BroadSoft Partner Configuration Guide

Sonus Networks, Inc. SBC 1000 / SBC 2000

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BroadWorks® Guide

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Document Revision History

Version	Reason for Change
1.0	Introduced document for Sonus Networks, Inc. SBC 1000 / SBC 2000 Release 3.2.1 v319 validation with BroadWorks Release R20 SP1 v1.2.

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1 Overview

This guide describes the configuration procedures required for the Sonus Networks, Inc. SBC 1000 / SBC 2000 for interoperability with BroadWorks.

The SBC 1000 / SBC 2000 is a PBX Trunking Gateway that uses the Session Initiation Protocol (SIP) to communicate with BroadWorks for call control.

This guide describes the specific configuration items that are important for use with BroadWorks. It does not describe the purpose and use of all configuration items on the SBC 1000 / SBC 2000. For those details, see the SBC 4.0 User's Guide [1] supplied by Sonus Networks, Inc.

2 Interoperability Status

This section provides the known interoperability status of the Sonus Networks, Inc. SBC 1000 / SBC 2000 with BroadWorks. This includes the version(s) tested, the capabilities supported, and known issues.

Interoperability testing validates that the device interfaces properly with BroadWorks via the SIP interface. Qualitative aspects of the device or device capabilities not affecting the SIP interface, such as display features, performance, and audio qualities are not covered by interoperability testing. Requests for information and/or issues regarding these aspects should be directed to Sonus Networks, Inc..

2.1 Verified Versions

The following table identifies the verified Sonus Networks, Inc. SBC 1000 / SBC 2000 and BroadWorks versions and the month/year the testing occurred. If the device has undergone more than one test cycle, versions for each test cycle are listed, with the most recent listed first.

In the following table, *Compatible Versions* identify specific SBC 1000 / SBC 2000 versions that the partner has identified as compatible and should interface properly with BroadWorks. Generally, maintenance releases of the validated version are considered compatible and are not specifically listed here. For questions concerning maintenance and compatible releases, contact Sonus Networks, Inc..

NOTE: Interoperability testing is usually performed with the latest generally available (GA) device firmware/software and the latest GA BroadWorks release and service pack at the time the testing occurs. If there is a need to use a non-verified mix of BroadWorks and device software versions, customers can mitigate their risk by testing the combination themselves, using the *BroadWorks IP-PBX/PBX Trunking Interoperability Test Plan* [7].

Verified Versions

Date (mm/yyyy)	BroadWorks Release	SBC 1000 / SBC 2000 Verified Version	SBC 1000 / SBC 2000 Compatible Versions
09/2014	Release 20 SP1v1.2	Release 3.2.1 v319	

2.2 Interface Capabilities Supported

The Sonus Networks, Inc. SBC 1000 / SBC 2000 has completed interoperability testing with BroadWorks using the *BroadWorks IP-PBX/PBX Trunking Interoperability Test Plan* [7]. The results are summarized in the following table.

The BroadWorks test plan is composed of packages, each covering distinct interoperability areas, such as “Basic” call scenarios and “Redundancy” scenarios. Each package is composed of one or more test items, which in turn, are composed of one or more test cases. The test plan exercises the SIP interface between the device and BroadWorks with the intent to ensure interoperability sufficient to support the BroadWorks feature set.

The *Supported* column in the following table identifies the Sonus Networks, Inc. SBC 1000 / SBC 2000 support for each of the items covered in the test plan packages with the following designations:

- Yes Test item is supported.
- No Test item is not supported.
- NA Test item is not applicable to the device type.
- NT Test item was not tested.

Caveats and clarifications are identified in the *Comments* column.

> **NOTE**: *DUT* in the following table refers to the *Device Under Test,* which in this case is the Sonus Networks, Inc. SBC 1000 / SBC 2000.

BroadWorks IP-PBX/PBX Trunking Interoperability Test Plan Support

Test Plan Package	Test Plan Package Items	Supported	Comments
Basic	Call Origination	Yes	
	Call Termination	Yes	
	Session Audit	Yes	
	Session Timer	Yes	
	Ringback	Yes	
	Forked Dialog	Yes	
	Early UPDATE	No	
	Early-Session	No	
	181 Call Being Forwarded	NT	PBX Limitation
	Dial Plan	Yes	
	DTMF – Inband	Yes	
	DTMF – RFC 2833	Yes	
	DTMF – DTMF Relay	No	Supported in R4.0.0
	Codec Negotiation	Yes	
	Codec Renegotiation	NT	PBX Limitation
SIP Connect	GIN Registration	Yes	
	Private Branch Exchange (PBX) Redirect	NT	PBX Limitation
	Calling Line ID and Privacy	Yes	
	Calling Line ID with Unicode Characters	No	
	E.164 Numbering	NT	
BroadWorks Services	Voice Message Deposit/Retrieval	Yes	
	Message Waiting Indicator	NT	PBX Limitation

	Connected Line ID	No	
	Connected Line ID with Unicode Characters	No	
	Connected Line ID on UPDATE	No	
	Connected Line ID on Re-INVITE	No	
	Diversion Header	No	Supported in R4.0.0
	History-Info Header	No	Supported in R4.0.0
	Enterprise Trunking – Originating Trunk Group (OTG)	No	Supported in R4.0.0
	Enterprise Trunking – Destination Trunk Group (DTG)	No	Supported in R4.0.0
	Enterprise Trunking – Trunk Group (TGRP)	No	Supported in R4.0.0
	Advice of Charge	No	
	Meet-Me Conferencing	Yes	
	Meet-Me Conferencing – G722	No	Supported in R4.0.0
	Meet-Me Conferencing – AMR-WB	No	Supported in R4.0.0
DUT Services – Call Control Services	Call Waiting	No	Supported in R4.1.0
	Call Hold	Yes	PBX Limitation
	Call Transfer	No	
	2 B Channel Transfer	No	
	Three-Way Calling	Yes	
DUT Services – Registration and Authentication	Register Authentication	No	
	Maximum Registration	No	
	Minimum Registration	No	
	Invite Authentication	No	
	Re-Invite/Update Authentication	No	
	Refer Authentication	No	
	Device Authenticating BroadWorks	No	
DUT Services – Fax	G711 Fax Passthrough	NT	PBX Limitation (No Analog)
	G711 Fax Fallback	NT	PBX Limitation (No Analog)
	T38 Fax Messaging	NT	PBX Limitation (No Analog)
Session Border Controller (SBC)/ Application Layer Gateway (ALG)	Register	No	
	Outgoing Invite	No	
	Incoming Invite	No	
Video – Basic Video Calls	Call Origination	NA	
	Call Termination	NA	
	Call Hold	NA	

	Call Waiting	NA	
	Call Transfer	NA	
Video – BroadWorks Video Services	Auto Attendant	NA	
	Auto Attendant – HD	NA	
	Voice Messaging	NA	
	Voice Messaging – HD	NA	
	Custom Ringback	NA	
TCP	Register	Yes	
	Outgoing Invite	Yes	
	Incoming Invite	Yes	
IPV6	Call Origination	No	
	Call Termination	No	
	Session Audit	No	
	Ringback	No	
	Codec Negotiation/Renegotiation	No	
	Voice Message Deposit/Retrieval	No	
	Call Control	No	
	Registration with Authentication	No	
	T38 Fax Messaging	No	
	Redundancy	No	
	SBC	No	
	Dual Stack with Alternate Connectivity	No	

2.3 Known Issues

This section lists the known interoperability issues between BroadWorks and specific partner release(s). Issues identified during interoperability testing and known issues identified in the field are listed.

The following table provides a description of each issue and, where possible, identifies a workaround. The verified partner device versions are listed with an “X” indicating that the issue occurs in the specific release. The issues identified are device deficiencies or bugs, so typically not BroadWorks release dependent.

If the testing was performed by BroadSoft, then the *Issue Number* is a BroadSoft ExtraView partner issue number. If the testing was performed by the partner or a third party, then the partner may or may not supply a tracking number.

For more information on any issues related to the particular partner device release, see the Sonus Networks, Inc. release notes.

Issue Number	Issue Description	Partner Version

		3.2.1			
-----	None				

3 Solution Configuration

The following figure shows an example of a typical deployment configuration with the SBC 1000 / SBC 2000. Typically, the SBC 1000 / SBC 2000 is placed on the customer premises to which SIP phones are registered and is on a private network, which necessitates an edge device or an SBC.

The SBC 1000 / SBC 2000 registers its main line (or pilot number) with the trunk group configured on BroadWorks via an SBC. A single registration, identifying the pilot number via GIN registration, conforms to SIP Connect standards for trunk registration. This enables all PBX users to be implicitly registered with BroadWorks via the pilot number registration. Note that the SBC deployed in the solution must support SIP Connect.

The SBC 1000 / SBC 2000 is identified as a BroadWorks PBX Classification Type A. For PBX classification descriptions, see the *BroadWorks SIPTrunking Solution Guide* [4]. To determine how to configure Oracle for this PBX classification type, see the *SIP Trunking Configuration* table in the *BroadSoft Partner Configuration Guide Oracle Net-Net 3000/4000 Series* [6].

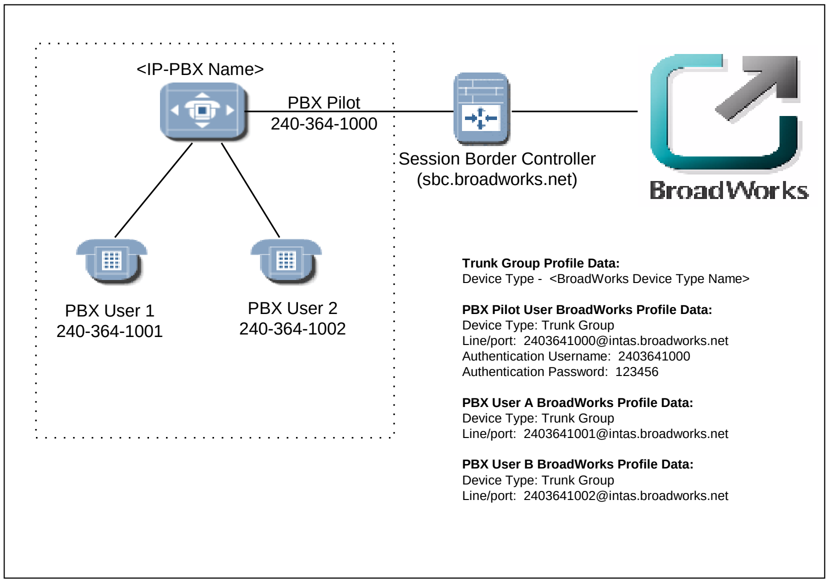


Figure 1 SBC 1000 / SBC 2000 Configuration Setup (IP-PBX)

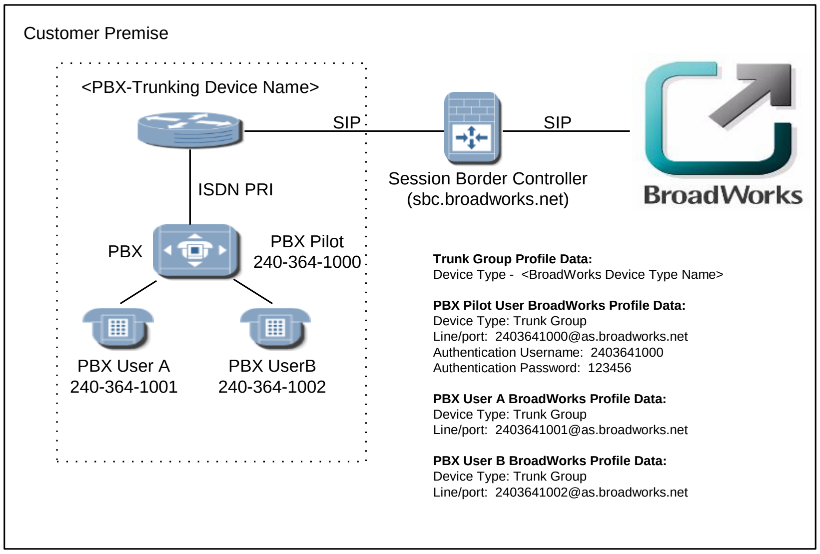


Figure 2 SBC 1000 / SBC 2000 Configuration Setup (PBX-Trunking Device)

The following configuration sections describe how to configure the SBC 1000 / SBC 2000 to support the configuration shown in the above diagram. The SBC 1000 / SBC 2000 configuration examples refer to data in the diagram.

4 BroadWorks Configuration

This section identifies the required BroadWorks device profile type settings for the Sonus Networks, Inc. SBC 1000 / SBC 2000 and any other unique BroadWorks configuration required for interoperability with the SBC 1000 / SBC 2000.

4.1 BroadWorks Device Profile Type Configuration

This section identifies the device profile type settings to use when deploying the Sonus Networks, Inc. SBC 1000 / SBC 2000 with BroadWorks.

Create a device profile type for the Sonus Networks, Inc. SBC 1000 / SBC 2000 as shown in the following example. The settings shown are recommended for use when deploying the Sonus Networks, Inc. SBC 1000 / SBC 2000 with BroadWorks. For an explanation of the profile parameters, see the *BroadWorks Device Management Configuration Guide* [1].

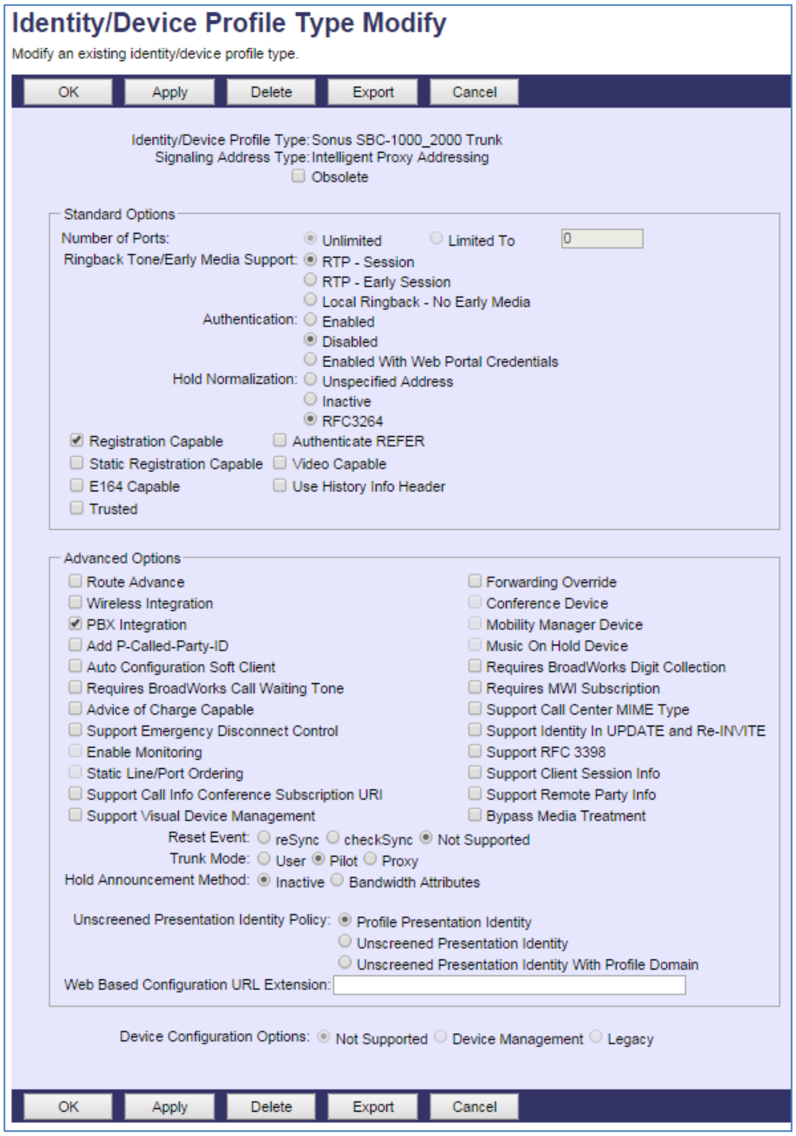


Figure 3 SBC 1000 / SBC 2000 Trunk Device Profile Type

4.2 BroadWorks Configuration Steps

There are no additional BroadWorks configuration steps required.

5 SBC 1000 / SBC 2000 Configuration

This section describes the configuration settings required for the SBC 1000 / SBC 2000 integration with BroadWorks, primarily focusing on the SIP interface configuration. The SBC 1000 / SBC 2000 configuration settings identified in this section have been derived and verified through interoperability testing with BroadWorks. Refer to SBC 4.0 User's Guide *[1]* for SBC 1000 / SBC 2000 configuration details not covered in this section.

5.1 Configuration Method

Out of the box, the Sonus SBC 1000/2000 is configured primarily using a web browser via a web interface hosted on the Sonus SBC 1000/2000 system.

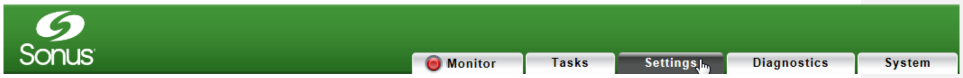
The WebUI provides a full range of configuration options to end-users. To list a few, the ability to configure IP interfaces, setting the telephony ports, configuring routes and digit manipulation, and managing Users and Groups.

5.2 System Level Configuration

This section describes system-wide configuration items that are generally required for each SBC 1000 / SBC 2000 to work with BroadWorks.

5.2.1 Configuration Settings

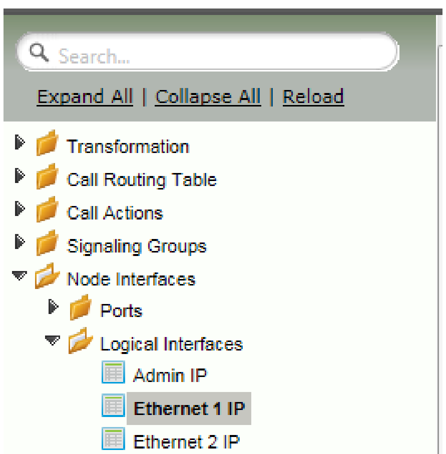
The Tabs across the top of the Sonus SBC WebUI permit the user to access various configuration subsystems. Within this document, all configurations will be performed under the SETTINGS tab.



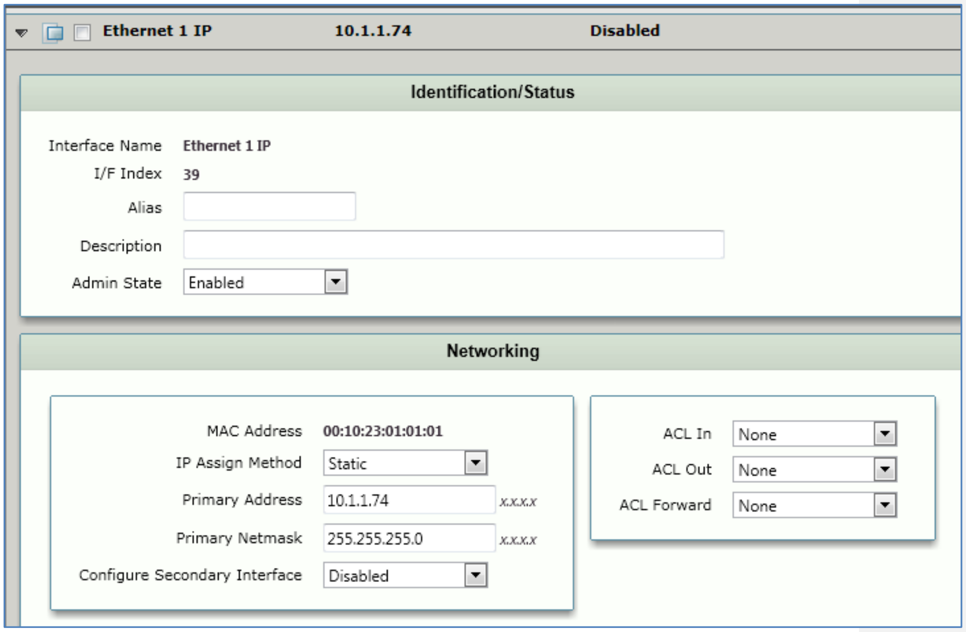
5.2.2 Configure Network Settings

Configure the SBC's basic network connectivity items to permit the SBC to interoperate with the Broadsoft Server as well as Enterprise network.

- In the Navigation tree, click on *Ethernet 1 IP*



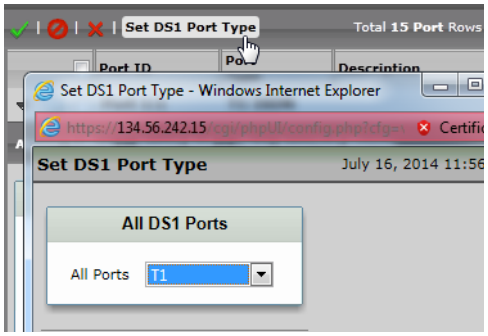
- Configure the Ethernet IP 1 port as necessary to connect to the Broadsoft server.



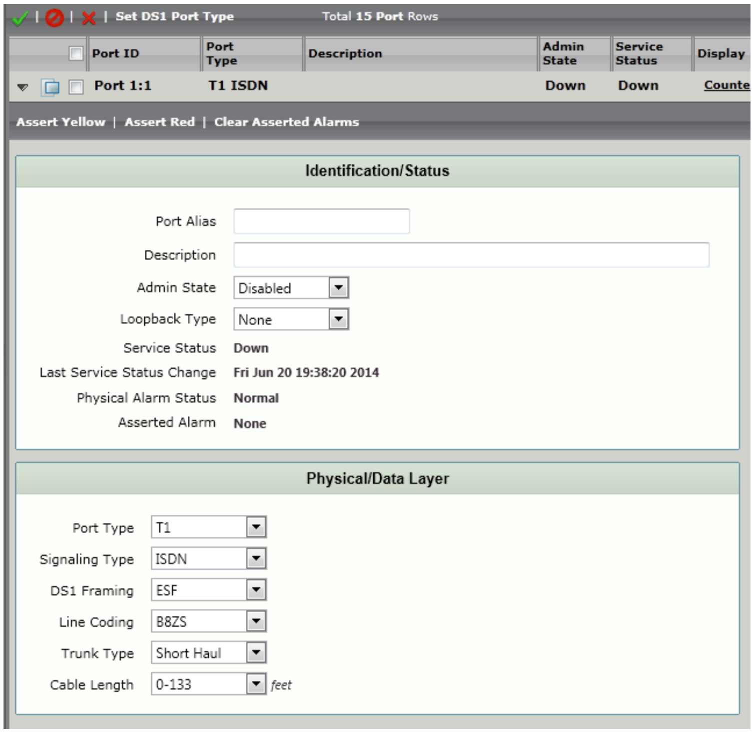
- Configure the TDM port for connectivity to the PBX. In the Navigation Tree, click *Node Interfaces | Ports | Port 1:1*

Set the TDM Port Type.

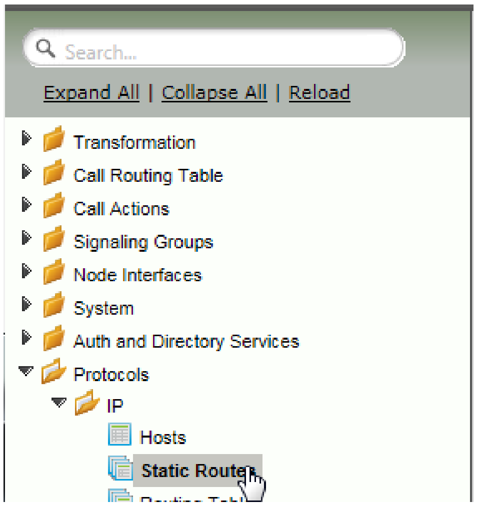
- Click *Set DS1 Port Type*
- Use the *All Ports* pulldown to select the appropriate DS1 port type for your installation.
- Click OK



- Configure the TDM port as necessary to connect to the PBX.



- In the Navigation Tree, click on *Static Routes*



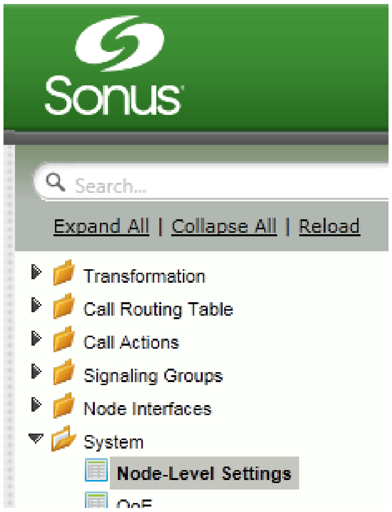
- Configure any IP routes required to provide connectivity between the SBC and the Broadsoft server, as well as any IP routes required to provide connectivity to the Enterprise LAN.

Static IP Route Table

Total **4 IP Route** Rows

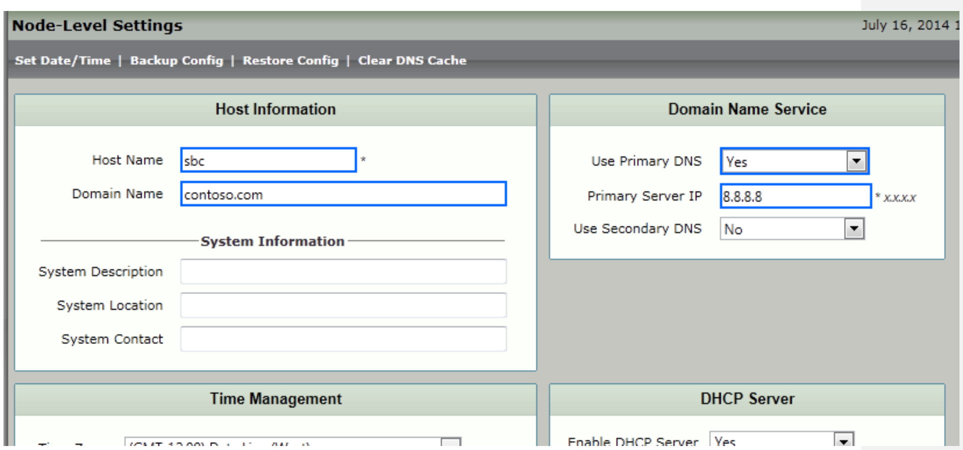
Row ID	Destination IP	Mask	Gateway	Metric
1	172.16.110.106	255.255.255.255	134.56.227.5	1
2	199.19.193.0	255.255.255.0	134.56.242.1	1

- In the Navigation Tree, click on *System* | *Node-Level Settings*



Verify or add the following information to the Node-Level Settings:

- Ensure the SBC has a configured Host Name
- Ensure the SBC has a configured Domain Name
- Ensure Primary DNS Server IP is set to an appropriate DNS server
- Click Apply



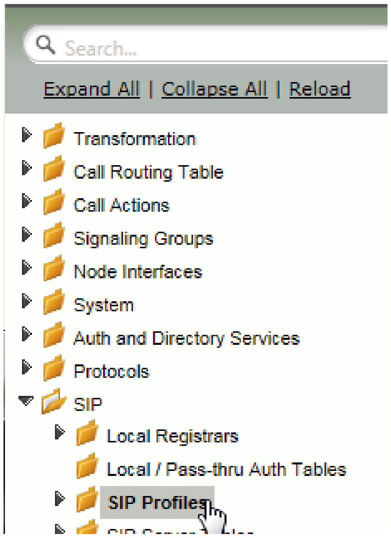
5.2.2.1 Configure IPV6 Settings

Not Supported.

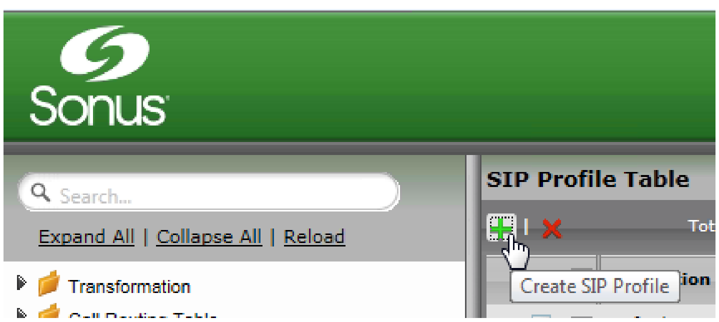
5.2.3 Configure SIP Interface Settings

Create the *Default SIP Profile* as noted below. If it already exists, correct as noted in the *Default SIP Profile* configuration picture below.

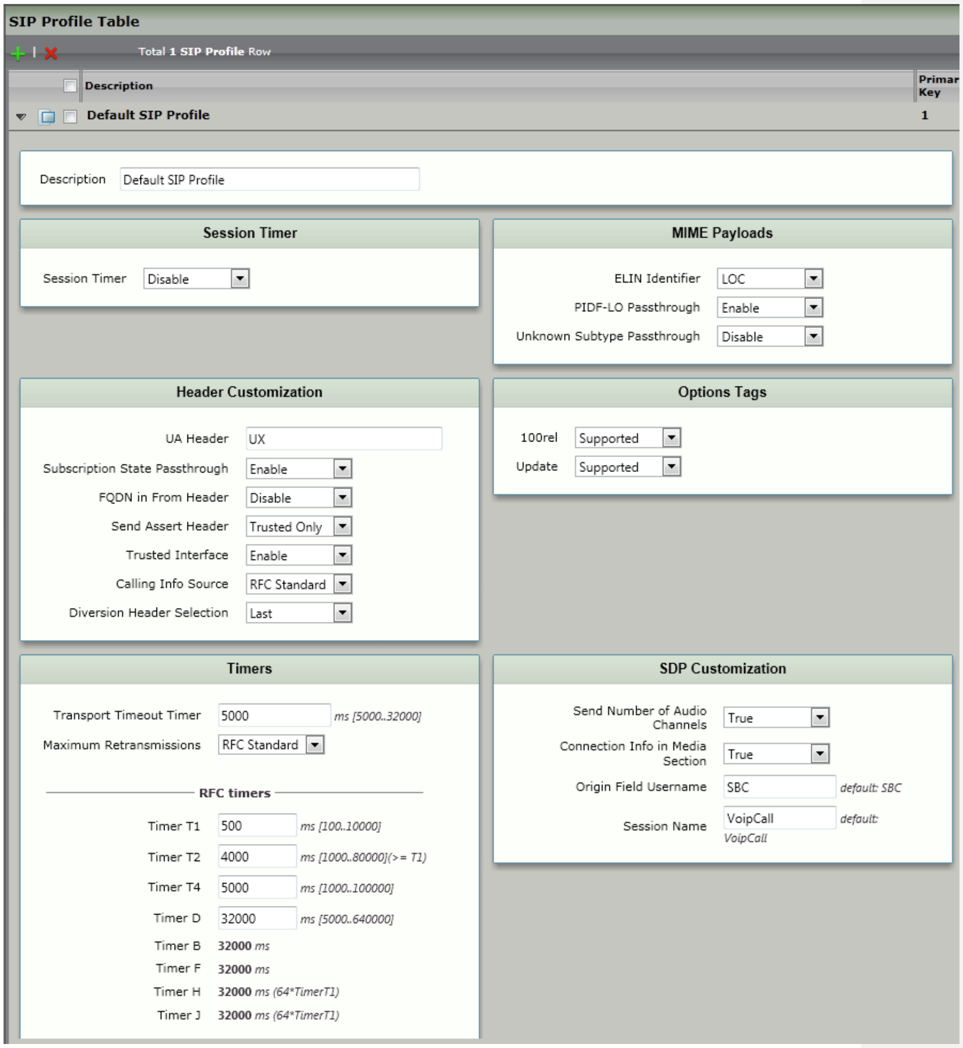
- In the Navigation Tree, click on *SIP Profiles*



- Create a SIP Profile by clicking +.



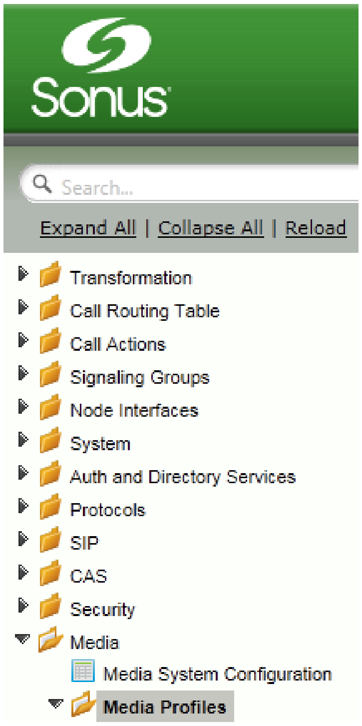
- Configure the SIP Profile as noted below to permit proper connectivity to the Broadsoft Server.



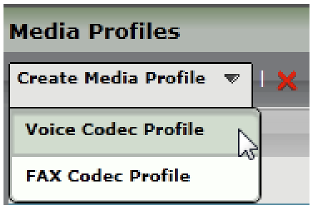
5.2.4 Configure Media Settings

Media Profiles allow you to specify the individual voice and fax compression codecs and their associated settings, for inclusion in a Media List. Different codecs provide varying levels of compression, allowing one to reduce bandwidth requirements at the expense of voice quality.

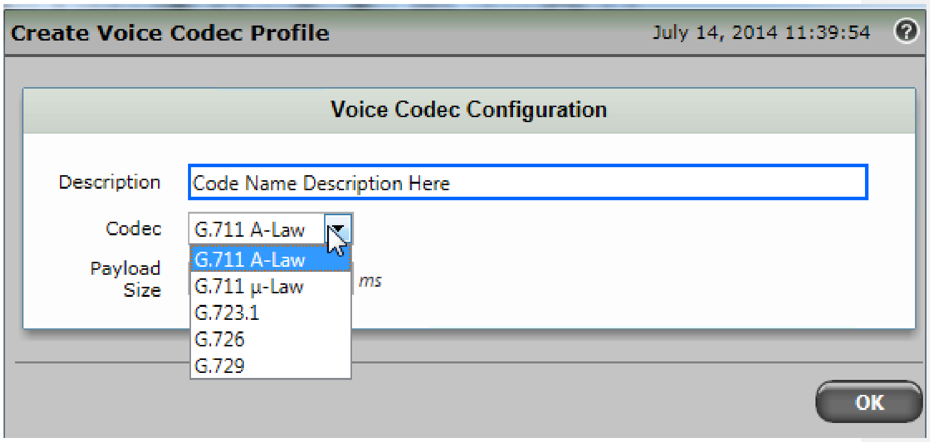
- In the Navigation Tree, click on *Media Profiles*.



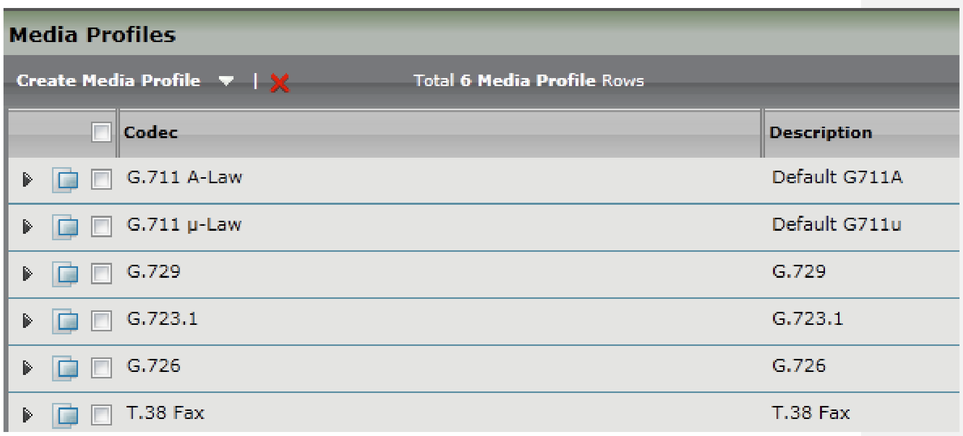
- Create a *Voice Codec Profile*.



- Add any codecs required for your configuration Broadworks or Enterprise applications. Repeat these steps until all the desired codecs are added.



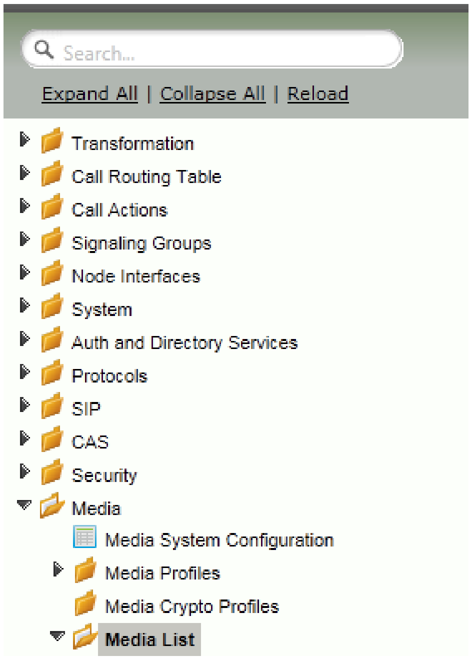
- When completed, your codec configuration will list all the codecs you've created.



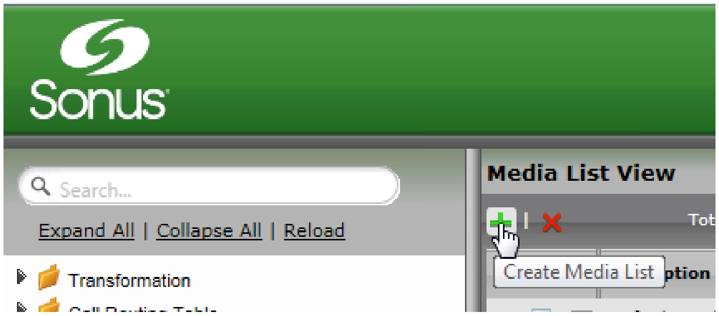
5.2.5 Configure Media Lists

Media Lists allow you to specify a set of codecs and fax profiles that are allowed on a given SIP Signaling Group. They contain one or more Media Profiles, which must first be defined in Media Profiles. These lists allow you to accommodate specific transmission requirements, and SIP devices that only implement a subset of the available voice codecs.

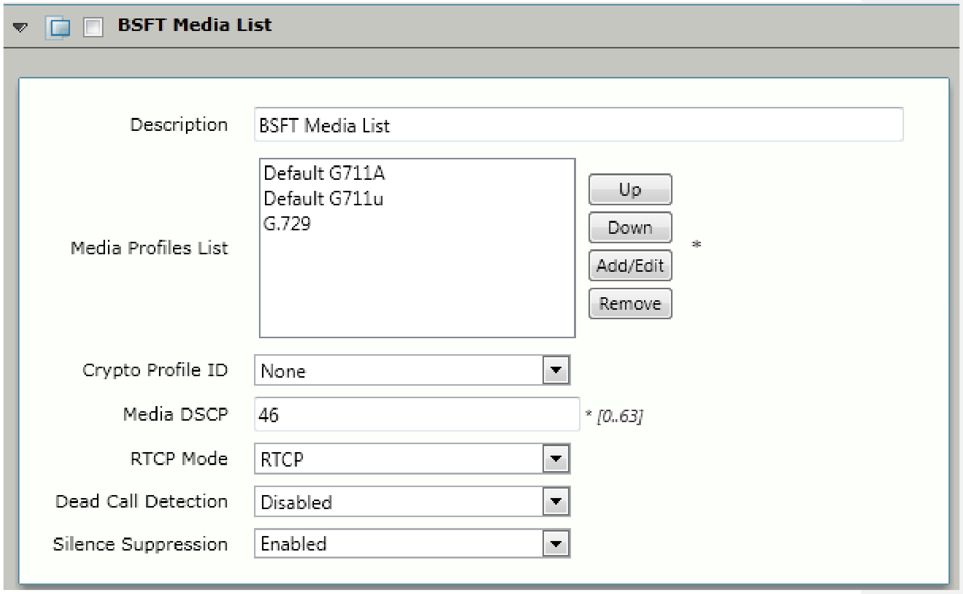
- In the Navigation Tree, click on *Media List*



- Create a Media List for the Broadsoft application



- Add any codecs to be available from the Broadsoft application.

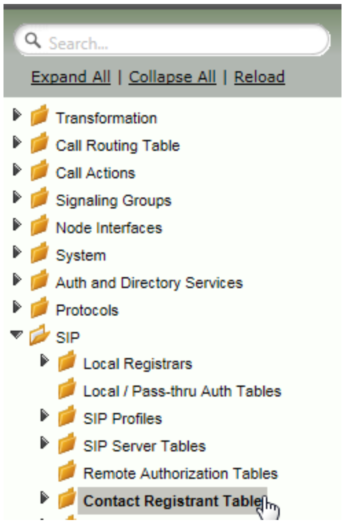


NOTE: You will need to repeat the steps above to create another Media List for the Enterprise network if the codec list for Enterprise devices is different than those you added to the Media List above.

5.3 Configure Broadsoft Subscriber Information

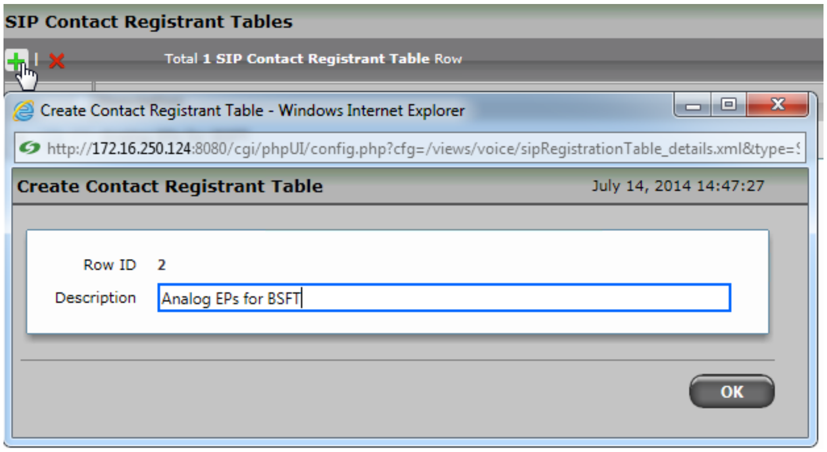
The Contact Registrant Table is used to provide user authentication to the Broadsoft server when calls are made.

- In the Navigation Tree, click on *Contact Registrant Table*

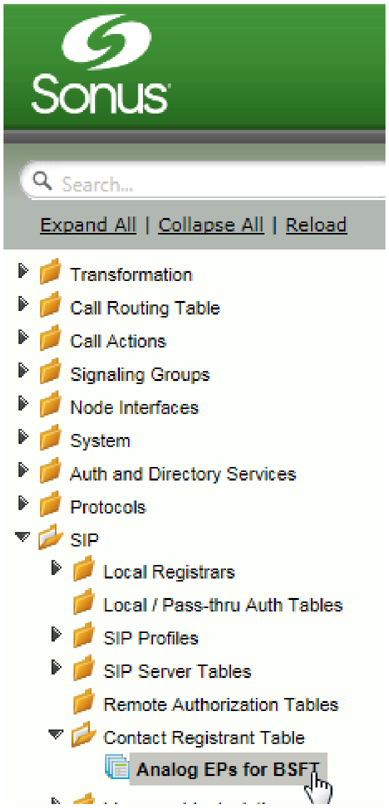


Add a Contact Registrant Table to hold the Broadsoft subscriber information.

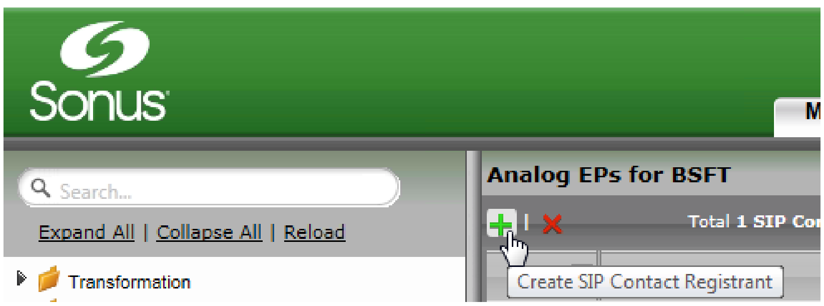
- Click the + to add a Contact Registrant Table
- Type of name of the Table
- Click OK



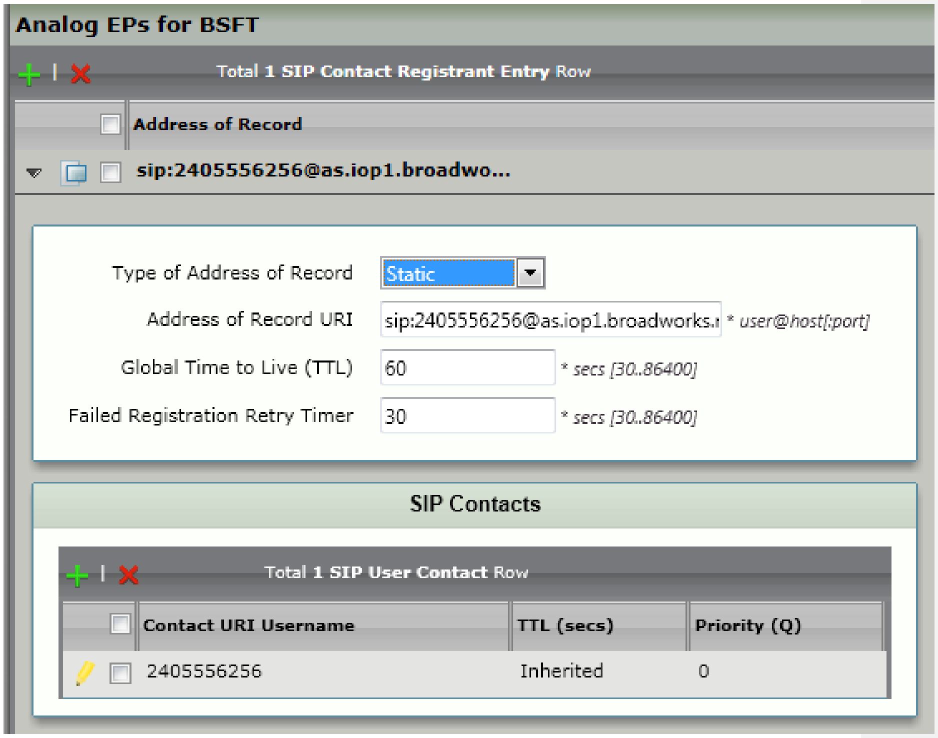
- Click the newly added Contact Registrant Table in the Navigation Tree.



- Click the + to add a Contact Registrant



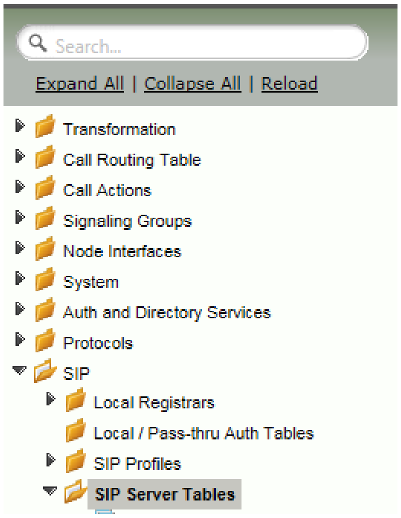
- Add the Broadsoft subscription user in the *Address of Record URI* box. This information will be supplied by your service provider.



5.3.1 Configure a SIP Server Table and Entry for the Broadsoft Server

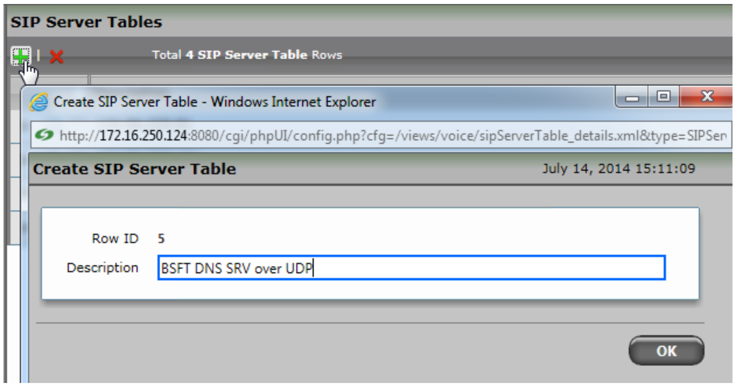
SIP Server Tables contain information about the SIP devices connected to the Sonus SBC 1000/2000. The entries in the tables provide information about the IP Addresses, ports, and protocols used to communicate with each server. The Table Entries also contain links to counters that are useful for troubleshooting.

- In the Navigation tree, click on *SIP Server Table*.

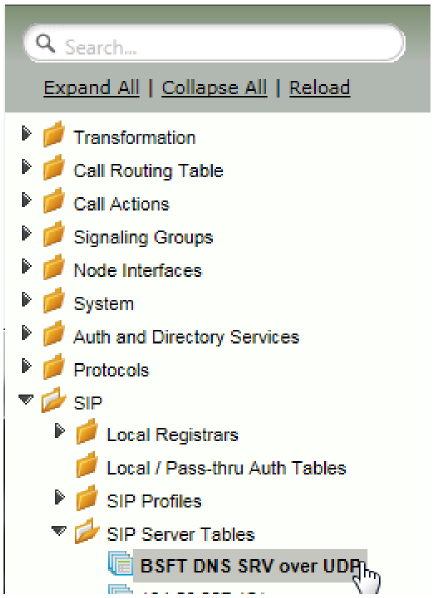


Add a Contact Registrant Table to hold the Broadsoft subscriber information Click the + to add a SIP Server Table:

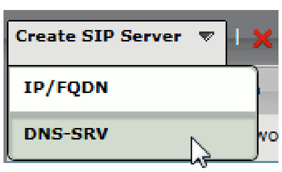
- Type of name of the Table
- Click OK



- In the Navigation tree, click on the name of the new *SIP Server Table* that you just added.



- From the *Create SIP Server* pulldown, select *DNS-SRV*. This will place a SIP Server Entry in the newly created SIP Server Table.



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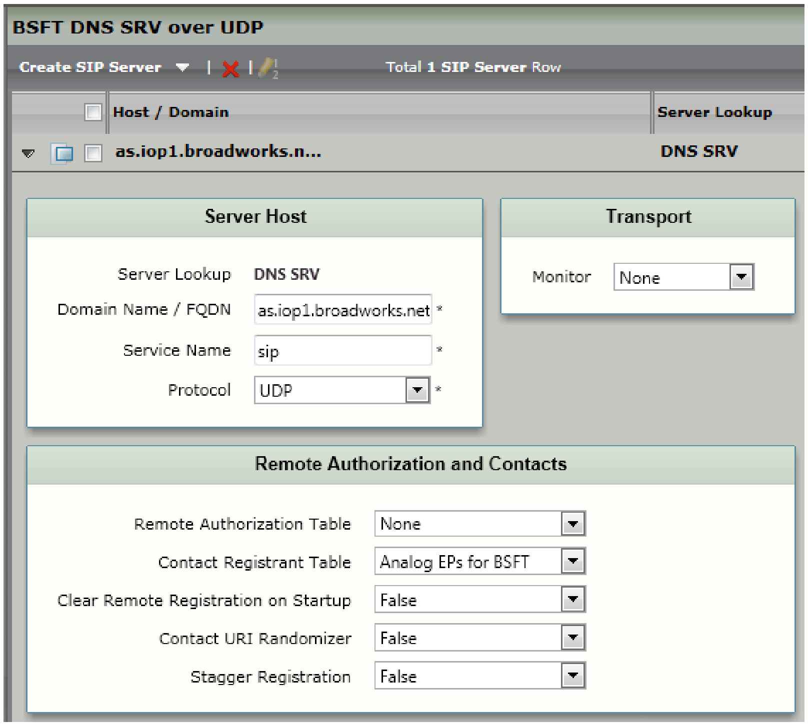
Enter the SIP Server information as noted below:

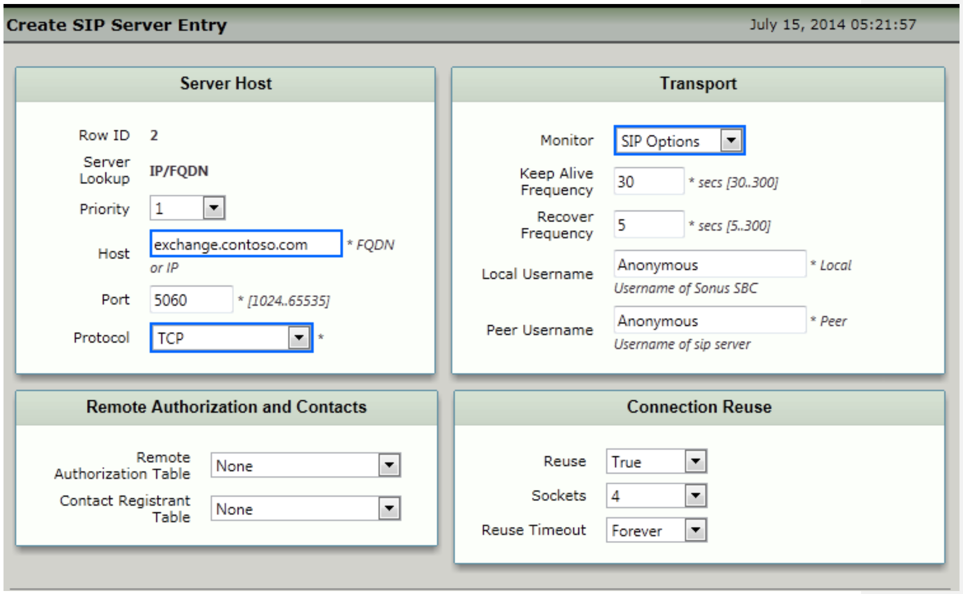
- Enter the FQDN of the **Broadworks** Server
- Select the Contact Registrant Table
- Verify the Protocol



*****NOTE: You will need to repeat the steps above to create a SIP Server Table for each Enterprise-based SIP Server. Follow the template below for creating a single IP/FQDN SIP Server Entry in each SIP Server Table you create.***

Enter the SIP Server information as noted below:

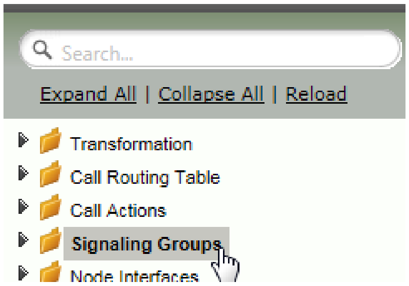
- Create an IP/FQDN **Enterprise** SIP Server.
- Enter the FQDN of the desired Enterprise SIP Server
- Enter the SIP Server's Port Number
- Enter the SIP Server's Protocol type
- Configure Monitor to *SIP Options*
- Click OK



5.3.2 Configure a Signaling Group for the Broadsoft Server

Signaling groups allow telephony channels to be grouped together for the purposes of routing and shared configuration. They are the entity to which calls are routed, as well as the location from which Call Routes are selected. In the case of SIP, they specify protocol settings and link to server, media and mapping tables

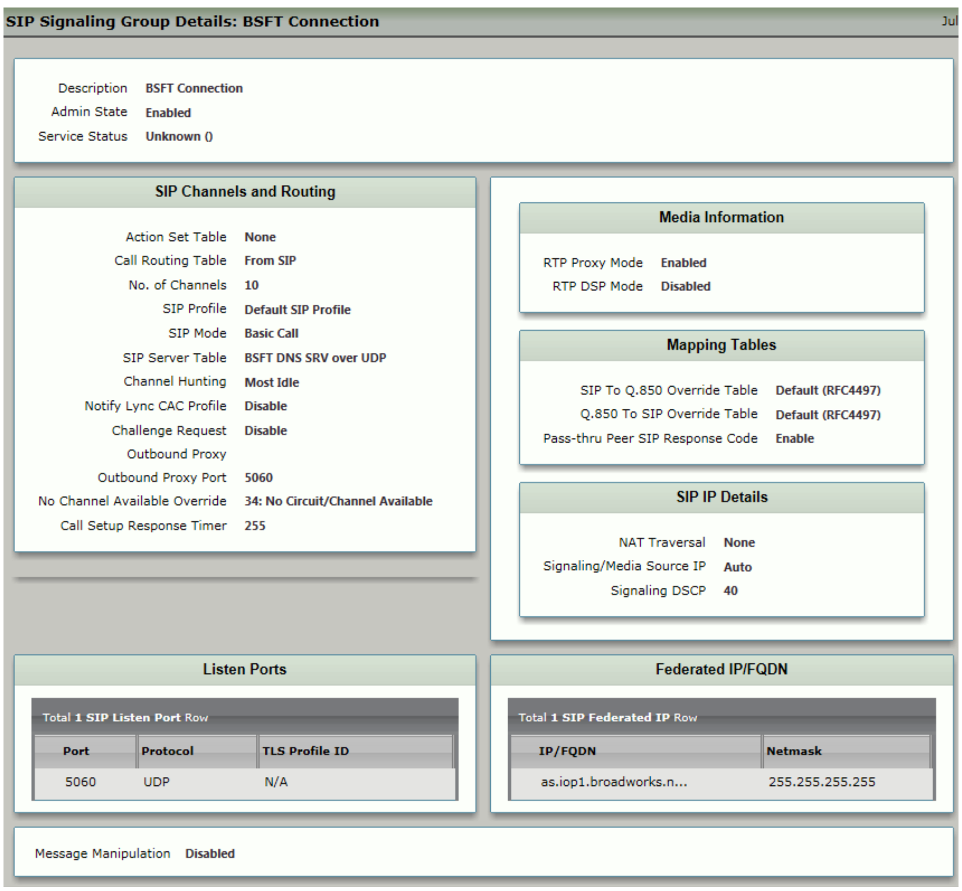
- In the Navigation Tree, click *Signaling Groups*



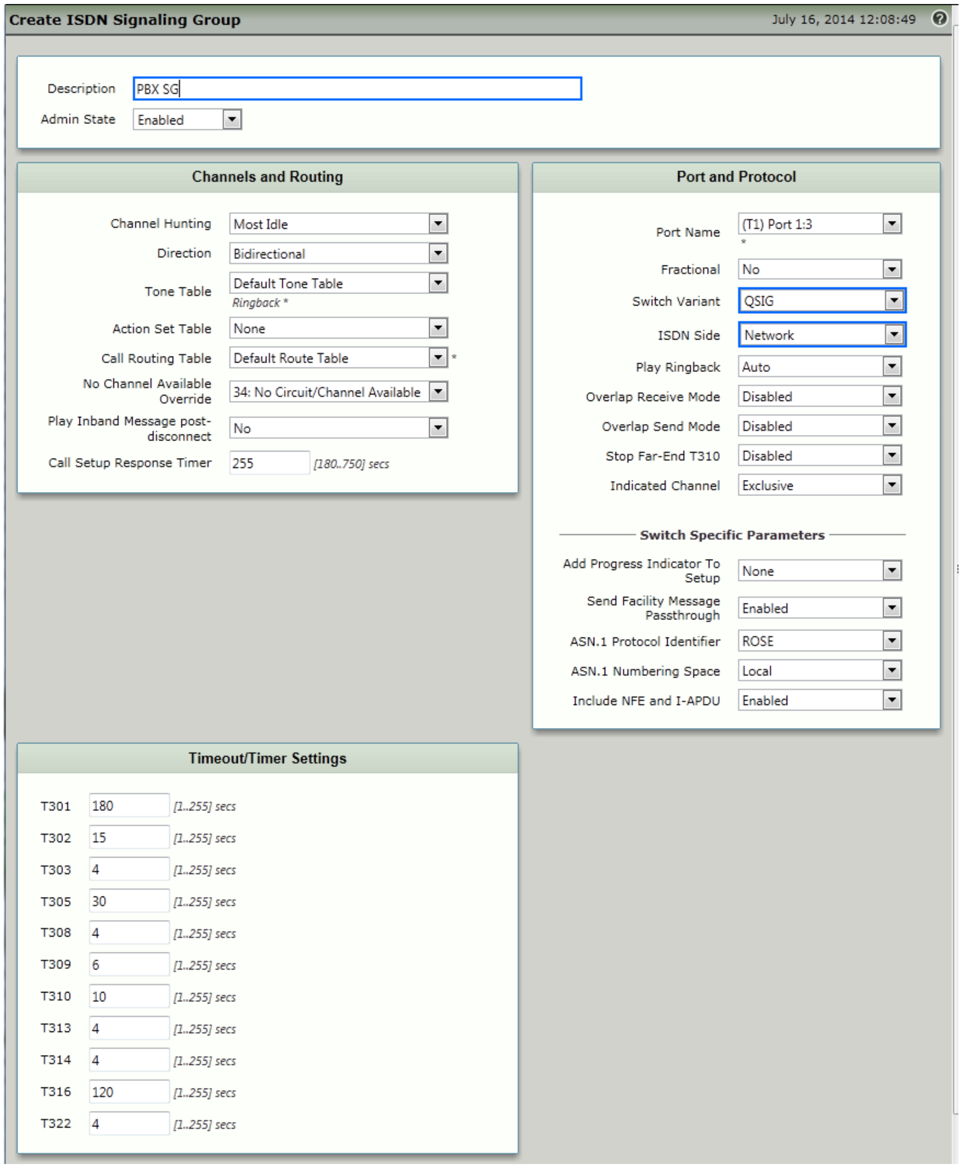
- From the *Create Signaling Group* pulldown, select *SIP Signaling Group*

Enter the Broadsoft Signaling Group information as noted below:

- Select the *SIP Profile* you created earlier
- Select the Broadsoft *SIP Server Table*
- Verify/Delete/Create *Listening Ports* that the SBC will use to receive SIP from the Broadsoft Server
- Set Media Information to *RTP Proxy Mode: Enable, RTP DSP Mode: Disable*
- Add the Broadsoft Server FQDN in the *Federated IP* with a netmask of 255.255.255.255



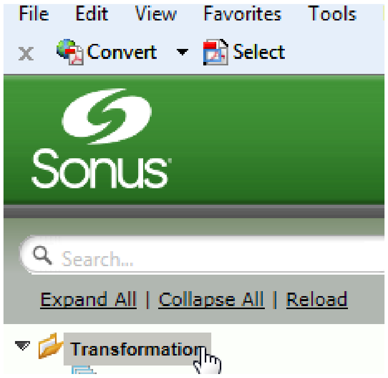
*****NOTE: You will need to repeat the steps above to create an ISDN Signaling Group for the TDM PBX. Use the diagram below to create an ISDN Signaling Group. Configure the Port and Protocol parameters to match your PBX.***



5.3.3 Configure a Transformation Table to the Broadsoft Server

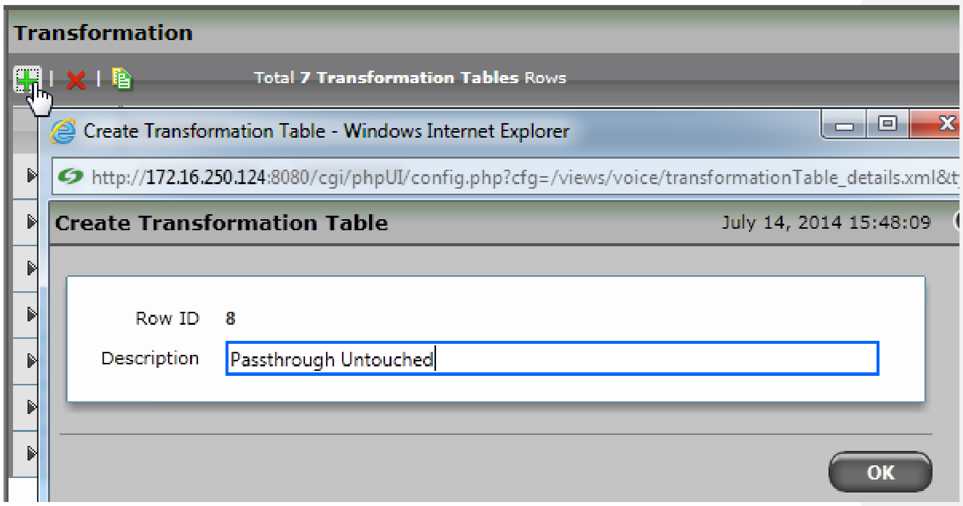
Transformation Tables facilitate the conversion of names, numbers and other fields when routing a call. They can, for example, convert a public PSTN number into a private extension number, or into a SIP address (URI). Every Call Routing Table Entry requires a Transformation Table.

- In the Navigation tree, click on Transformations

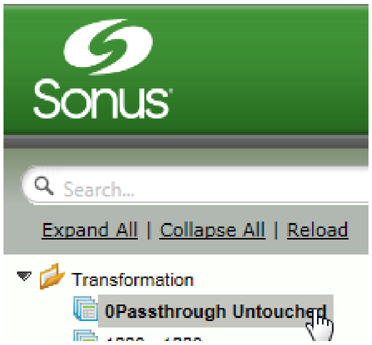


Create a new Transformation Table:

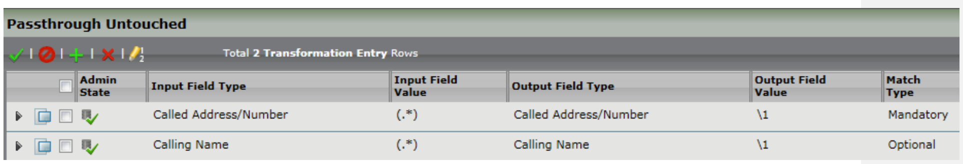
- Click the + to add a Transformation Table
- Type the desired name of the Table
- Click OK



- In the Navigation tree, click on the name of the new Transformation Table that you just added.



- Use the + to create the Transformation Entries as desired for your installation.



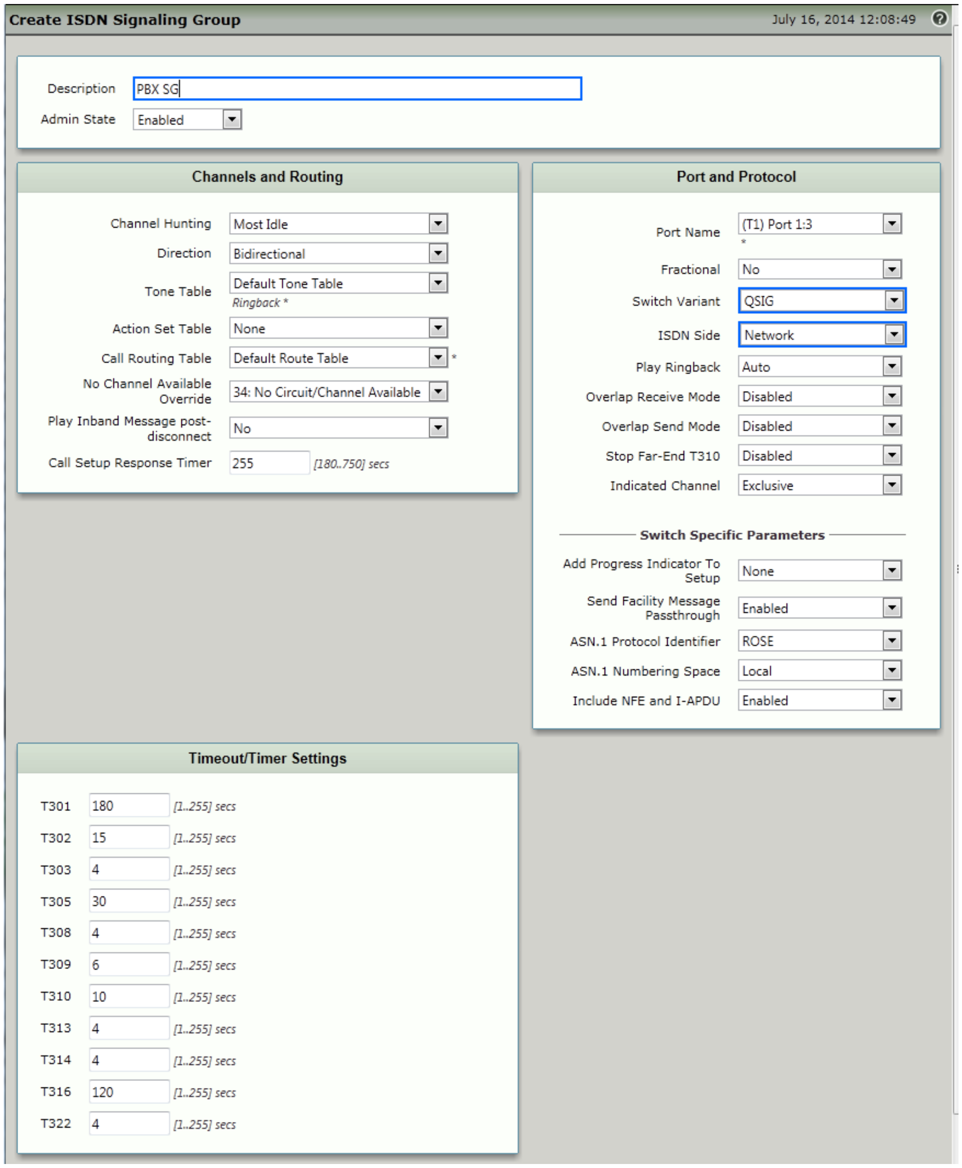
Passthrough Untouched

Total 2 Transformation Entry Rows

Admin State	Input Field Type	Input Field Value	Output Field Type	Output Field Value	Match Type
	Called Address/Number	(.*)	Called Address/Number	\1	Mandatory
	Calling Name	(.*)	Calling Name	\1	Optional

*****NOTE: You will likely need to create a separate Transformation Table for each Enterprise-based SIP Server or TDM destination.***

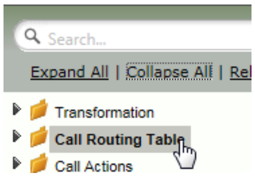
The sample transformation above simply passes the calling and called number unchanged through the SBC. Modify the (number) transformations to properly manipulate the called and calling number for your installation.


Create ISDN Signaling Group
July 16, 2014 12:08:49
Description PBX SG
Admin State Enabled
Channels and Routing
Channel Hunting Most Idle
Direction Bidirectional
Tone Table Default Tone Table
Ringback *
Action Set Table None
Call Routing Table Default Route Table *
No Channel Available Override 34: No Circuit/Channel Available
Play Inband Message post-disconnect No
Call Setup Response Timer 255 [180..750] secs
Port and Protocol
Port Name (T1) Port 1:3
Fractional No
Switch Variant QSIG
ISDN Side Network
Play Ringback Auto
Overlap Receive Mode Disabled
Overlap Send Mode Disabled
Stop Far-End T310 Disabled
Indicated Channel Exclusive
Switch Specific Parameters
Add Progress Indicator To Setup None
Send Facility Message Passthrough Enabled
ASN.1 Protocol Identifier ROSE
ASN.1 Numbering Space Local
Include NFE and I-APDU Enabled
Timeout/Timer Settings
T301 180 [1..255] secs
T302 15 [1..255] secs
T303 4 [1..255] secs
T305 30 [1..255] secs
T308 4 [1..255] secs
T309 6 [1..255] secs
T310 10 [1..255] secs
T313 4 [1..255] secs
T314 4 [1..255] secs
T316 120 [1..255] secs
T322 4 [1..255] secs

5.3.4 Configure a Call Routing Table to the Broadsoft Server

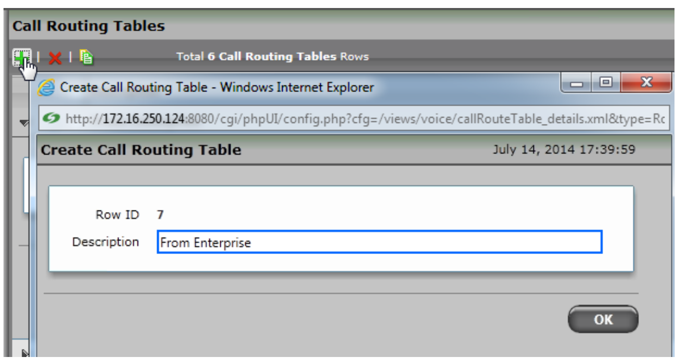
Call Routing allows calls to be carried between signalling groups, thus allowing calls to be carried between ports and between protocols (like ISDN to SIP). Call Routes are grouped into Call Routing Tables.

- In the Navigation tree, click on *Call Routing Table*

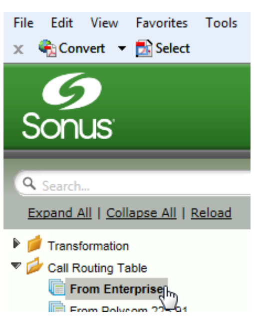


Create a new Call Routing Table. This call routing will take call from the Enterprise and route them to the Broadsoft server:

- Click the + to add a Call Routing Table
- Type the desired name of the Table
- Click OK

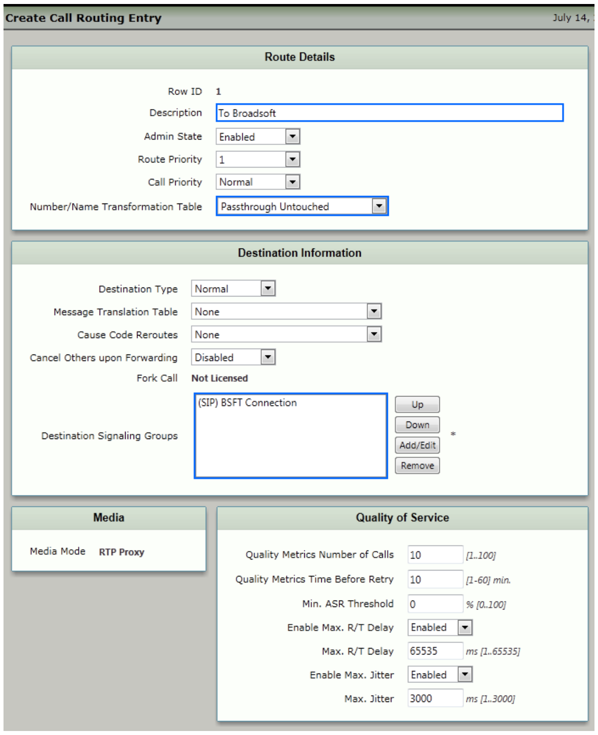


- In the Navigation tree, click on the name of the new Call Routing Table that you just added.



Use the + to create the Call Routing Entries as desired for your installation.

- Select the *Transformation Table* created in the previous step
- Set the *Destination Signaling Group* to the Broadsoft Signaling Group
- Set the *Media Mode* to RTP Proxy
- Click OK

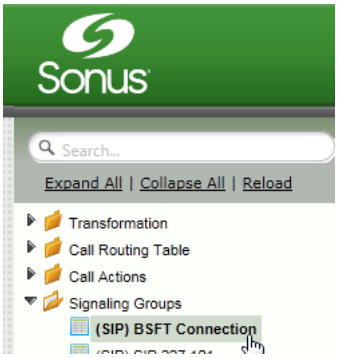


*****NOTE: You will need to repeat the steps above to create a separate Call Routing Table called 'From Broadsoft' to process calls coming from Broadsoft to Enterprise-based SIP or TDM destinations. The Destination Signaling Groups in these call route entries must be configured for <u>Enterprise-based destinations</u> (Enterprise Signaling Groups).***

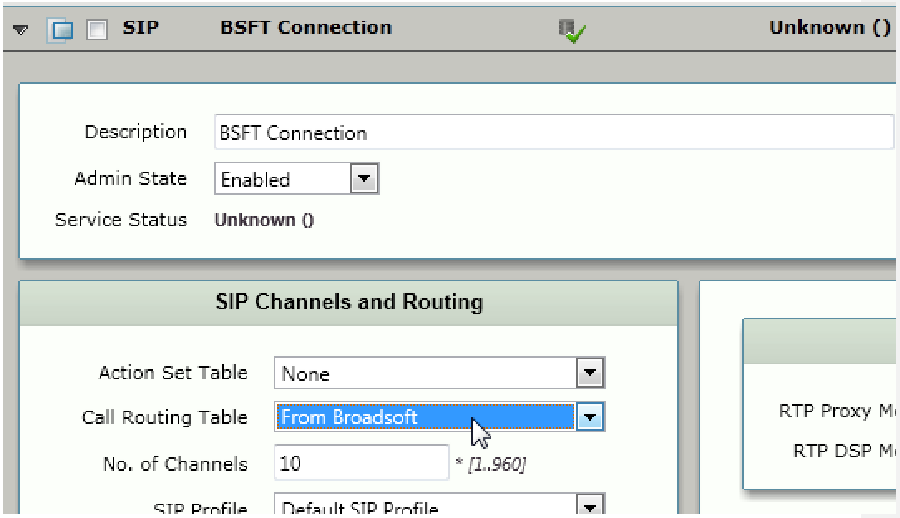
5.3.5 Set/Verify the Call Routing Table in the Ingress Signaling Group

Ensure that each Signaling Group is configured using an appropriate Call Route Table.

- In the Navigation Tree, click the *BSFT Connection* Signaling Group

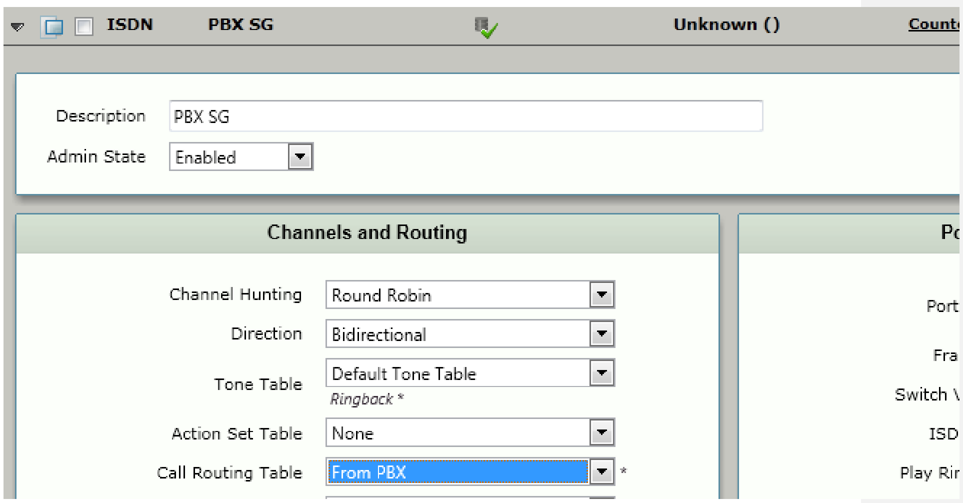


- The Broadsoft Signaling Group must be configured to use the FROM BROADSOFT Call Routing Table



- In the Navigation Tree, click the *PBX SG* Signaling Group

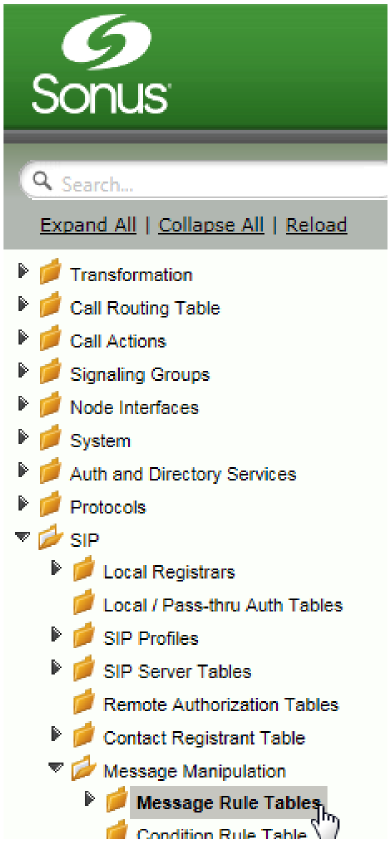
- The *Enterprise Exchange* Signaling Group must be configured to use the FROM PBX Call Routing Table



5.3.1 Create SIP Message Manipulation Rules

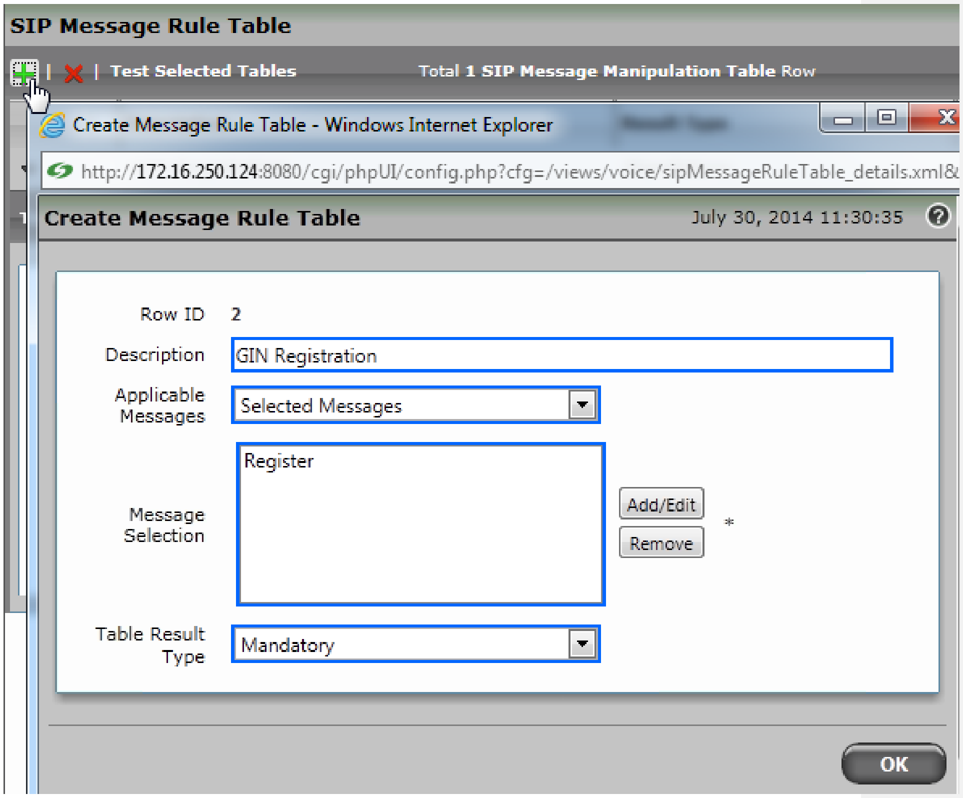
Create a SMM to add the GIN Registration for call from the SBC to the Broadsoft Server.

- In the Navigation Tree, click the *Message Manipulation* | *Message Rules Table*

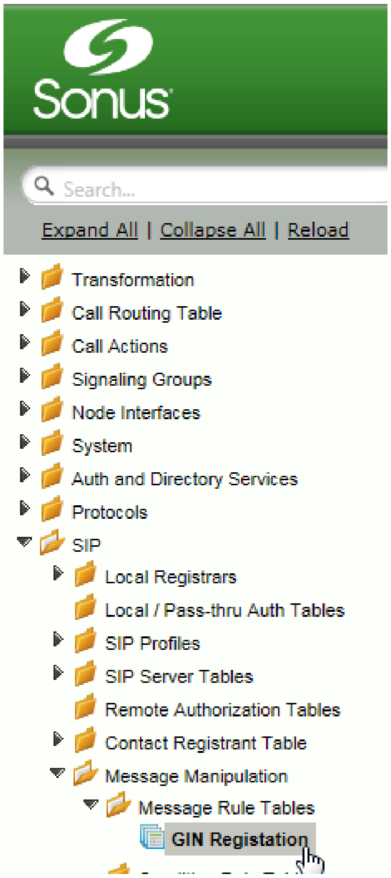


Create a new SMM Rule Table:

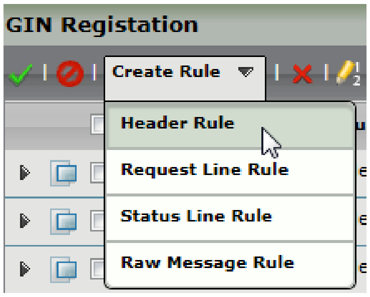
- Click the + to add a Transformation Table
- Type the desired name of the Table and enter the information as shown
- Click OK



- In the Navigation Tree, click the *GIN Registration* SMM Table

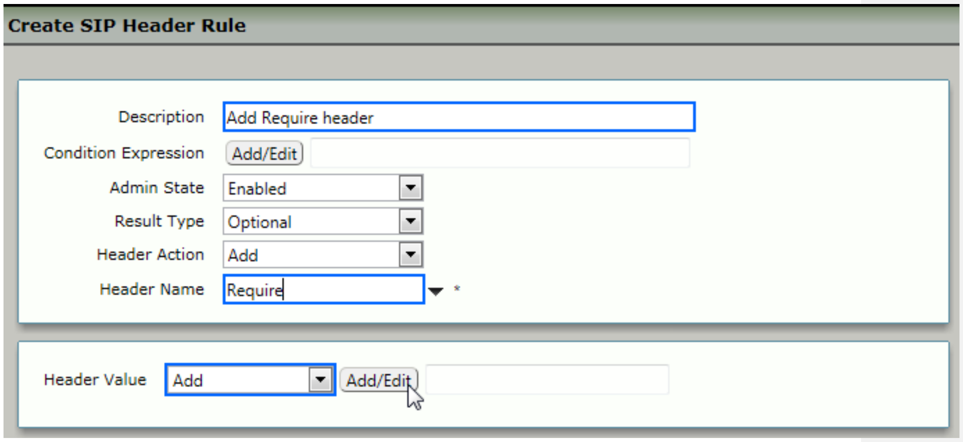


- From the *Create Signaling Rule* pulldown, select *Header Rule*



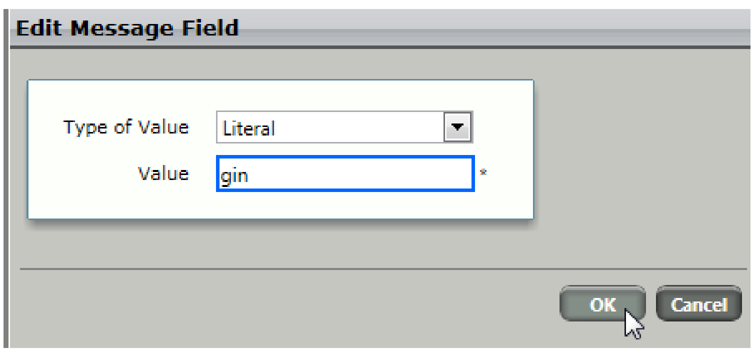
Create a new SMM Header Rule:

- Type the desired name of the Table and set the configuration as shown
- Click *Add/Edit*

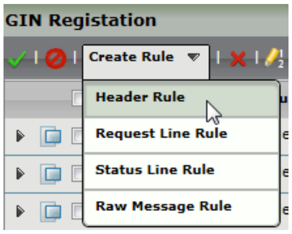


Add the Header Value:

- Configure the information as shown
- Click OK

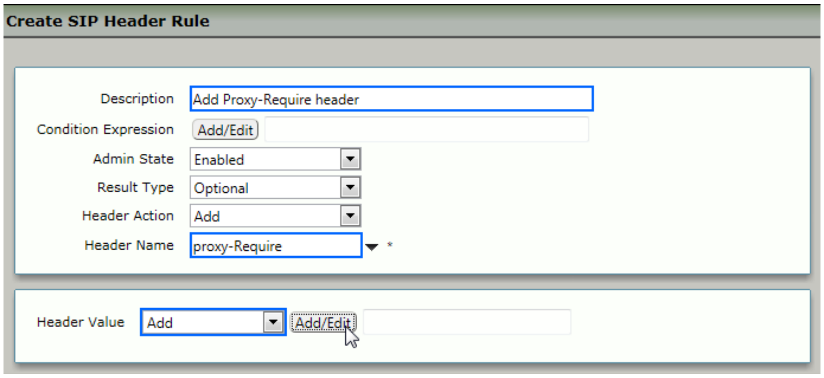


- Add a second Header Rule. From the *Create Signaling Rule* pulldown, select *Header Rule*



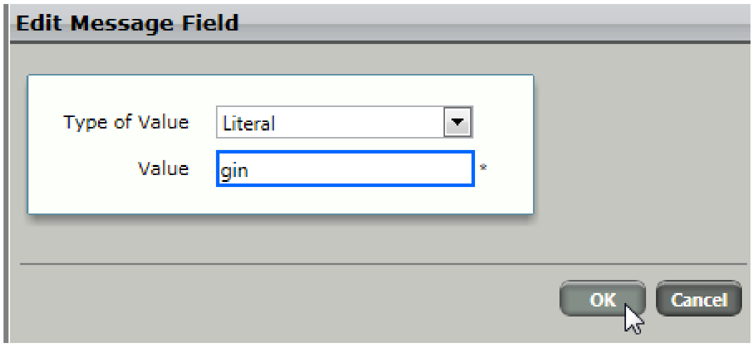
Create a new SMM Header Rule:

- Type the desired name of the Table and set the configuration as shown
- Click *Add/Edit*

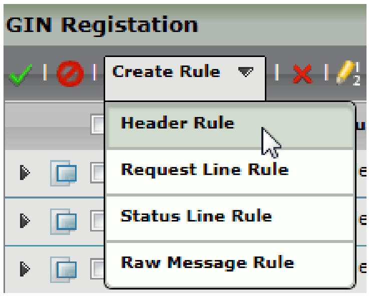


Add the Header Value:

- Configure the information as shown
- Click OK



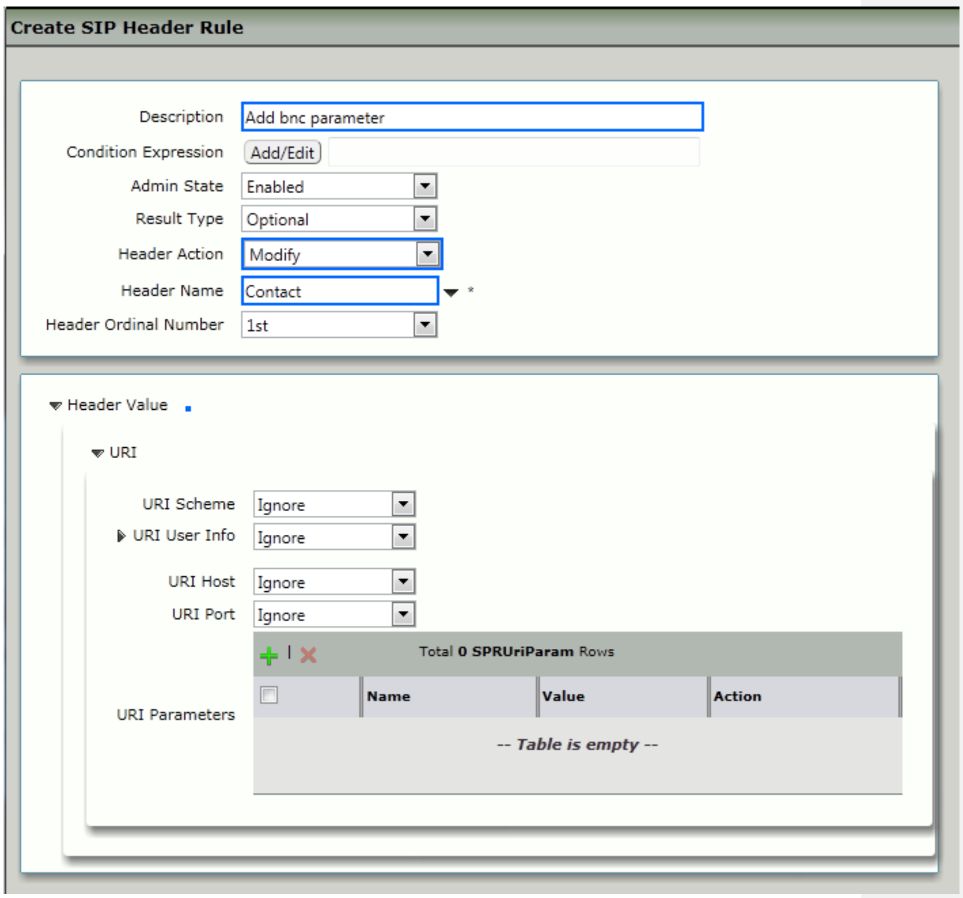
- Create a third header rule. From the *Create Signaling Rule* pulldown, select *Header Rule*



Create a new SMM Header Rule:

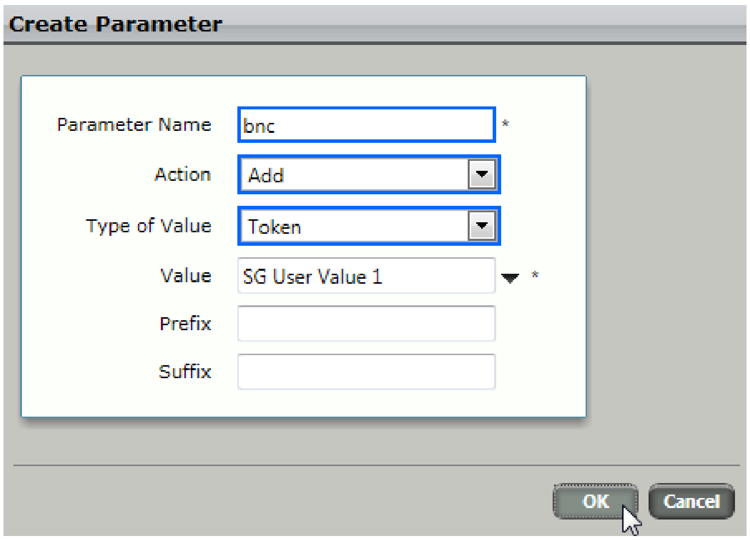
Comment [n1]: Please move this from the From header to Contact header.

- Type the desired name of the Table and set the configuration as shown
- Click *Add/Edit*



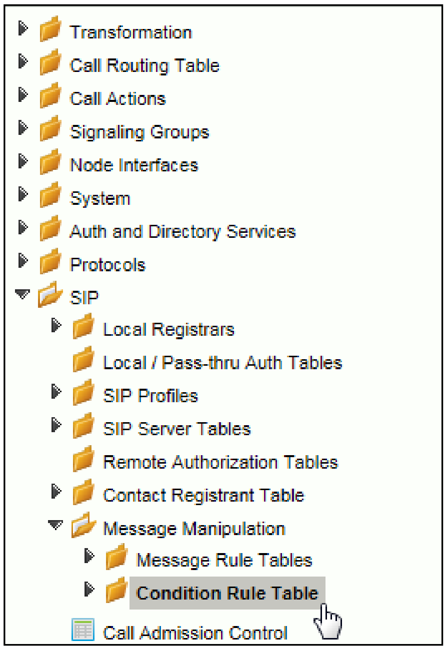
Add the Header Value:

- Configure the information as shown
- Click OK



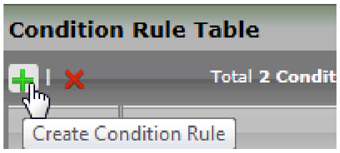
Create a SMM to change calls from anonymous users to your Broadsoft Pilot Number.

- In the Navigation Tree, click the *Condition Rule Table*



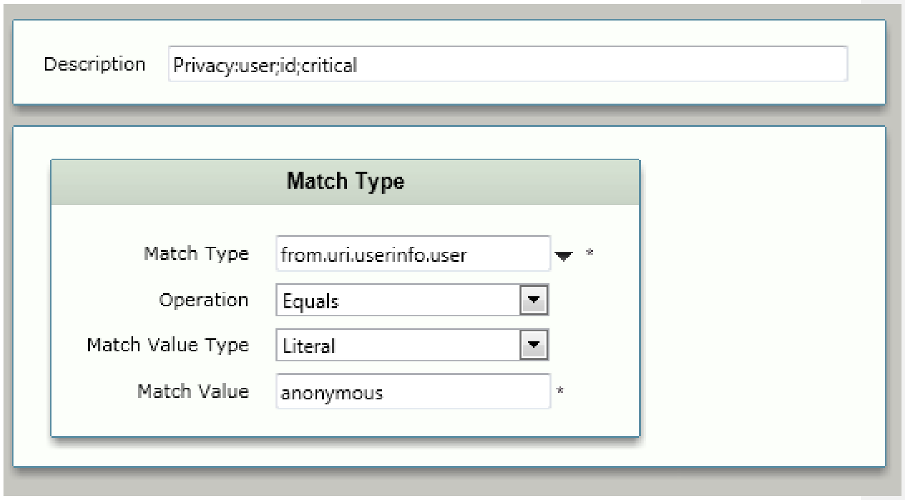
Add a Condition Rule:

- Click the + to add an entry to the Condition Rule Table

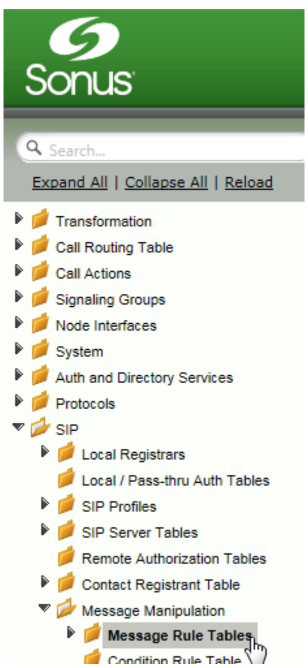


Add a Condition Rule as noted below:

- Add the information as noted below
- Click Apply



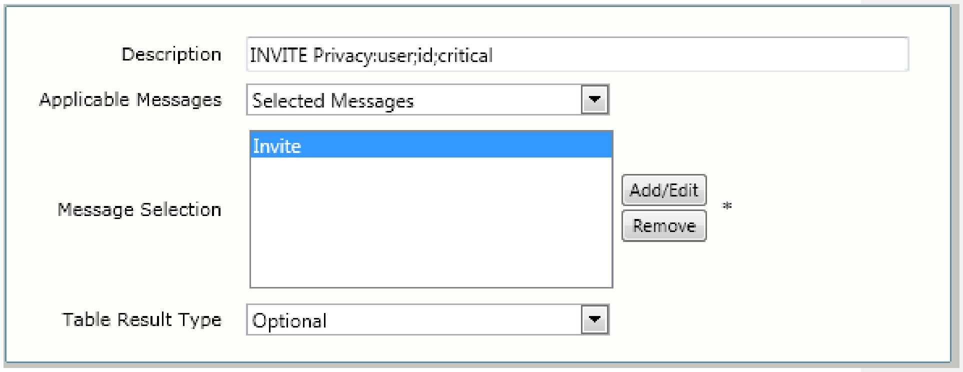
- In the Navigation Tree, click the *Message Rule Tables*



Create a new SMM Rule Table:

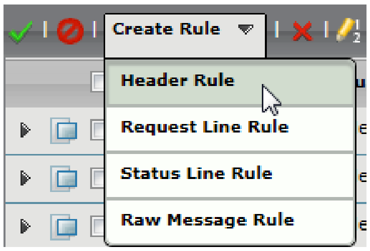
- Click the + to add a Message Rule

- Type the desired name of the Table and enter the information as shown
- Click OK



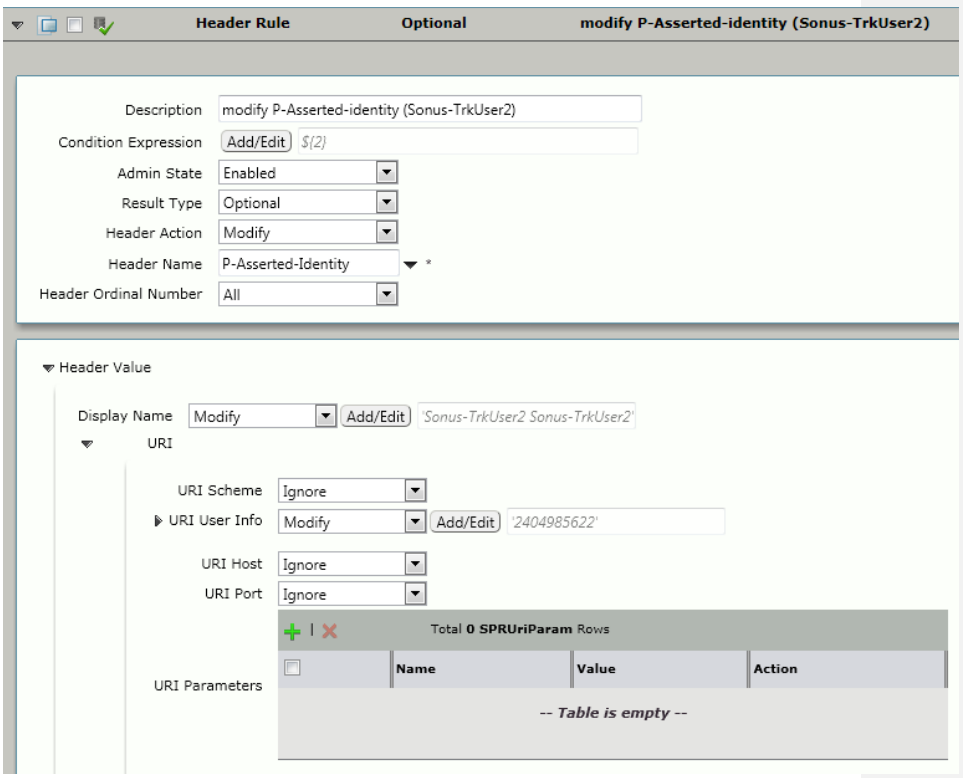
- In the Navigation Tree, click the newly created SMM Rule.

- Create a header rule to modify the P-Asserted-Identity header

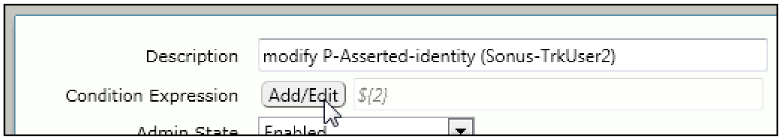


Create a new SMM Header Rule:

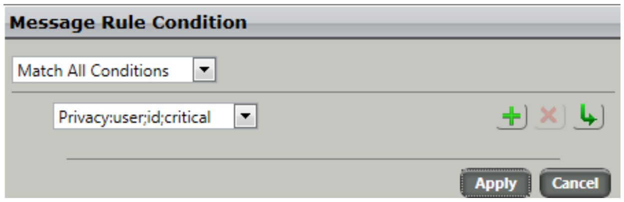
- Type the desired name of the Table and set the configuration as shown



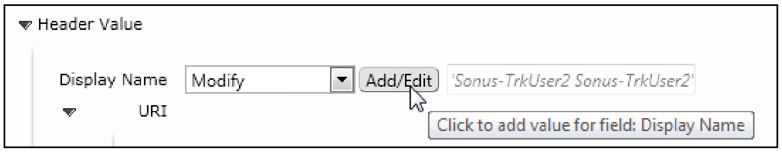
- Click Condition Expression *Add/Edit*



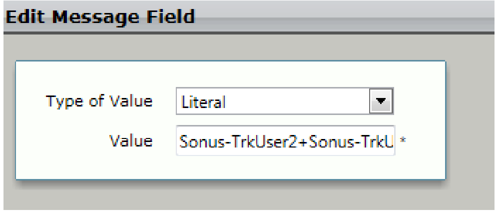
- Set the condition as noted, click Apply



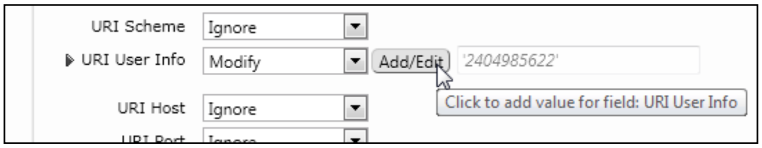
- Click Display Name *Add/Edit*



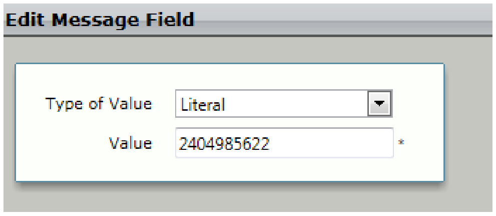
- Set the Display Name as noted, click Apply.   The Trunk Identification will be supplied by the carrier.



- Click URI User Info *Add/Edit*



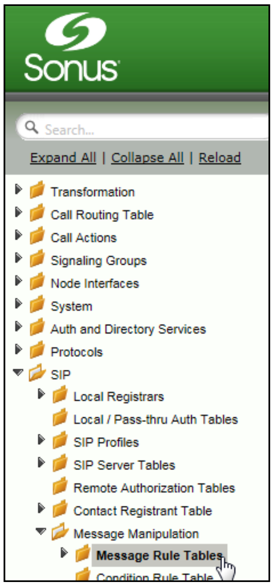
- Set the URI User Info as noted, click Apply. Insert a valid Broadsoft number..



- Click Apply when finished entering the SMM Rule.

Create a SMM to change calls to add a Privacy header for calls to the Broadsoft server.

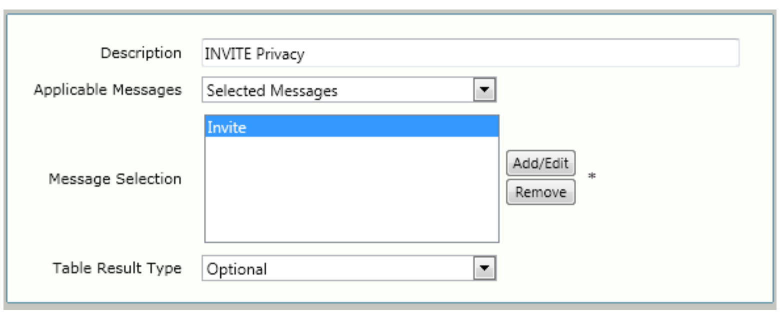
- In the Navigation Tree, click the *Message Rule Tables*



Create a new SMM Rule Table:

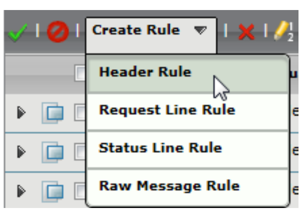
- Click the + to add a Message Rule

- Type the desired name of the Table and enter the information as shown and click *Apply*



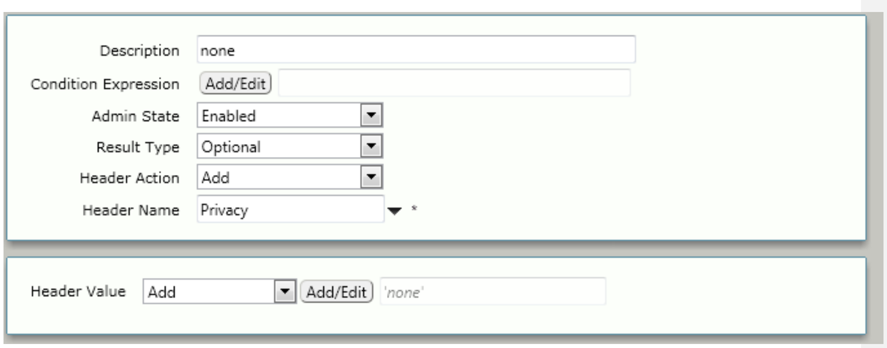
- In the Navigation Tree, click the newly created SMM Rule.

- Create a header rule to add the Privacy header



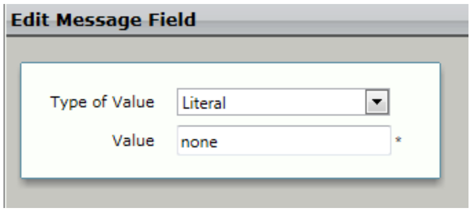
Create a new SMM Header Rule:

- Type the desired name of the Table and set the configuration as shown



- Click Header Value *Add/Edit*

- Set the value to *none* and click OK.

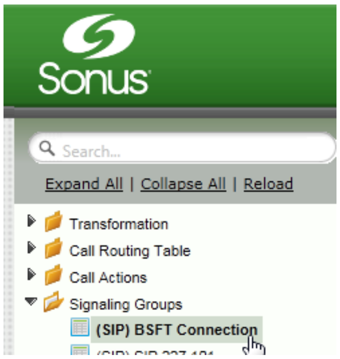


- Click Apply when finished entering the SMM Rule.

5.3.2 Configure the SMM Rule in the Broadsoft Signaling Group

Configure the Broadsoft Signaling Group with the newly created SMM Rule.

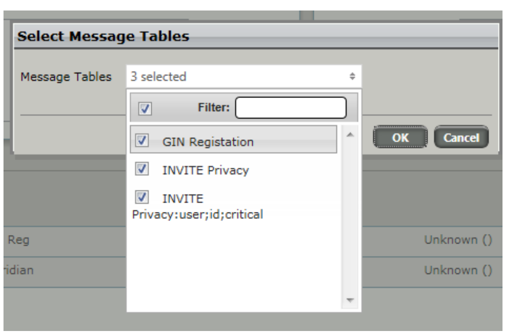
- In the Navigation Tree, click the *BSFT Connection* Signaling Group



Enable the new SIP Message Manipulation (SMM) Rule:

- Set the Message Manipulation to *Enable*
- In the Outgoing Message Manipulation pane, click *Add/Edit*

- In the pop-up window, select the newly created SMM Rule, then click *OK*



- Click *Apply*

References

[1] Sonus Networks 2014 SBC 4.0 User's Guide , available at https://support.sonus.net/display/ALLDOC/SBC+1000-2000+Documentation

[2] BroadSoft, Inc. 2013. *BroadWorks Device Management Configuration Guide*, *Release 20.0.* Available from BroadSoft at xchange.broadsoft.com.

[3] BroadSoft, Inc. 2013. *BroadWorks Redundancy Guide, Release 20.0*. Available from BroadSoft at xchange.broadsoft.com.

[4] BroadSoft, Inc. 2013. *BroadWorks SIP Trunking Solution Guide, Release 20.0.* Available from BroadSoft at xchange.broadsoft.com.

[5] BroadSoft, Inc. 2013. *BroadWorks SIP Access Interface Interworking Guide, Release 20.0.* Available from BroadSoft at xchange.broadsoft.com.

[6] BroadSoft, Inc. 2014. *BroadSoft Partner Configuration Guide Oracle Net-Net 3000/4000 Series*. Available from BroadSoft at xchange.broadsoft.com.

[7] BroadSoft, Inc. 2014. *BroadWorks IP-PBX/PBX Trunking Interoperability Test Plan, Release 20.0.* Available from BroadSoft at xchange.broadsoft.com.