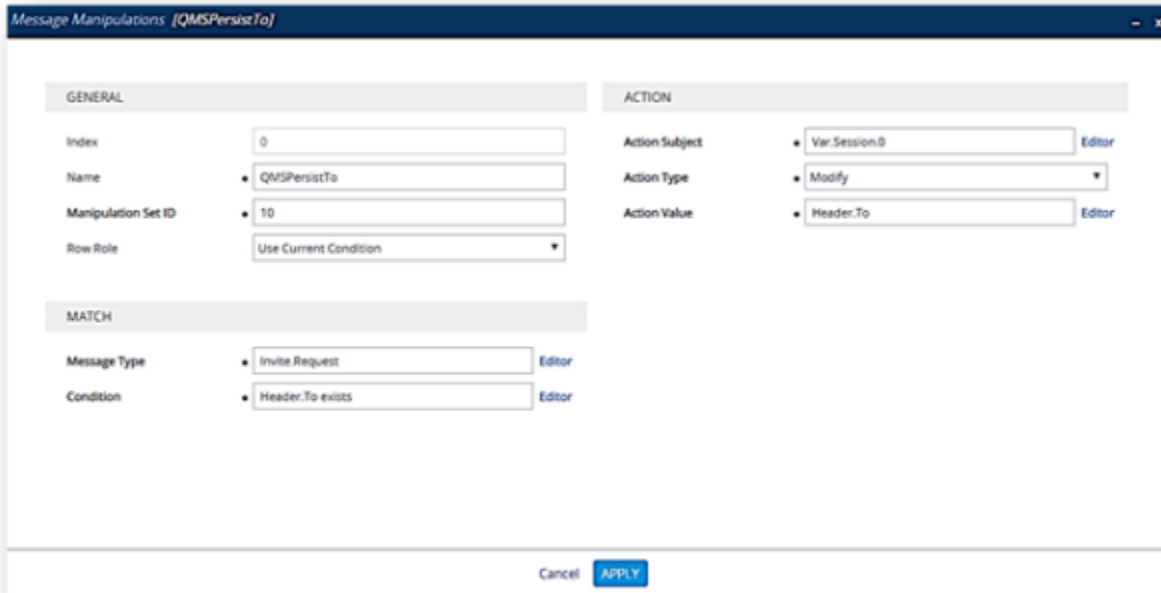
Message Manipulation

Message Manipulations are rules that describe transformations that are applied to SIP messages. Individual manipulations are assigned to a group of sequenced manipulations by assigning each manipulation in the group a common Manipulation Set ID. Finally, these groups of manipulation rules are assigned to IP Groups to treat either messages arriving at that IP Group or messages being sent from that IP Group. In this case message manipulations are used to allow select SIP header to be copied from the SIP Invites that establish calls we intend to record to the SIP Invites sent to the QMS recorder. The headers are attached as new non-standard headers on the Invites sent to the QMS recorder and are used by QMS to gather metadata for the call, for example whether the call was inbound or outbound with respect to a user. Two Message Manipulation sets are required, the first set persists the headers we are interested in from any Invite that is inbound or outbound to an IP Group named as a Recorded or Peer IP Group in any of the recording rules we define. The second manipulation set takes these persisted headers and appends them to any Invite bound for the IP Group that names the QMS recorder. There are four headers that will be treated by these two rule sets, To, From, Remote-Party-ID and Diversion.

Create a new message manipulation by selecting Message Manipulation -> Message Manipulations -> New. First, create the 4 rules to persist the 4 headers of interest; To, From, Remote-Party-ID and Diversion. The Manipulation Set ID will be the same for all 4 persistence rules, the Message Type will be Invite.Request for each, and the Action Type will be Modify for each. The Name, Condition, Action Subject and Action Value will differ for each rule. These values are set as follows:

Name	Condition	Action Subject	Action Value
QMSPersistTo	Header.To exists	Var.Session.0	Header.To
QMSPersistFrom	Header.From exists	Var.Session.1	Header.From

Name	Condition	Action Subject	Action Value
QMSPersistRPID	Header.Remote-Party-ID exists	Var.Session.2	Header.Remote-Party-ID
QMSPersistDiversion	Header.Diversion exists	Var.Session.3	Header.Diversion



Persist To Header Rule

Next, create the 4 rules to attach the 4 persisted headers to the Invite bound for the QMS recorder. The Manipulation Set ID will be the same for all 4 attachment rules, the Message Type will be Invite.Request for each and the Action Type will be Add for each. The Name, Condition, Action Subject and Action Value will differ for each rule. These values are set as follows:

Name	Condition	Action Subject	Action Value
QMSAttachTo	Var.Session.0 != " **	Header.OriginatingTo	Var.Session.0
QMSAttachFrom	Var.Session.1 != "	Header.OriginatingFrom	Var.Session.1
QMSAttachRPID	Var.Session.2 != "	Header.Remote-Party-ID	Var.Session.2
QMSAttachDiversion	Var.Session.3 != "	Header.Diversion	Var.Session.3

** " is two single quotes.

Message Manipulations [QMSAttachTo]

GENERAL		ACTION	
Index	4	Action Subject	Header.OriginatingTo Editor
Name	QMSAttachTo	Action Type	Add
Manipulation Set ID	11	Action Value	Var.Session.0 Editor
Row Role	Use Current Condition		

MATCH	
Message Type	Invite.Request Editor
Condition	Var.Session.0 != "" Editor

Cancel APPLY

Attach To Header Rule

The Message Manipulation set will look similar to this, note there are 4 persistence rules all with Manipulation Set ID 10 and 4 attachment rules all with Manipulation Set ID 11.

Message Manipulations (8)

New Edit Insert

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	QMSPersistTo	10	Invite.Request	Header.To exists	Var.Session.0	Modify	Header.To	Use Current Condition
1	QMSPersistFrom	10	Invite.Request	Header.From exists	Var.Session.1	Modify	Header.From	Use Current Condition
2	QMSPersistRPID	10	Invite.Request	Header.Remote-Party	Var.Session.2	Modify	Header.Remote-Party	Use Current Condition
3	QMSPersistDiversi	10	Invite.Request	Header.Diversi	Var.Session.3	Modify	Header.Diversi	Use Current Condition
4	QMSAttachTo	11	Invite.Request	Var.Session.0 != ""	Header.OriginatingTo	Add	Var.Session.0	Use Current Condition
5	QMSAttachFrom	11	Invite.Request	Var.Session.1 != ""	Header.OriginatingTo	Add	Var.Session.1	Use Current Condition
6	QMSAttachRPID	11	Invite.Request	Var.Session.2 != ""	Header.Remote-Party	Add	Var.Session.2	Use Current Condition
7	QMSAttachDiversi	11	Invite.Request	Var.Session.3 != ""	Header.Diversi	Add	Var.Session.3	Use Current Condition

Finally, the Manipulation Set IDs, 10 and 11 in this example need to be assigned to IP Groups. The Manipulation Set ID of the persistence group is assigned as the inbound and outbound manipulation set on any IP Group appearing as a Recorded or Peer IP Group in any SIP Recording Rule. The Manipulation Set ID of the attachment group is assigned as the outbound manipulation set on the IP Group naming the QMS recorder. Select Core Entities -> IP Groups, select an entry in the table and click edit to assign manipulation sets.

IP Groups (3)

[New](#) [Edit](#) [Delete](#) 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	IPGroupLan	DefaultSR	Server	Not Configured	ProxySet_Lan	—	DefaultRealm	192.168.3.15	Enable	10	10
1	IPGroupWan	DefaultSR	Server	Not Configured	ProxySet_Wan	—	WanMediaRe	192.168.3.28	Enable	10	10
2	IPGroupSRSE	DefaultSR	Server	Not Configured	ProxySet_SRSE	—	DefaultRealm		Enable	-1	11

#0[IPGroupLan] [Edit](#)

If the QMS recorder will be setup to create dual channel recordings QMS requires knowing which IP group triggered a particular recording. The name of a triggering IP group is the SIP Group Name configured on the IP Group named as the Recorded IP Group of the SIP Recording Rule that triggered a recording. Many triggering IP groups can be named in a comma separated list. The triggering IP groups can be sent to QMS on a per call basis using a Message Manipulation or can be set on a per installation basis in the configuration of a QMS CallRecording service that's recording the call.

To administer the setting at the CallRecording service edit the service configuration file for the CallRecordingService.exe in the QMS installation folder. Add the SiprecMediantSBCTriggeringGroupname tag naming any triggering IP groups. In the example below two groups are named.

```
<Control SiprecMediantSBCTriggeringGroupname="enghouse.com, 10.1.1.20" />
```

To administer the setting from the SBC using a Message Manipulation create a new Message Manipulation with the same Manipulation Set ID as the attachment Manipulations defined above. The details of the Manipulation follow where enghouse.com and 10.1.1.20 are named as triggering groups.

- Name: QMSAttachRecordedIPGroupName
- Match -> Message Type: Invite.Request
- Action -> Action Subject: Header.Recorded-IP-Group-Name
- Action -> Action Type: Add
- Action -> Action Value: 'enghouse.com, 10.1.1.20'

Optional Settings

There are a handful of settings applicable to the Mediant SBC that can be set to remedy observed deficiencies in certain call scenarios. These scenarios would typically be identified and the settings tuned by QMS support personnel.

1. The SBC has been observed to hold a call in some scenarios by setting the inactive attribute in an invite's SDP, but will leave the stream in the siprec markup in the sending state. Enabling **HoldsUsingSDP** in the **Advanced Settings** section of the Recording Service tab will hold these calls at QMS.
2. The SBC has been observed to duplicate SipRec sessions in certain consultative transfer scenarios involving two internal parties and an external party which causes duplicate recordings in QMS where the

call audio is the same, but the metadata differs. Enabling **EquateRecordingsOnParticipantSetMatch** in the **Advanced Settings** section of the Recording Service tab prevents these duplicates.

3. The SBC has been observed to not explicitly signal the exit of a recorded party in the SipRec sessions in certain consultative transfer scenarios involving two internal parties and an external party which causes the call length to be incorrect in QMS. Enabling **ReplaceFromWithPAIOnReinvite** in the **Advanced Settings** section of the Recording Service tab prevents this condition.

Caveats

The QMS SipRec integration does not support the following features or functionalities:

- TLS encrypted/secured SIP communication between the border device and QMS.
- SRTP secured audio streams for call medias.
- RTCP feedback from the recorder on live audio streams.
- Recording multimedia calls with a video component.
- The Cisco Unified Border Element Configuration Guide documents Call scenarios/configurations as not being supported.
- The Mediant Soft SBC User's manual documents Call scenarios/configurations as not being supported. The Mediant SBC has a very minimalistic conversation with the QMS recorder, which creates some deficiencies in normal QMS functionality. Specifically, if a recorded user has more than one active call at the same time the call state in the QMS client Realtime view may be incorrect. QMS will display the most recently started call as being the active call, even though the user may be switching among their active calls. Similarly, in the case of live monitoring only the most recently created call can be monitored. These deficiencies only affect the real-time aspects of a recording, the persisted recordings and later review of those recordings are unaffected. Additionally, in a Mediant installation, all the calls will appear as two party calls, a conference call is recorded correctly, but the metadata of the recorded call will not indicate it is a conference call.
- Support for Khomp and Dialogic SBCs is limited to two party call scenarios.

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