RIBBON SBC Edge V7.0.0 IOT Skype for Business 2015 Airtel MUX Application Notes

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Document Overview

This document describes configuring the Ribbon **SBC 1000 / 2000 Series (Session Border Controller)** when connecting to **Skype for Business 2015**. For additional information about Ribbon SBCs, visit https://ribboncommunications.com/

Introduction

The interoperability compliance testing focuses on verifying inbound and outbound call flows between the Ribbon SBC 1000 / 2000 and Skype for Business 2015.

Document History

Date	Name	Comment
		Initial Draft

Audience

This technical document is provided for use by telecommunications engineers and network administrators with understanding of networking concepts such as TCP/UDP, IP/Routing, and SIP/RTP, along with experience using industry-standard utilities and tools. The information in this guide describes configuring and operating Ribbon SBCs. Some information describes using third-party products when administering and troubleshooting SBC operation.

> This configuration guide is offered as a convenience to Ribbon customers. The specifications and information regarding the product in this guide are subject to change without notice. All statements, information, and recommendations in this guide are believed to be accurate but are presented without warranty of any kind, express or implied, and are provided “AS IS”. Users must take full responsibility for the application of the specifications and information in this guide.

Requirements

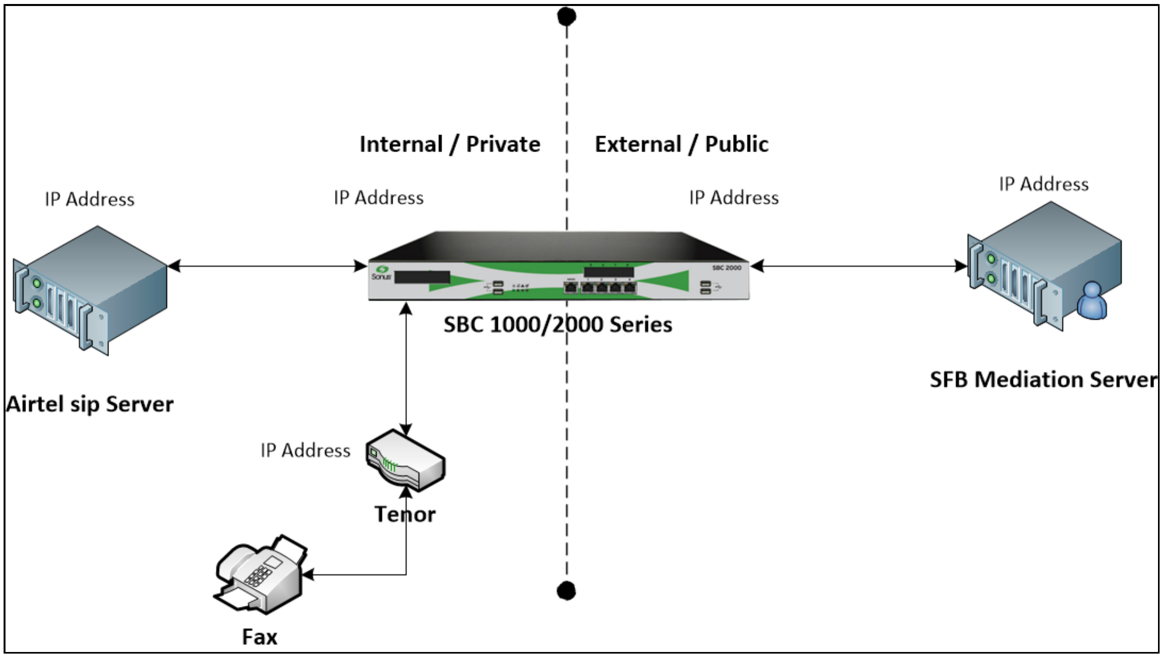
The following equipment and software are used in the reference configuration:

	Equipment	Software Version
RIBBON Networks	RIBBON SBC 2000 Tenor	V7.0
Third-party Equipment	SFB Mediation Server	
OS		
Other software		

Reference Configuration

The following reference diagram shows connectivity between the Ribbon SBC 1000 / 2000 and third-party equipment that interoperates with the SBC.

Figure 1: Topology



Support

For questions about information in this document, contact Ribbon Support in either of the following ways:

- Global Support Assistance Center +1-978-614-8589 or +1-888-391-3434 (English language Support)
- Web: https://ribboncommunications.com/services/ribbon-support-portal-login

Ribbon SBC Edge Configuration

The following steps provide an example of how to configure the Ribbon SBC 1000/2000.

1. Media Profile
2. Tone Table
3. Transformation Table
4. Sip Profile
5. Sip Remote Authorization Entry
6. Sip Contact Registration
7. Server Table
8. Signaling Group

1. Media Profile

Select **Settings > Media > Media Profiles**

Media Profiles specify the individual voice and fax compression codecs and their associated settings for inclusion into a Media List. Different codecs provide varying levels of compression, allowing the reduction of bandwidth requirements. Listed below are the media profiles of the voice codecs used for testing the SBC 2000:

Note: The Digit Relay Payload Type must be set to 97.

Figure 2: SFB Media List

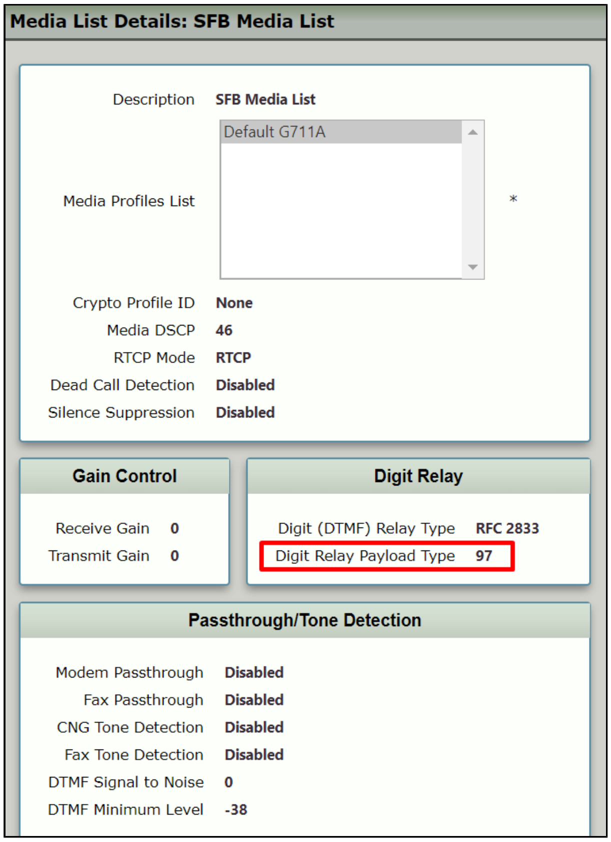
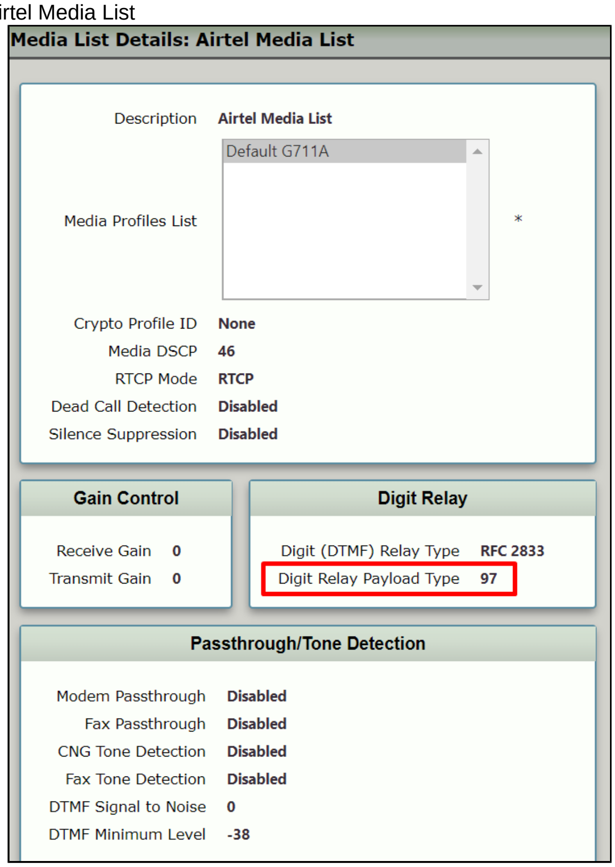


Figure 3: Airtel Media List



2. Tone Table

Select **Settings > Tone Tables.** Use default settings to specify a tone table.

Figure 4: Tone Tables

Default Tone Table November 29, 2018 14:50:54

Total 7 Tone Profile Rows

Tone Type	Frequency 1 (Hz)	Amplitude 1 (dBm)	Frequency 2 (Hz)	Amplitude 2 (dBm)
Ringback	440	-19	480	-19
Dial	350	-13	440	-13
Busy	480	-24	620	-24
Congestion	480	-24	620	-24
Call Waiting	440	-13	0	0
Disconnect	480	-24	620	-24
Confirmation	350	-13	440	-13

3. Transformation Table

Select **Settings > Transformation**

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

Figure 5: Inbound Transformation Table

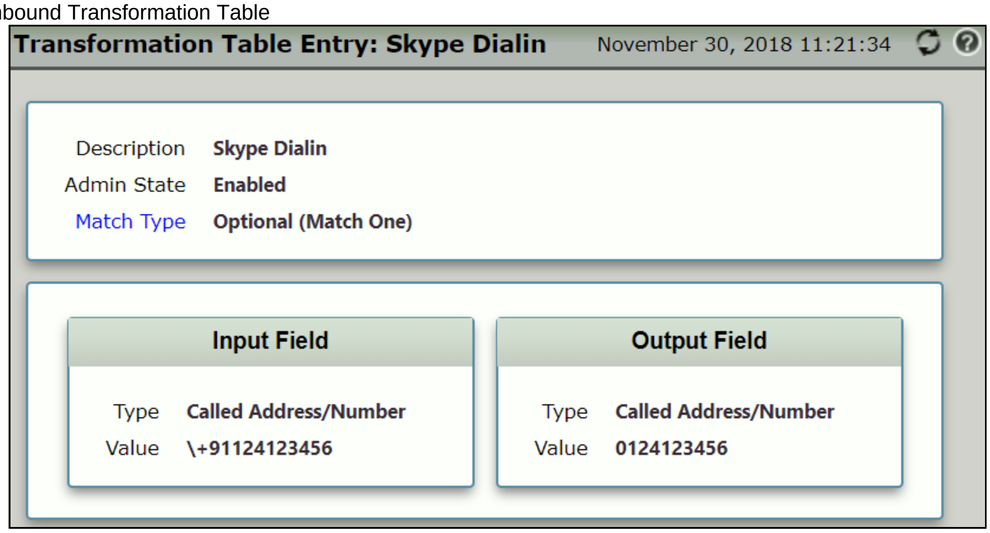
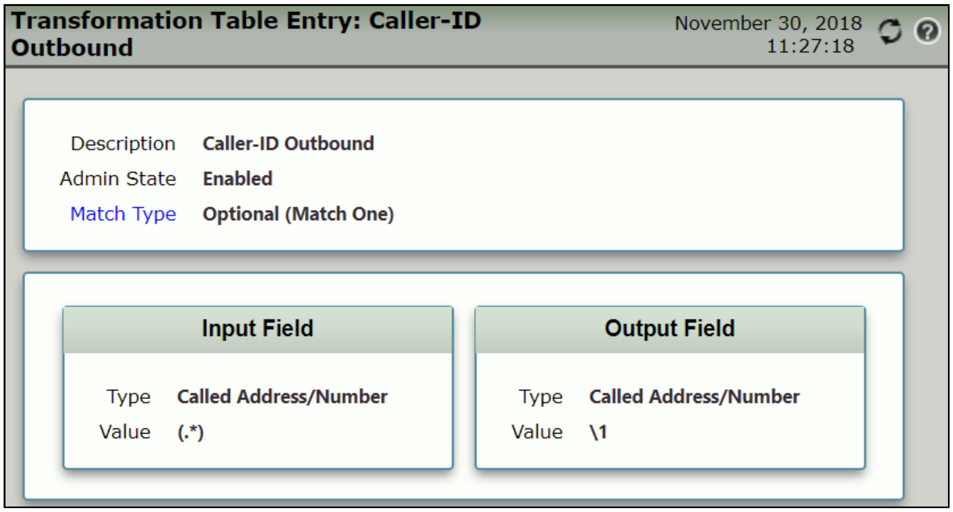


Figure 6: Outbound Transformation Table



4. Sip Profile

Select Settings > SIP > SIP Profiles**.**

SIP Profiles control how the SBC Edge communicates with SIP devices. The SIP Profile controls important characteristics such as the following: session timers, SIP header customization, SIP timers, MIME payloads, and option tags.

Figure 7: SFB SIP Profile

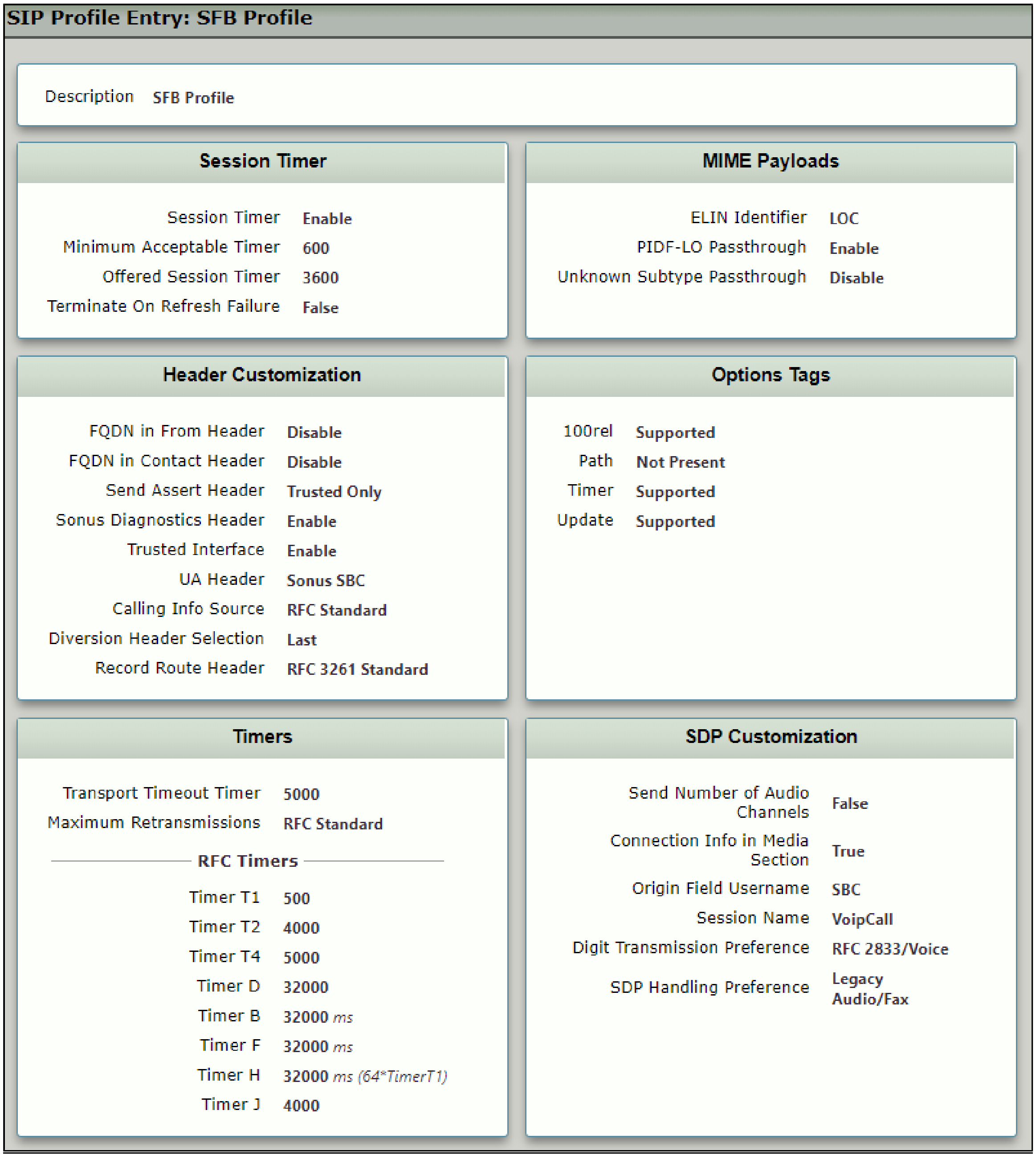
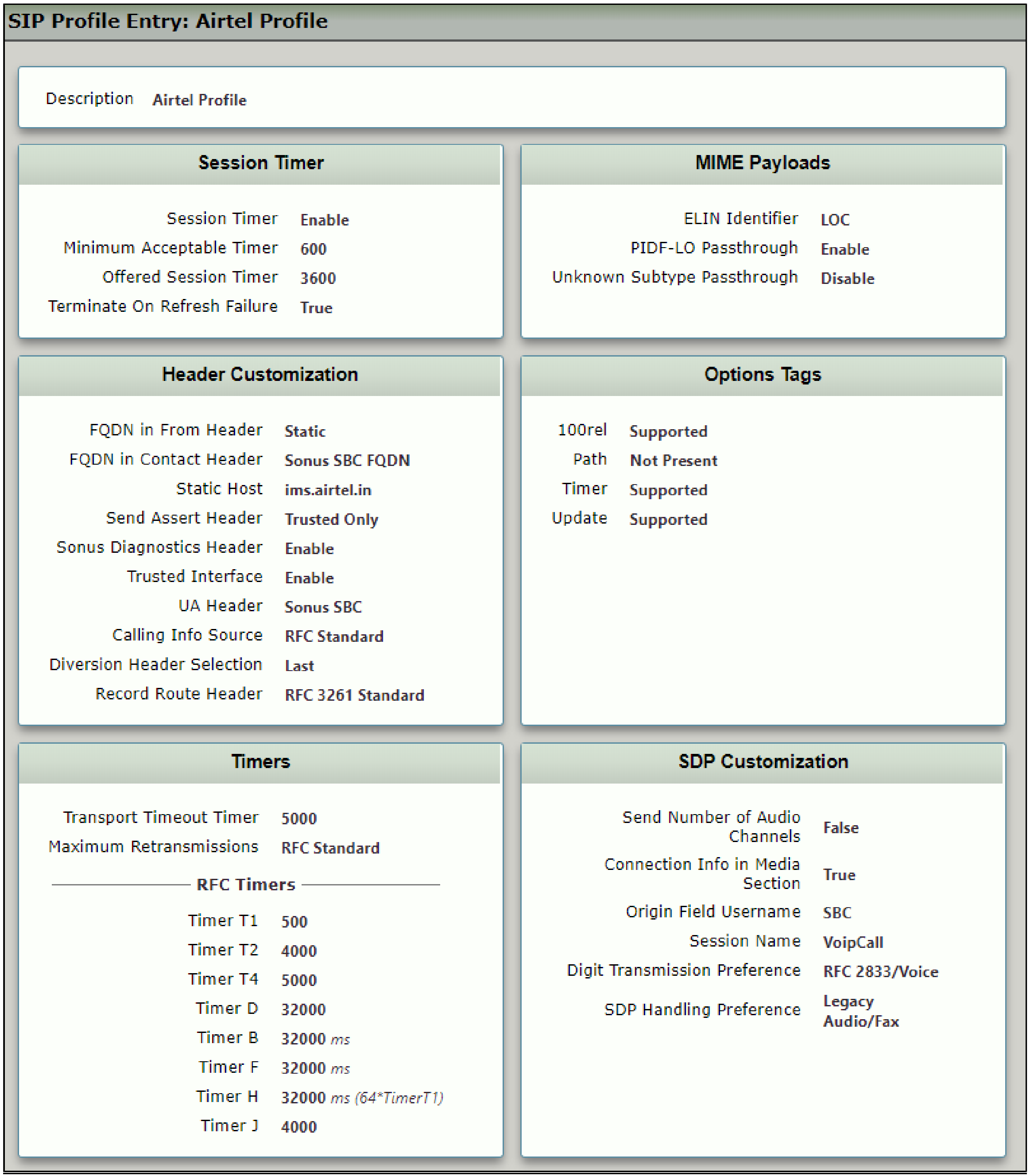


Figure 8: Airtel SIP Profile

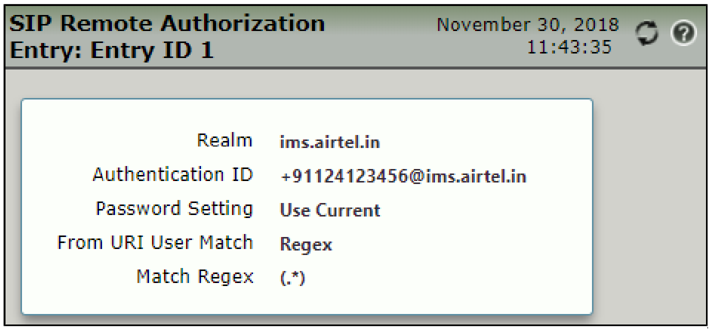


5. Remote Authorization Table

Select **Settings > SIP > Remote Authorization Tables**.

Remote Authorization Tables entries contain information for responses to request message challenges by an upstream server.

Figure 9: Remote Authorization Table

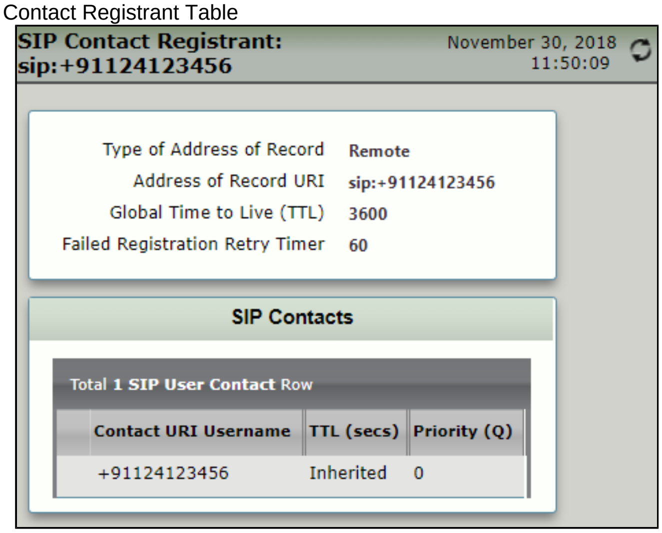


6. Contact Registrant Table

Select **Settings > SIP > Contact Registrant Table**.

Contact Registrant Tables manage contacts that are registered to a SIP server. The SIP Server Configuration can specify a Contact Registrant Table. The username portion of the table is used for outbound calls.

Figure 10: Contact Registrant Table



7. Server Table

Select **Settings > SIP > SIP Server Tables**

SIP Server Tables contain information about the SIP devices connected to the SBC Edge. 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.

Figure 11: Airtel SIP server

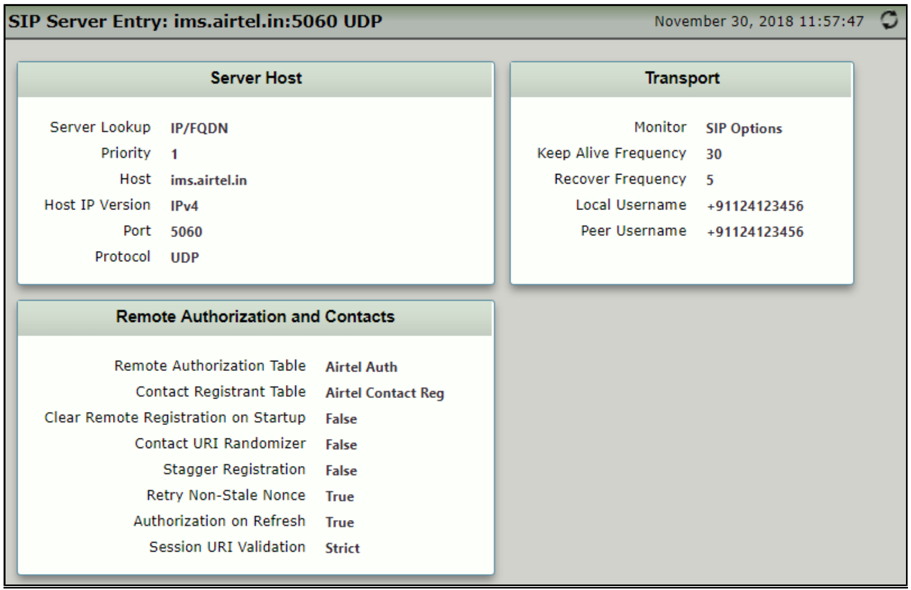
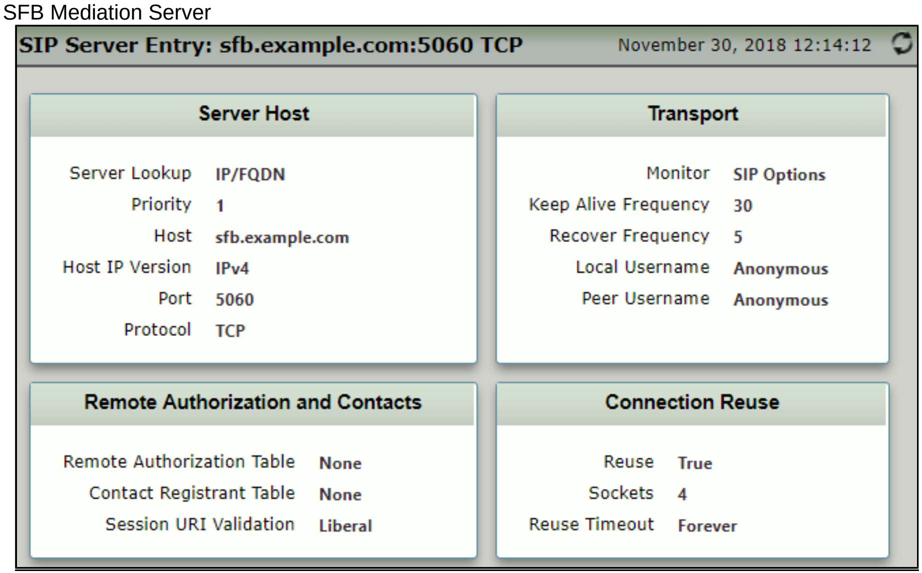


Figure 12: SFB Mediation Server



8. Signaling Group

Select **Settings > Signaling Groups**

Signaling groups allow telephony channels to be grouped together for the purposes of routing and sharing configuration data. Calls are routed to signaling groups along wiht the location data used in Call Route selection. A signaling group also specifies the location from which Tone Tables and Action Sets are selected. For SIP, signaling groups specify protocol settings and link to server, media, and mapping tables.

Figure 13: SFB Signaling Group

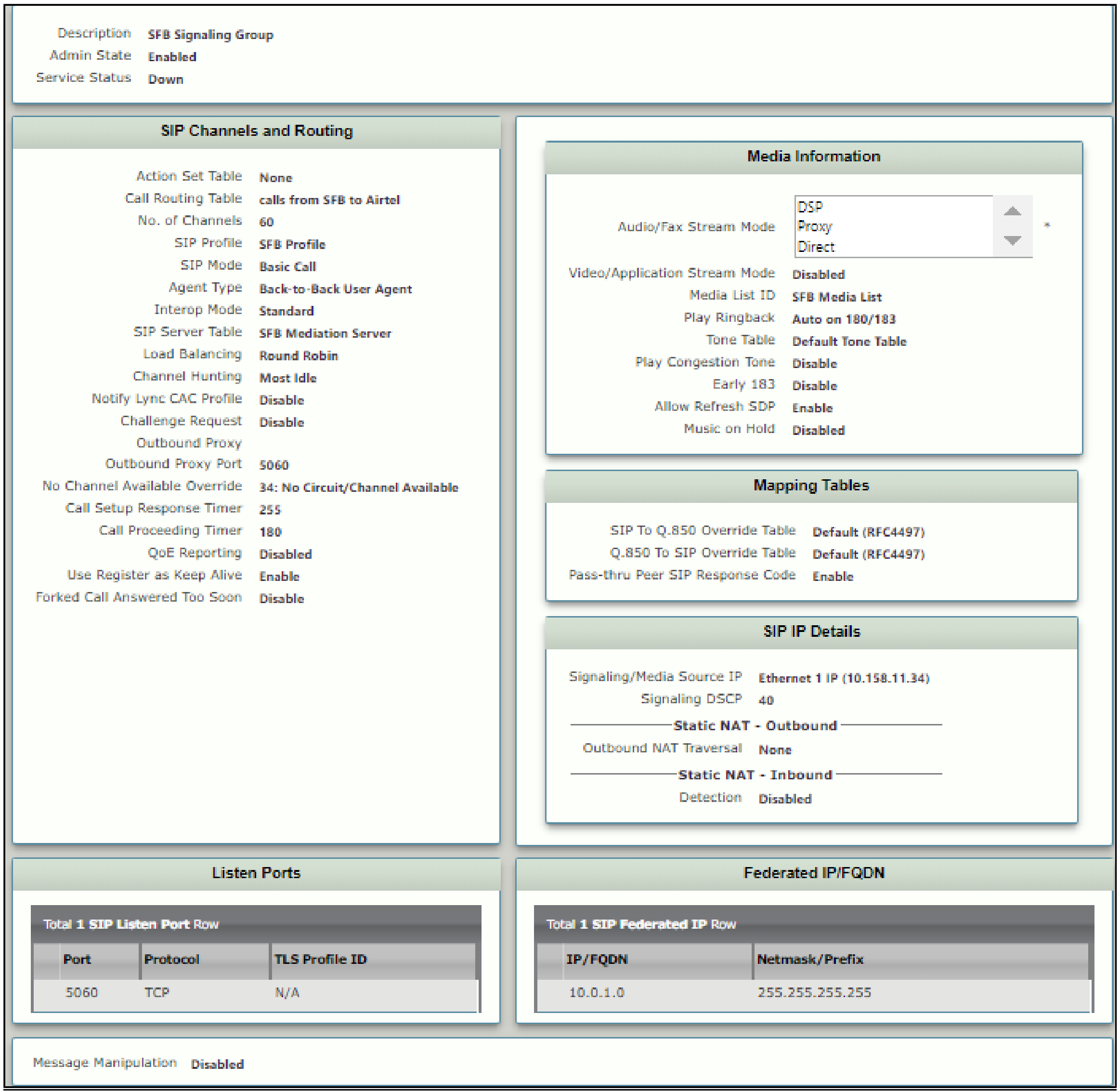
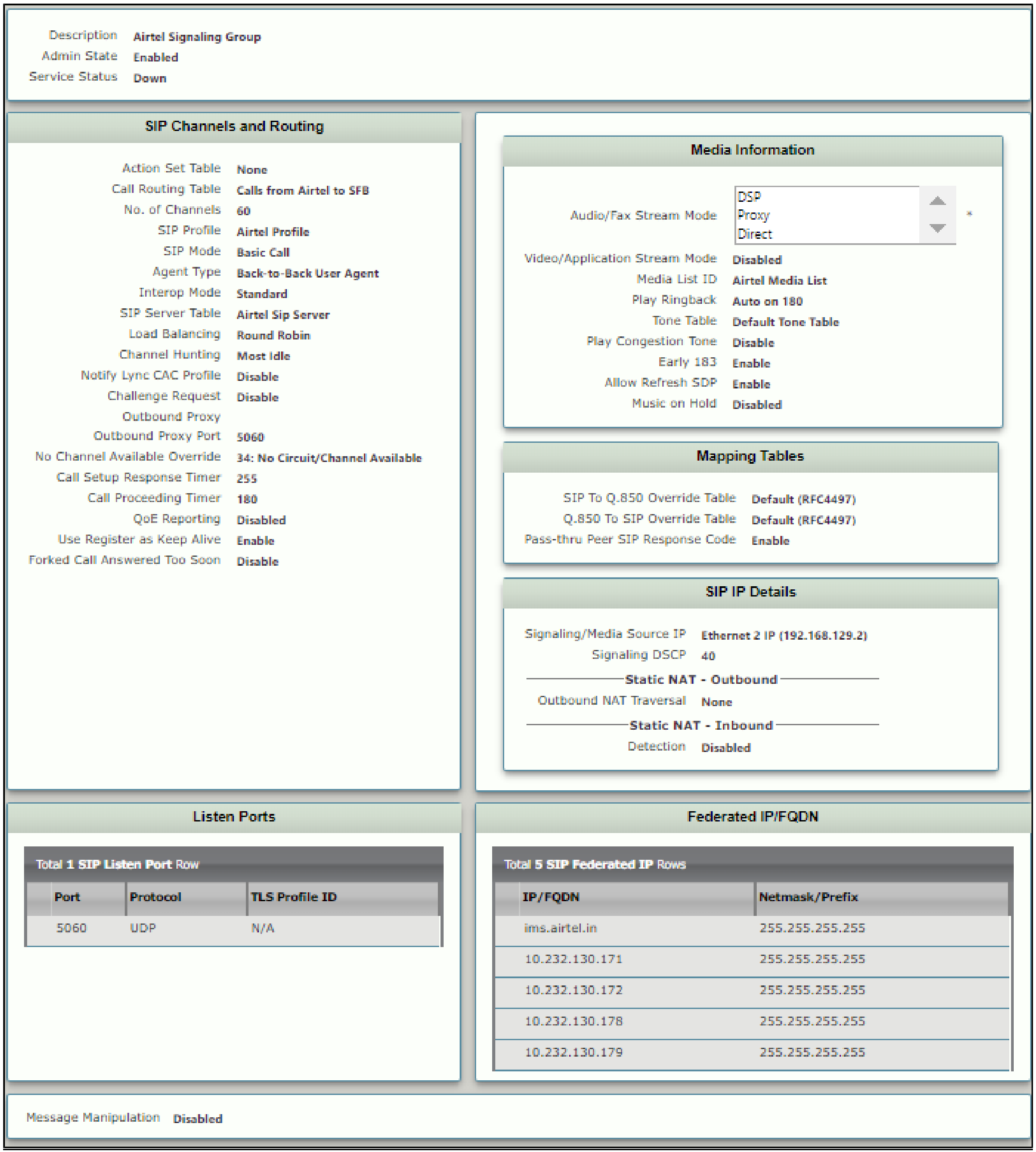


Figure 14: Airtel Signaling Group



Note: Be sure to add all of the SIP Federated IP addresses.

Table 1: Federated IP addresses

Delhi SBC	Mumbai SBC
10.232.130.171	10.232.146.150
10.232.130.172	10.232.146.151
10.232.130.178	10.232.146.138
10.232.130.179	10.232.146.139
10.232.130.180	

10.232.130.186	
10.232.130.187	
10.232.130.178	
10.232.131.98	
10.232.131.99	
10.232.131.100	
10.232.131.106	
10.232.131.107	
10.232.131.114	
10.232.131.115	
10.232.131.116	
10.232.131.122	
10.232.131.123	
10.232.131.124	
10.232.131.130	
10.232.131.131	
10.232.131.132	

Test Results

S.No	Procedure	Observation	Result	Comment

Conclusion

These Application Notes describe the configuration steps required for **Ribbon SBC 1000 / 2000** to successfully interoperate with **Skype for Business 2015**. All feature and serviceability test cases were completed and passed with the exceptions/observations noted in Test Results.

Appendix A