How to connect Elastix to MyPBX via SIP Trunking

Version 1.0

Yeastar Information Technology Co. Ltd

This application note shows how to connect Elastix to MyPBX using SIP Trunking. which will be working fine for:

1. Intercommunication between Elastix and MyPBX
2. Make calls using Elastix's extension through the GSM/PSTN/BRI trunks of MyPBX.
3. Receive calls from GSM/PSTN/BRI trunks of MyPBX at Elastix

Description:

IP address of MyPBX: 192.168.5.146

IP address of Elastix: 192.168.5.210

1. Intercommunication between Elastix and MyPBX

Description:
All the extensions under MyPBX are in the format 5XX
All the extensions under Elastix are in the format 3XX

Note: For SIP Trunking mode connection, you don't need to setup inbound routes for any side.

1.1 MyPBX Configuration

Step1: Setup SIP Trunking in MyPBX, connect to Elastix.
Basic → Trunks → Add Service Provider.

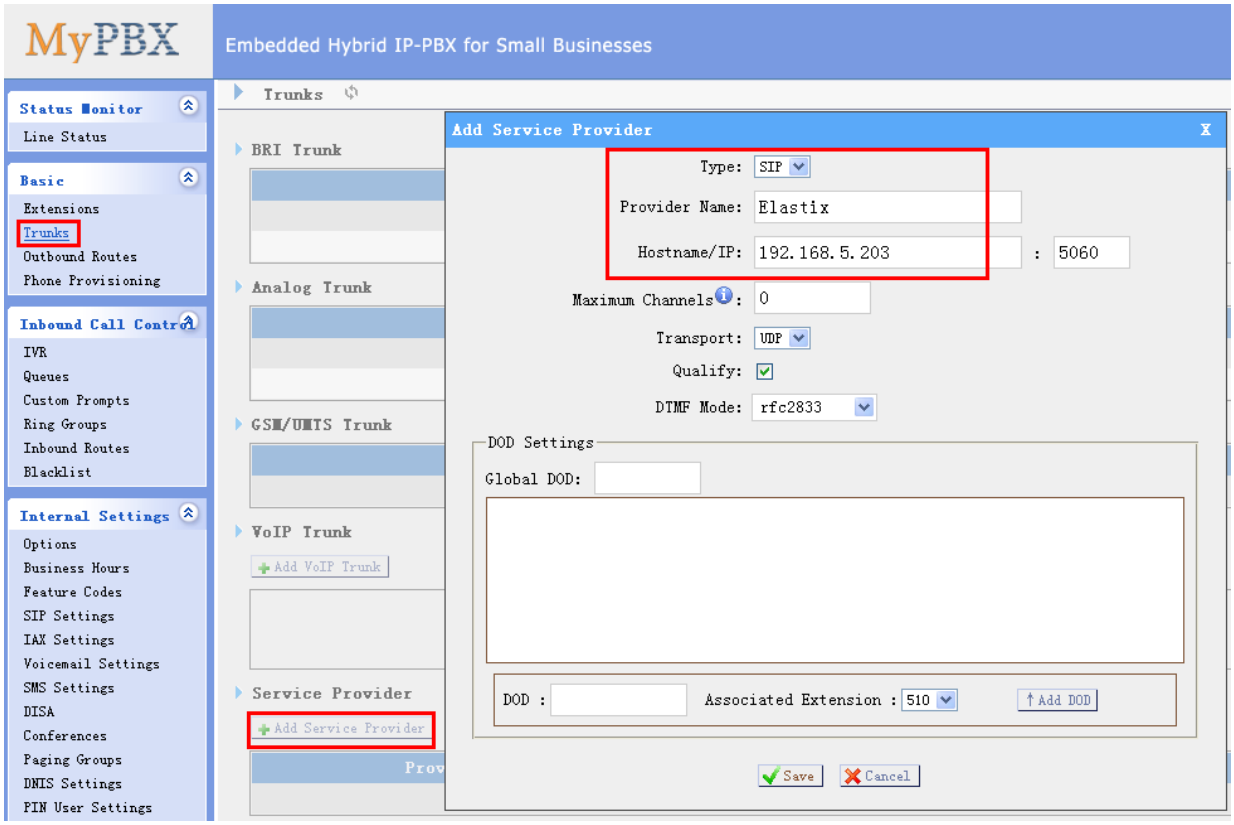


Figure 1-1 Create a SIP Trunking in MyPBX

After creating SIP Trunking, we can check the status of this trunk, it should be OK(green).
Status Monitor → Line Status → Trunks.

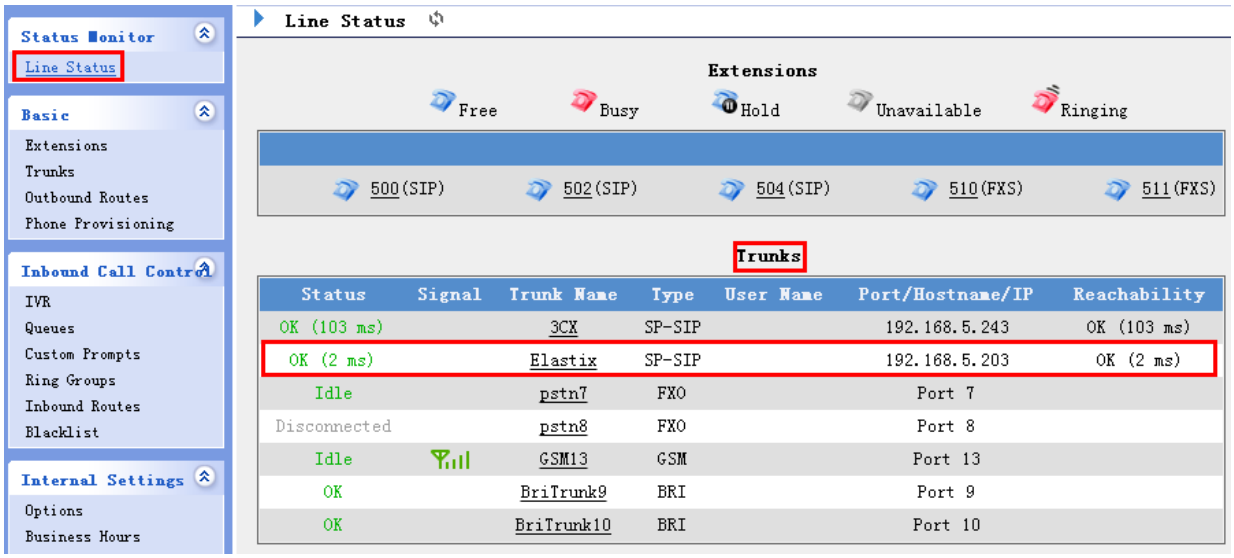
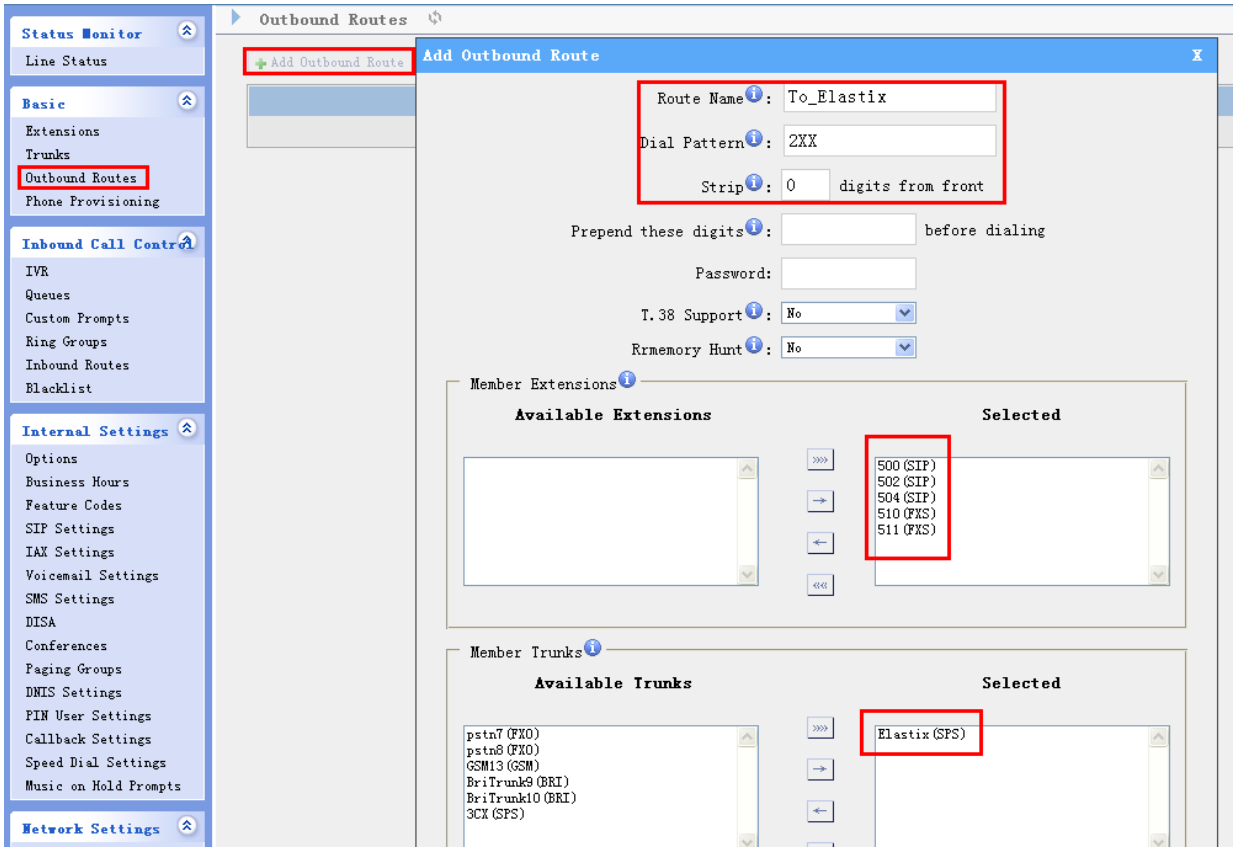


Figure 1-2 Trunks Status in MyPBX

Step2: Setup Outbound Route in MyPBX. Dial pattern:3XX, which means all calls start with 3 and 3digits will be sent to Elastix via this SIP Trunking.
Basic → Outbound Routes → Add Outbound Route.



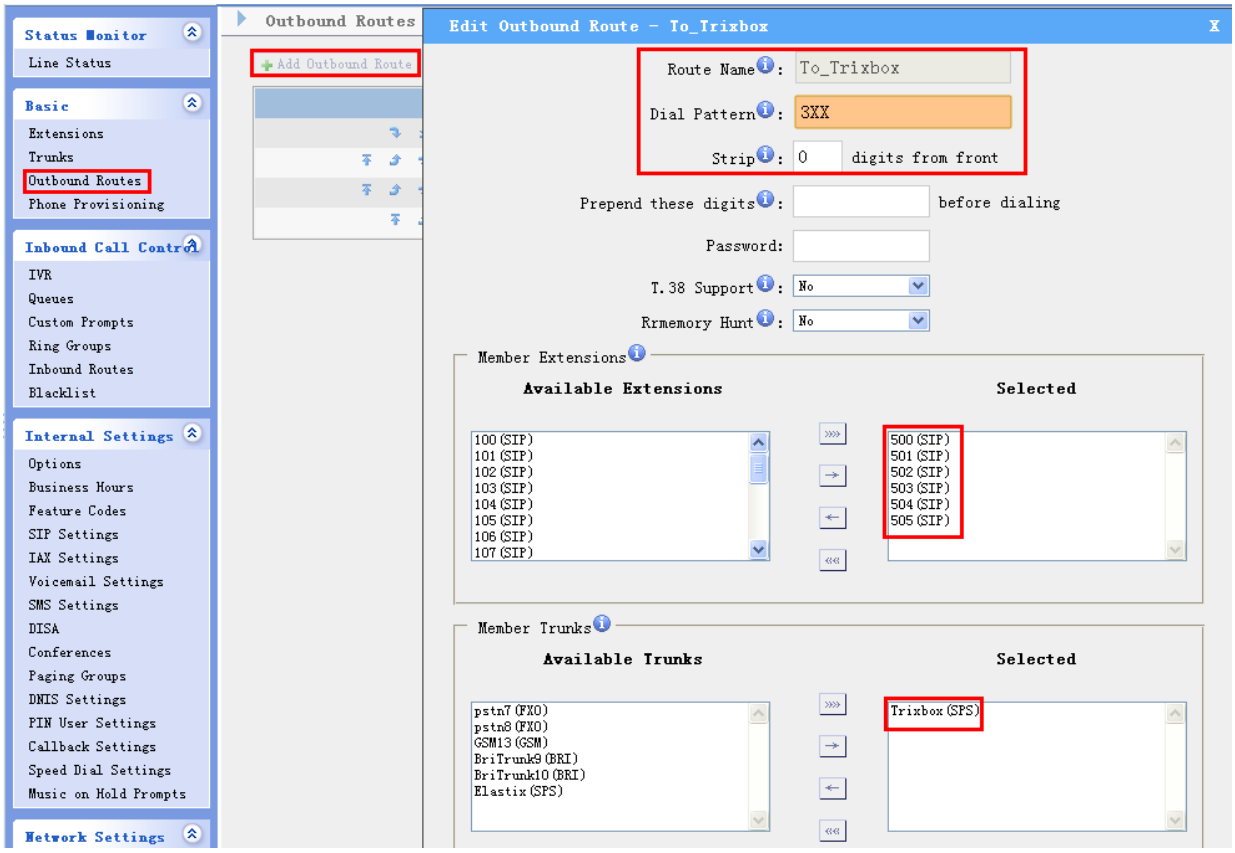
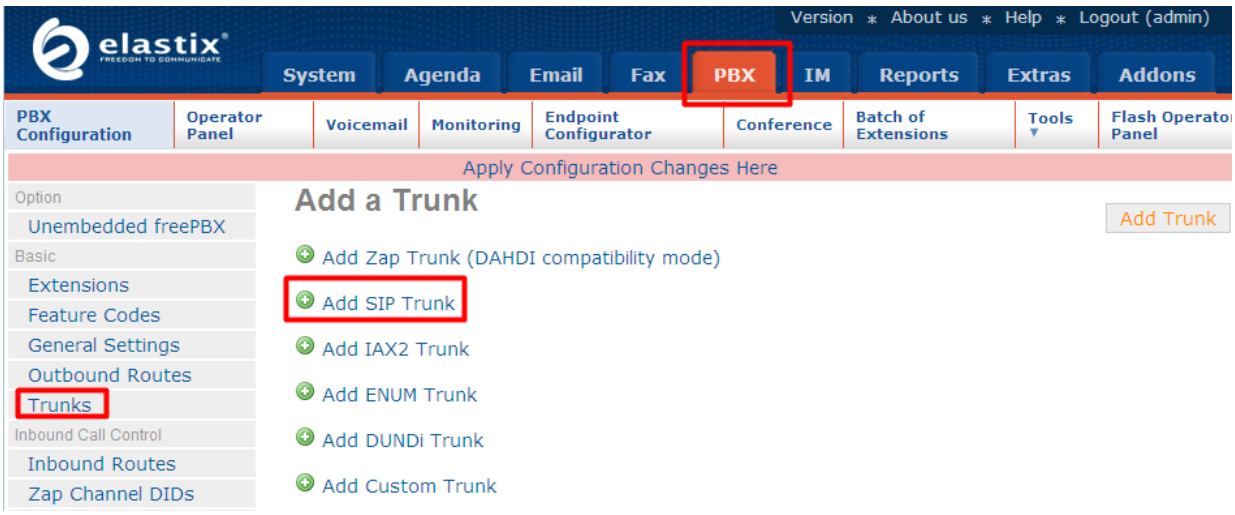


Figure 1-3 Outbound route for SIP Trunking in MyPBX

1.2 Elastix Configuration

Step1: Setup SIP Trunking in Elastix, connect to MyPBX

1) PBX -> Trunks -> Add SIP Trunk



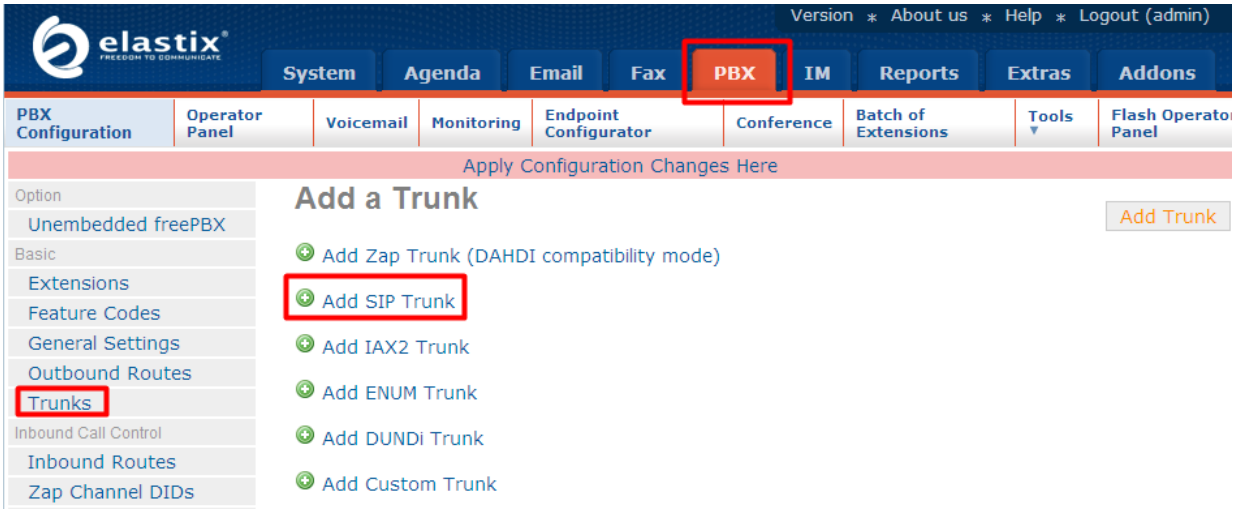


Figure 1-4 Add SIP Trunking

2)Enter the info of trunk for PEER Details :

host=192.168.4.146

type=peer

qualify=yes

disallow=all

allow=ulaw,alaw,gsm

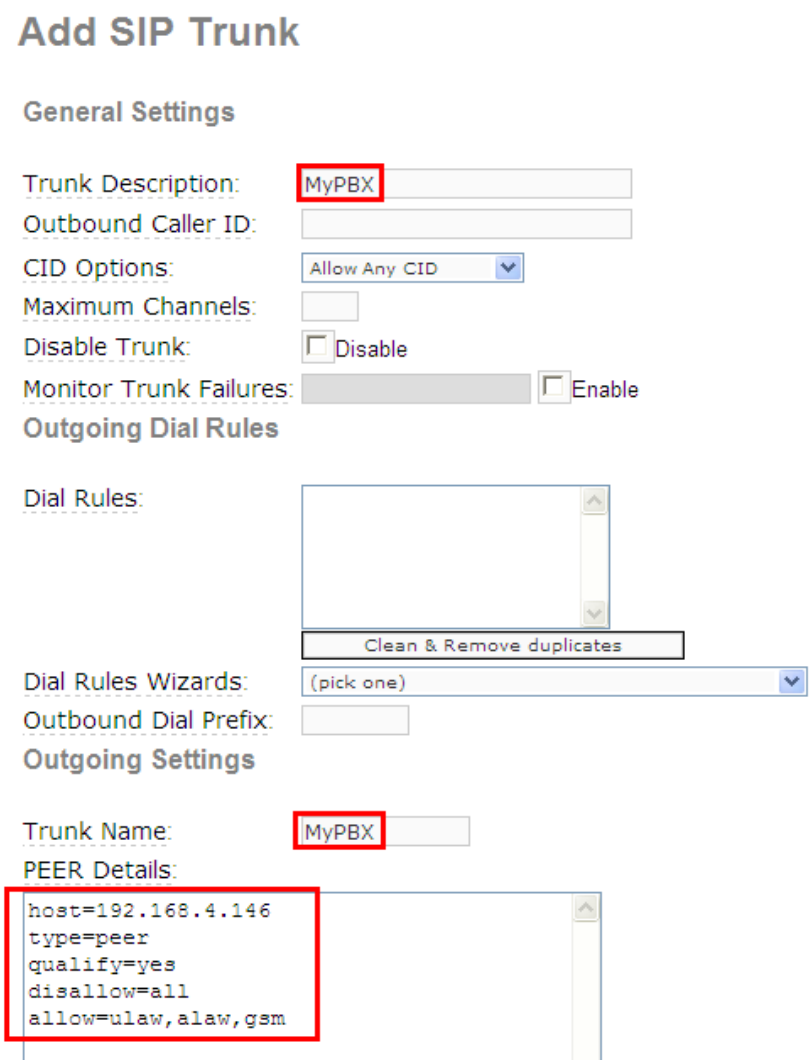


Figure 1-5 Enter PEER Details

5)After creating SIP Trunking, we can check the status of this trunk, it should be OK.

PBX → Option → Unembedded freePBX

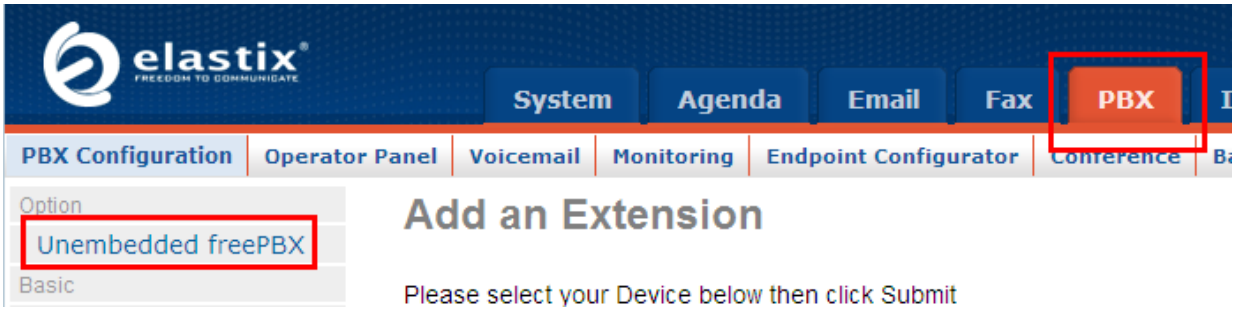


Figure 1-6

Admin → Tools → Asterisk CLI→ Enter the command 'sip show peers' and click 'Execute'

Figure 1-7 The status of SIP Trunking in Elastix

Step2: Setup outbound routes in Elastix. Dial pattern:3XX, which means all calls start with 5 and 3 digits will be sent to MyPBX via the SIP Trunking.
PBX → Admin -> Setup → Outbound Routes.

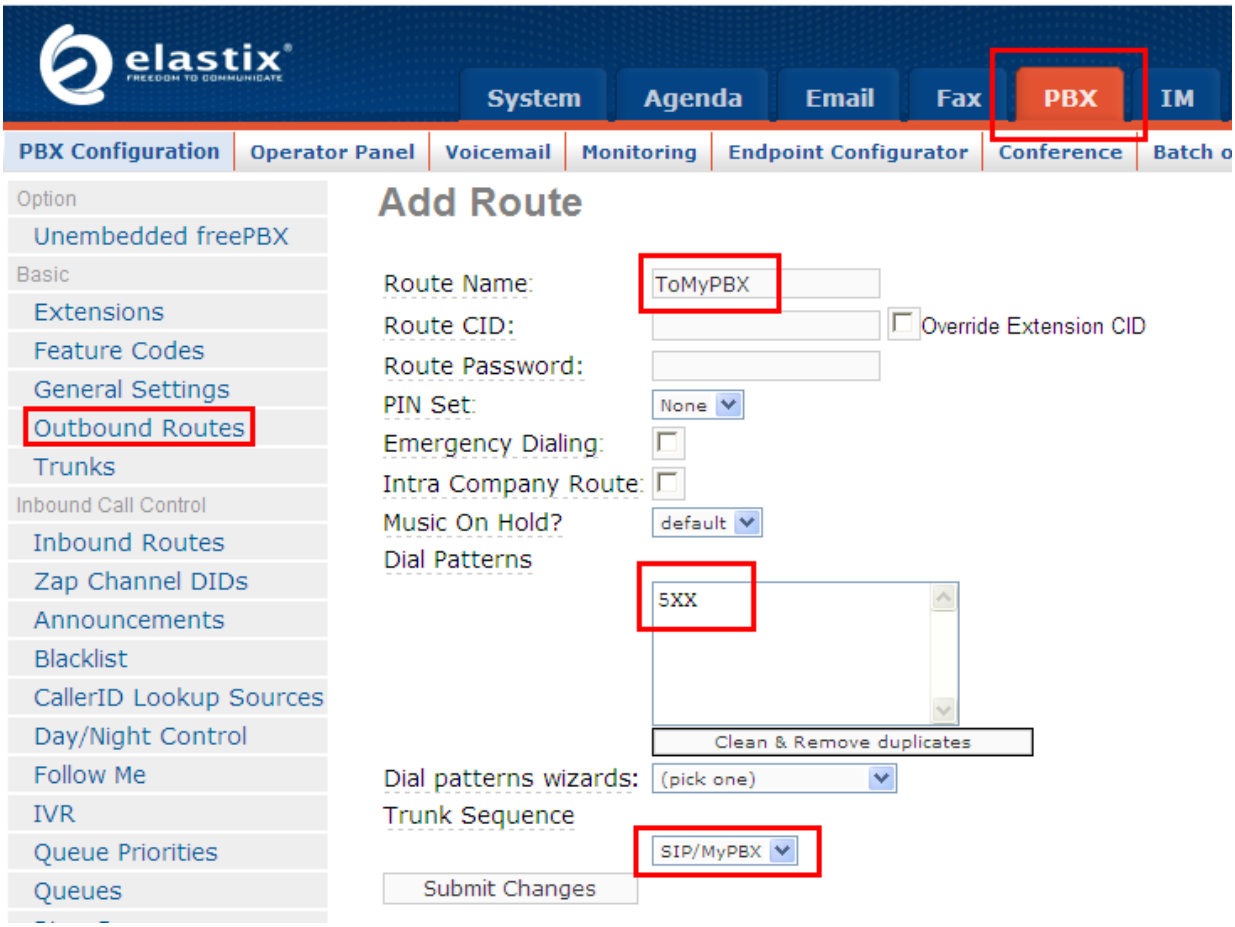


Figure 1-8 Outbound route for SIP Trunking in Elastix

Click 'Submit Changes' and 'Apply Configuration Changes Here'

1.3 Test call

Register an IP phone to MyPBX with extension 500.
Register an IP phone to Elastix with extension 300.
Use 500 to dial 300. You can see 300 is ringing and you can answer the calls
Use 300 to dial 500. You can see 500 is ringing and you can answer the calls

2. Make calls using Elastix's extension via SIP Trunking

The SIP Trunking connection is finished in the last step, so we can start to configure rule to make calls via PSTN/GSM/BRI trunks of MyPBX using Elastix's extension.

Description:
PSTN trunk of MyPBX: 5503301
GSM trunk of MyPBX: 15060748304
BRI trunk of MyPBX: 5503300

2.1 MyPBX Configuration

Step1: Check the status of GSM/PSTN/BRI trunk.
Status Monitor → Line Status → Trunks

Idle	pstn7	FXO	Port 7
Disconnected	pstn8	FXO	Port 8
Idle	GSM13	GSM	Port 13
OK	BriTrunk9	BRI	Port 9
OK	BriTrunk10	BRI	Port 10

Figure 2-1 Trunks Status

Step2: Setup Outbound Route for GSM/PSTN/BRI trunk to make calls in MyPBX.
Basic → Outbound Routes → Add Outbound Route.
1)Create a outbound route for GSM/PSTN/BRI trunk. In this example, all calls start with 9 will be sent out via the GSM/PSTN/BRI trunk of MyPBX.

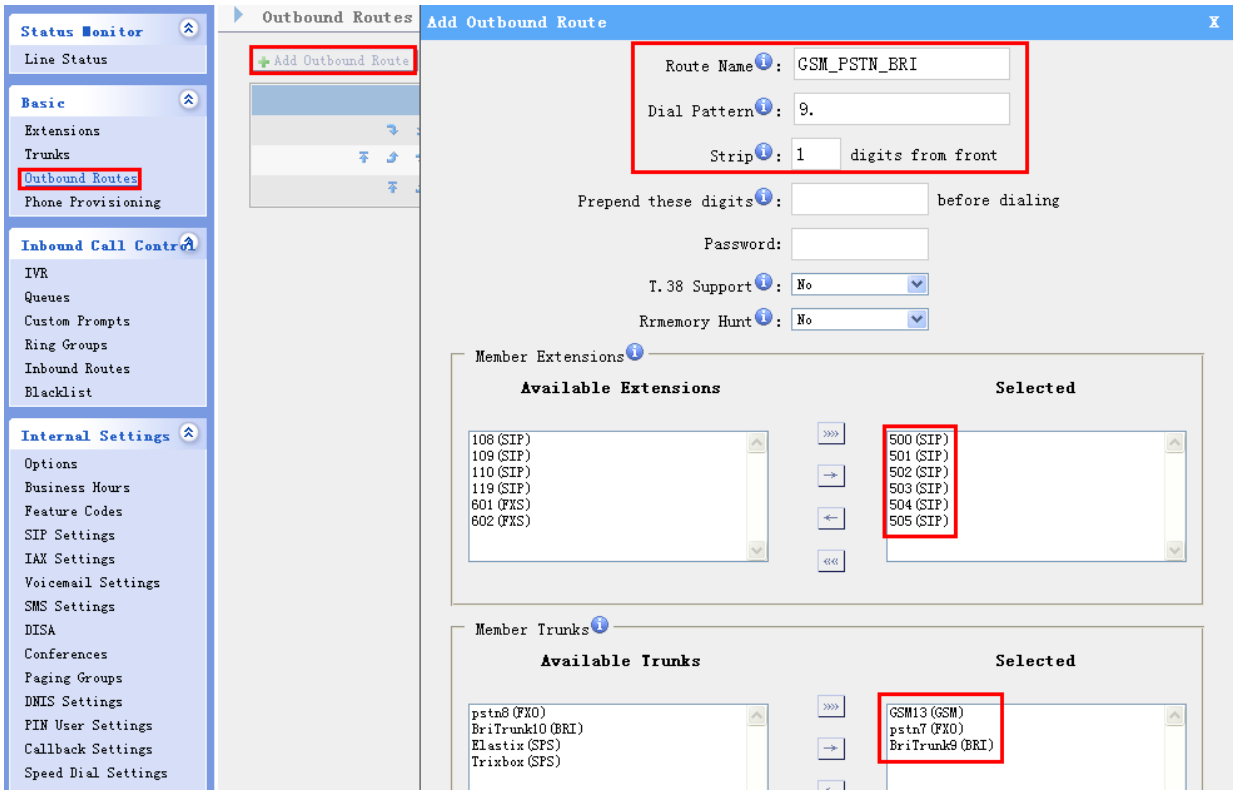


Figure 2-2 Outbound route for SIP Trunking in MyPBX

Step2: Setup Inbound Route for SIP Trunking in MyPBX, and choose the outbound route we created in the last step as destination, so that the calls via this SIP Trunking will be sent out through GSM/PSTN trunk.

Note: We must configure DID number of this inbound route to match the dial pattern of outbound routes which are used to make call to GSM/PSTN trunk of MyPBX in Elastix, however, this dial pattern must match the dial pattern of the outbound route for GSM/PSTN trunk in MyPBX. So, we should configure DID number is '9.'.
Please place this route to the top.

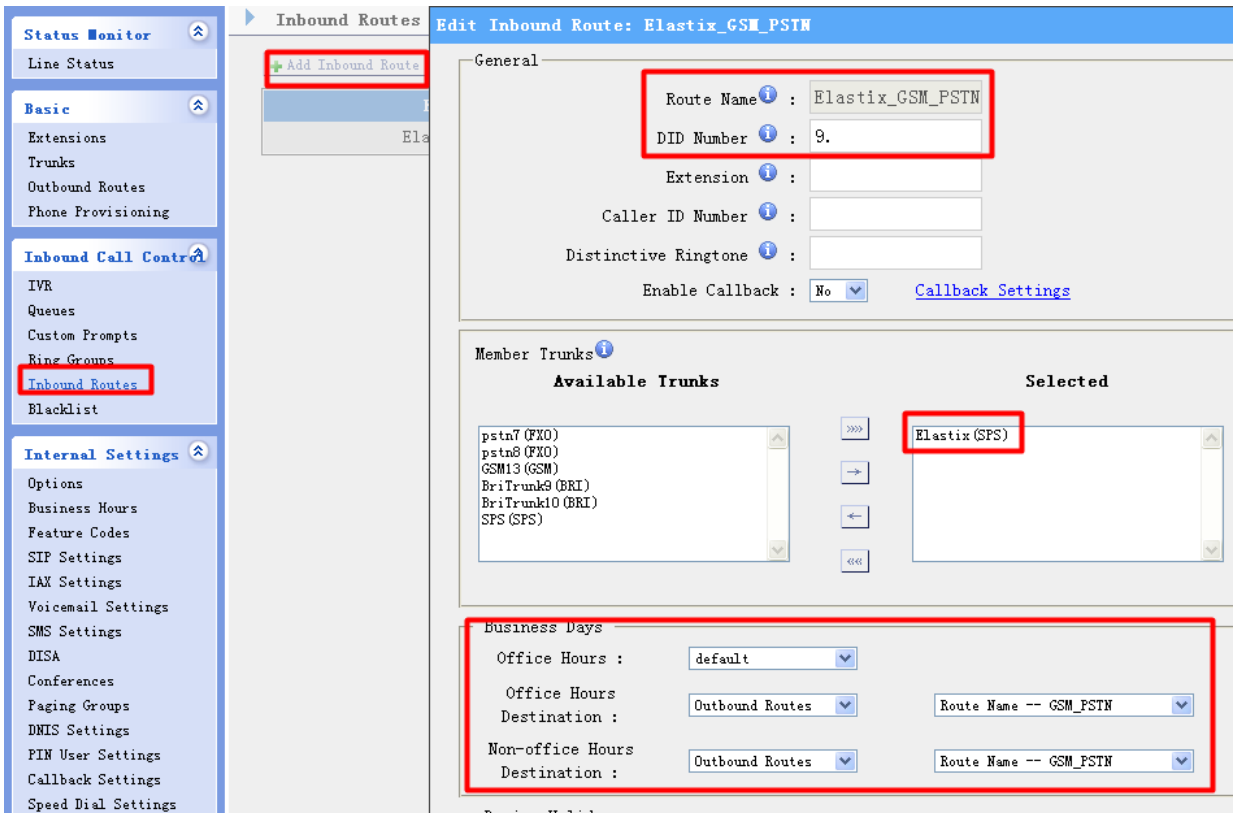


Figure 2-3 Setup Inbound Route for the SIP Trunking

2.2 Elastix Configuration

Step1: Setup outbound routes in Elastix.

PBX → Outbound Routes → Add Route.

Note: This dial pattern must match the dial pattern of the outbound route for GSM/PSTN trunk in MyPBX.

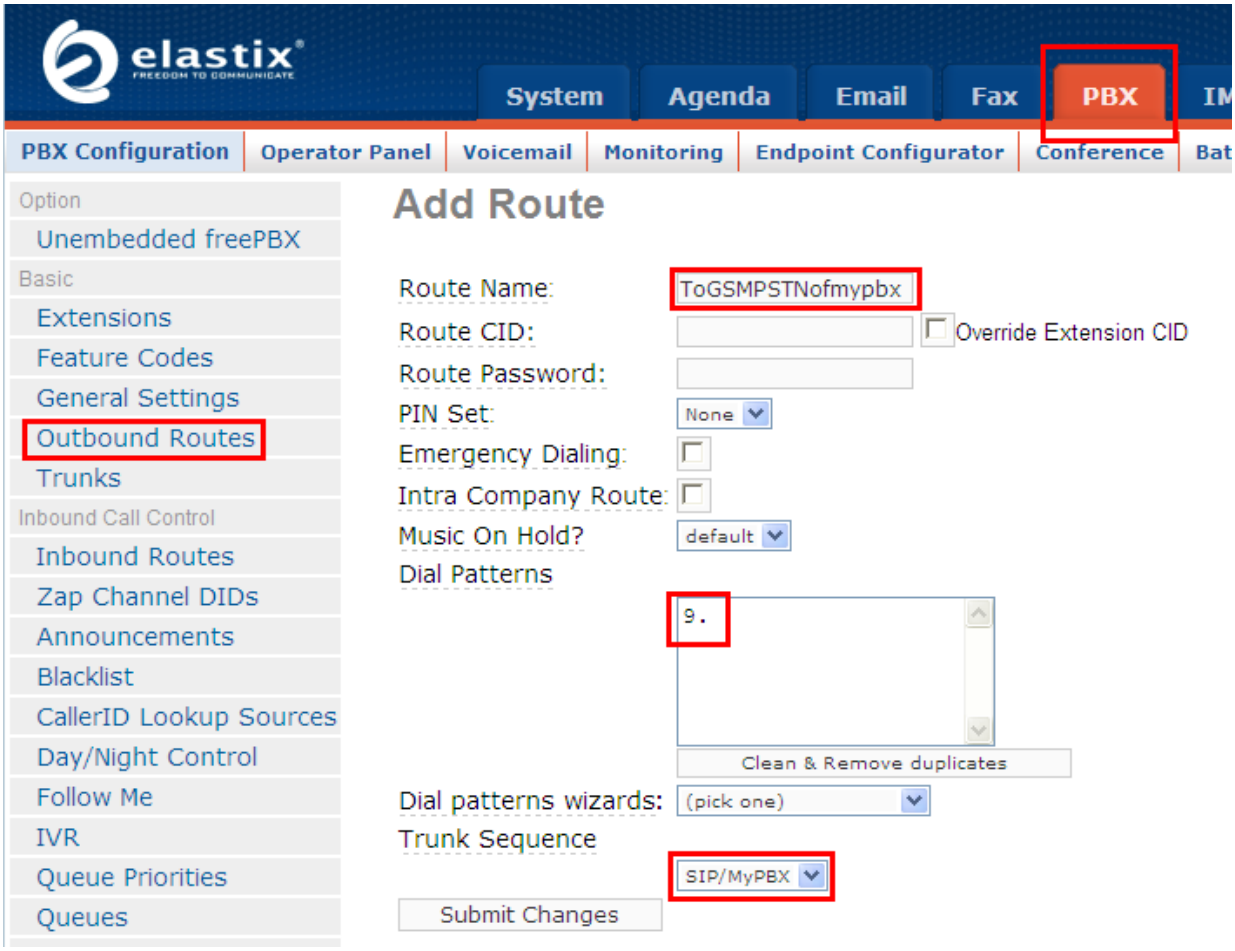


Figure 2-4 Outbound route for SIP Trunking in Elastix

2.3 Test Call

Use Elastix's extension to dial 913800000000, then mobile phone 13800000000 will ringing and you can answer the calls.

3. Receive calls from GSM/PSTN/BRI trunks of MyPBX at Elastix

The SIP Trunking connection is finished in the previous step, so we can start to configure a rule to route the incoming calls to Elastix side.

3.1 MyPBX Configuration

Step1: Setup an outbound route for this SIP Trunking to Elastix.

Note: In this example, we setup the dial pattern is "X.". We can dial any number via this SIP Trunking. And place this route to the end.

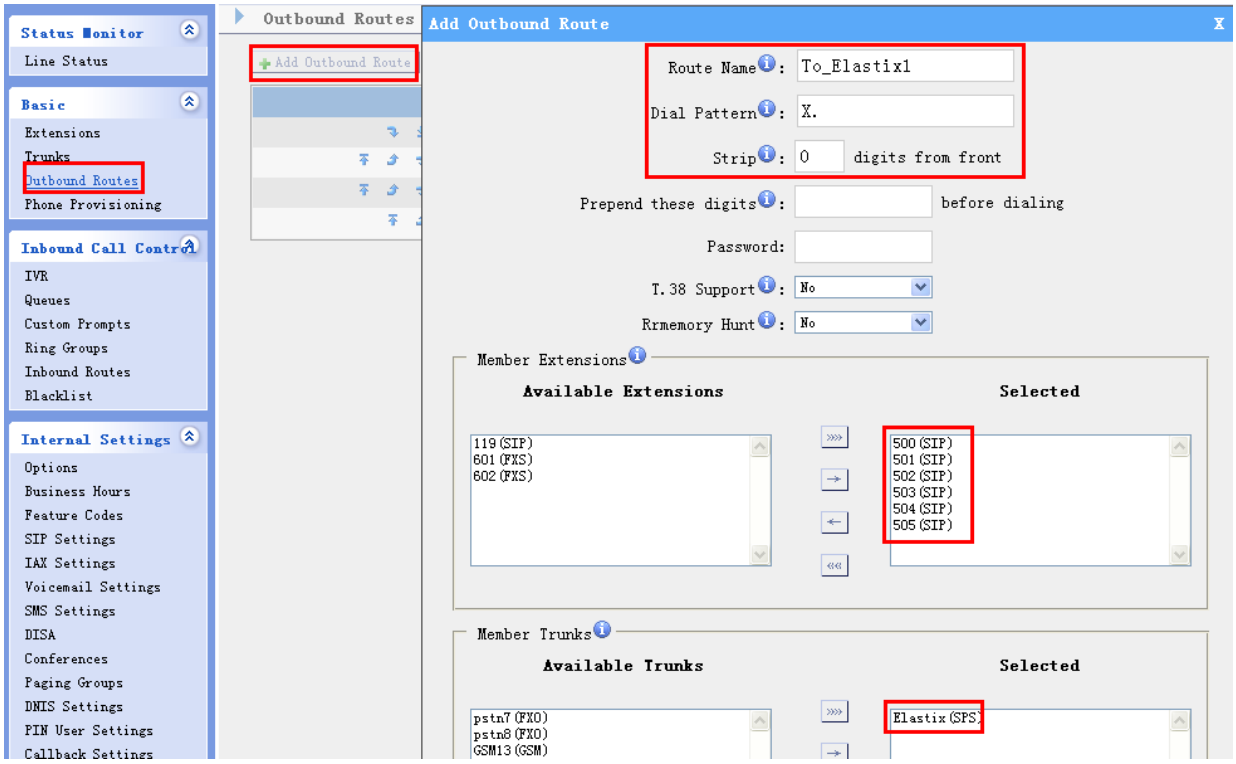


Figure 3-1 outbound route for SIP Trunking in MyPBX

The order of outbound routes: (Basic → Outbound routes)

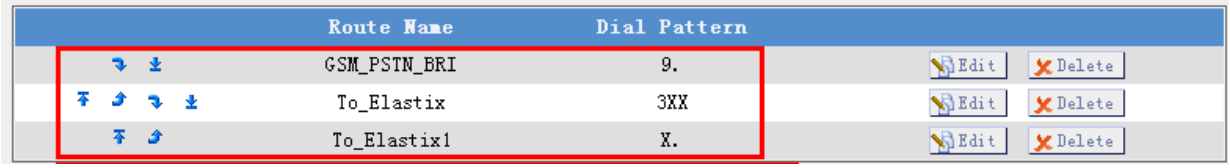


Figure 3-2 Order

Step2: Create an inbound route for GSM/PSTN/BRI trunk, and choose the outbound route we created in previous step as destination, so that the incoming calls from GSM/PSTN/BRI trunk will be sent to Elastix via the SIP Trunking.

Note: Since GSM/PSTN trunks have no DID number, we need to setup a DID number for them.

1) Create an inbound route for GSM trunk.
DID number: 15060748304

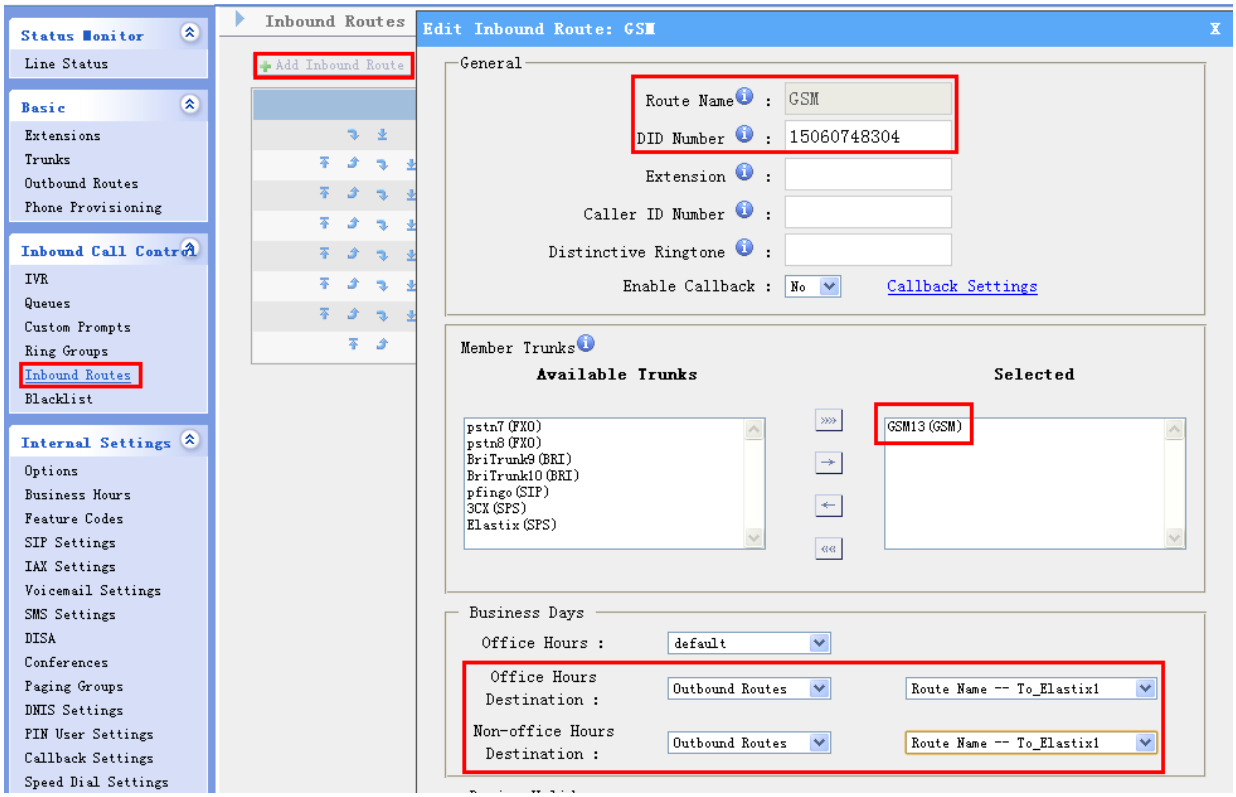


Figure 3-3 Inbound route for GSM trunk

2) Create an inbound route for PSTN trunk.
DID number: 5503301

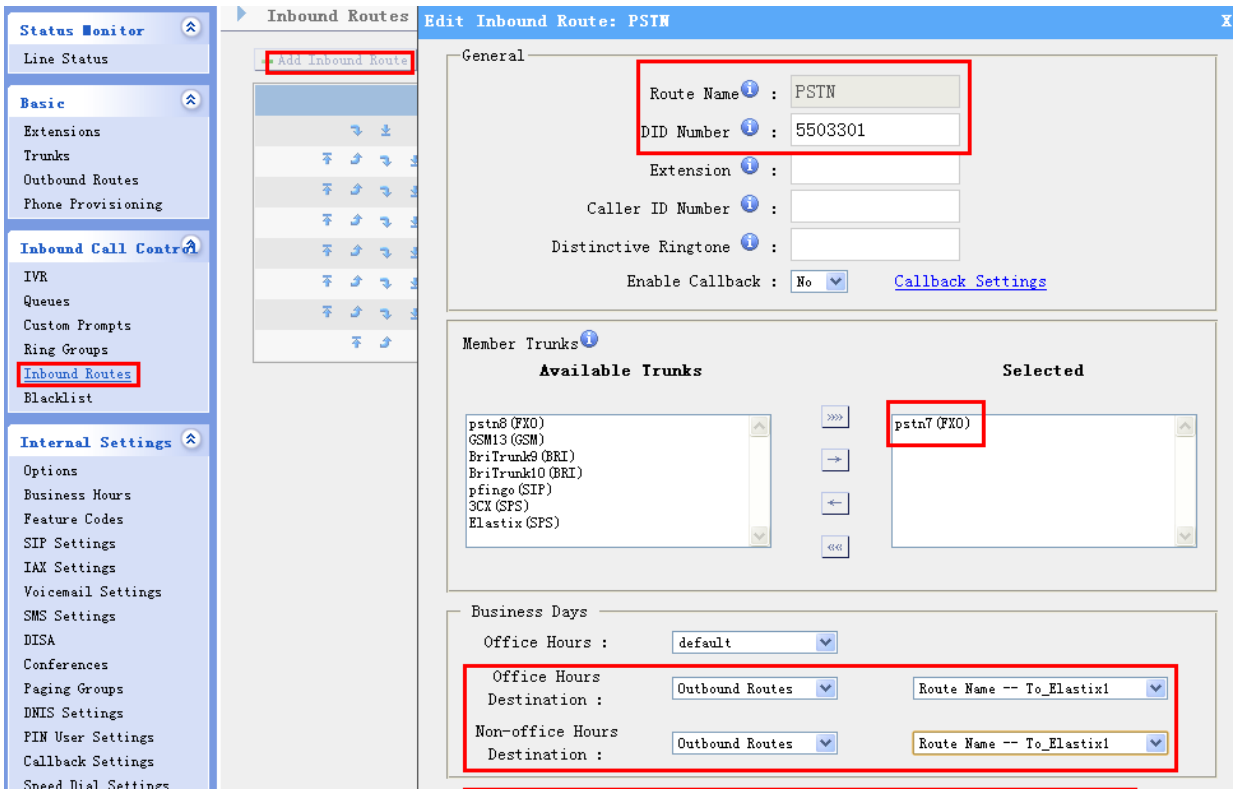


Figure 3-4 Inbound route for PSTN trunk

3) Create an inbound route for BRI trunk.

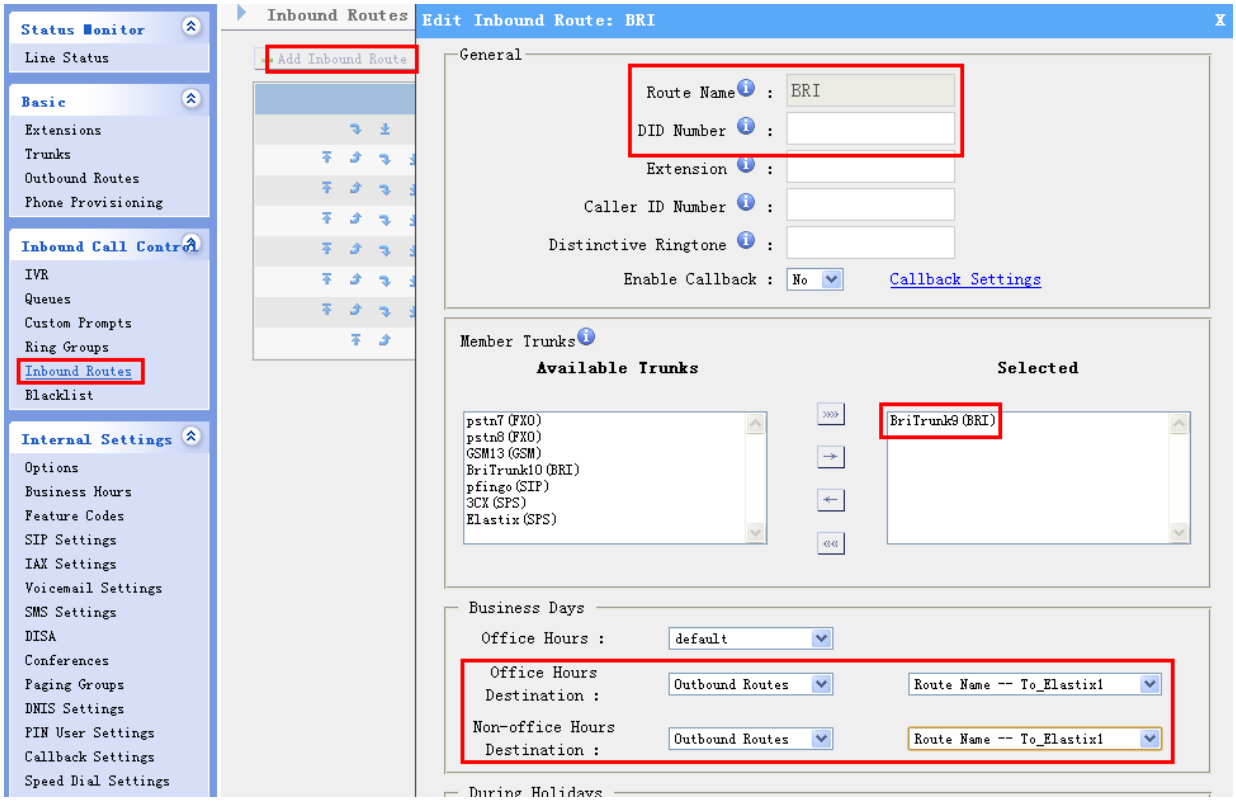


Figure 3-5 Inbound route for BRI trunk

3.2 Elastix Configuration

In Elastix side, we need create inbound route for the SIP Trunking so that we can dial in, in this example, we choose IVR as the destination (generally).
PBX → Admin → Setup → Inbound Routes

1) Create an inbound route for GSM trunk of MyPBX. Then DID Number must match that of MyPBX, so we configure DID Number of this route is 15060748304

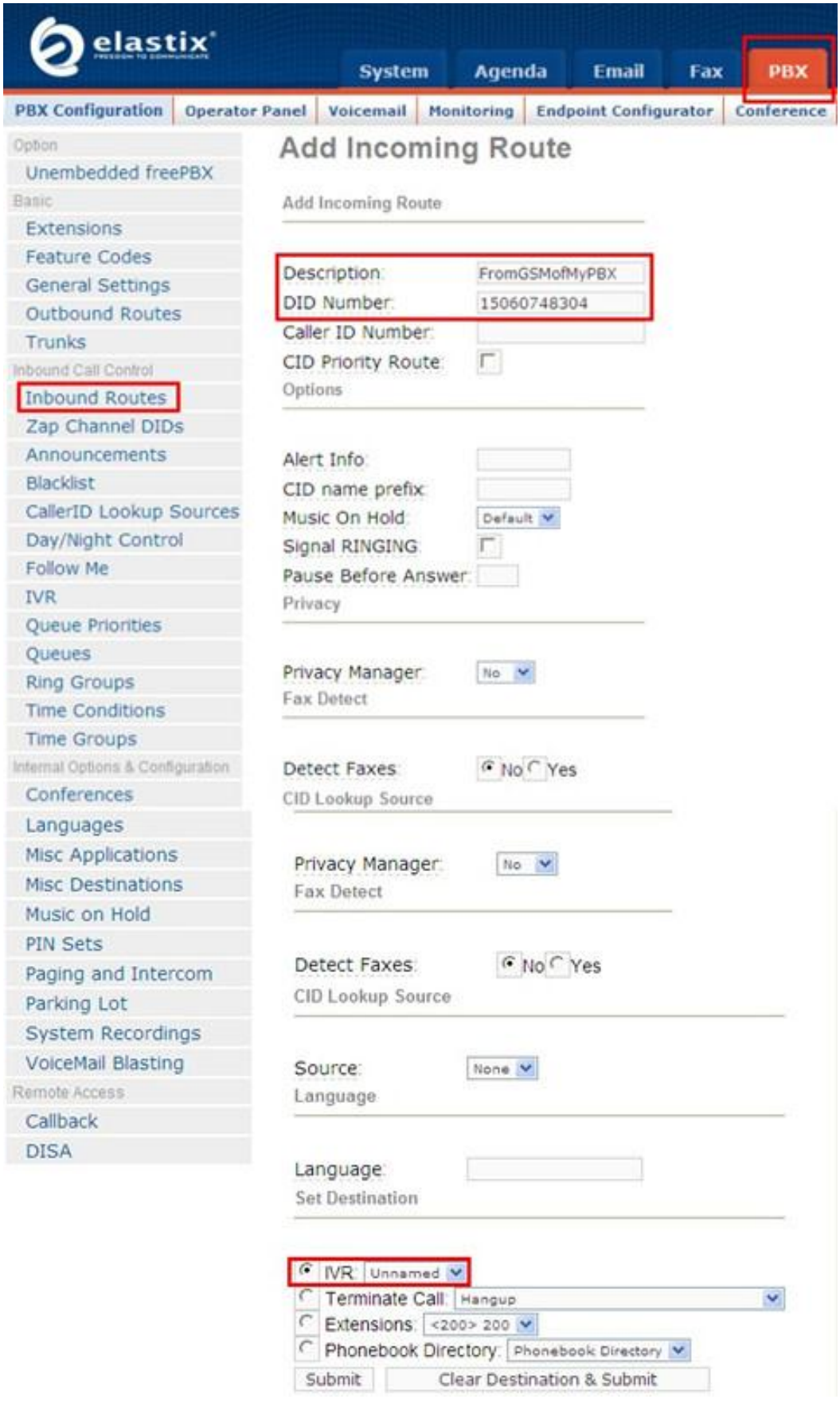


Figure 3-6 Inbound route for GSM in Elastix

2) Create an inbound route for PSTN trunk of MyPBX. Then DID Number must match that of MyPBX, so we configure DID Number of this route is 5503301

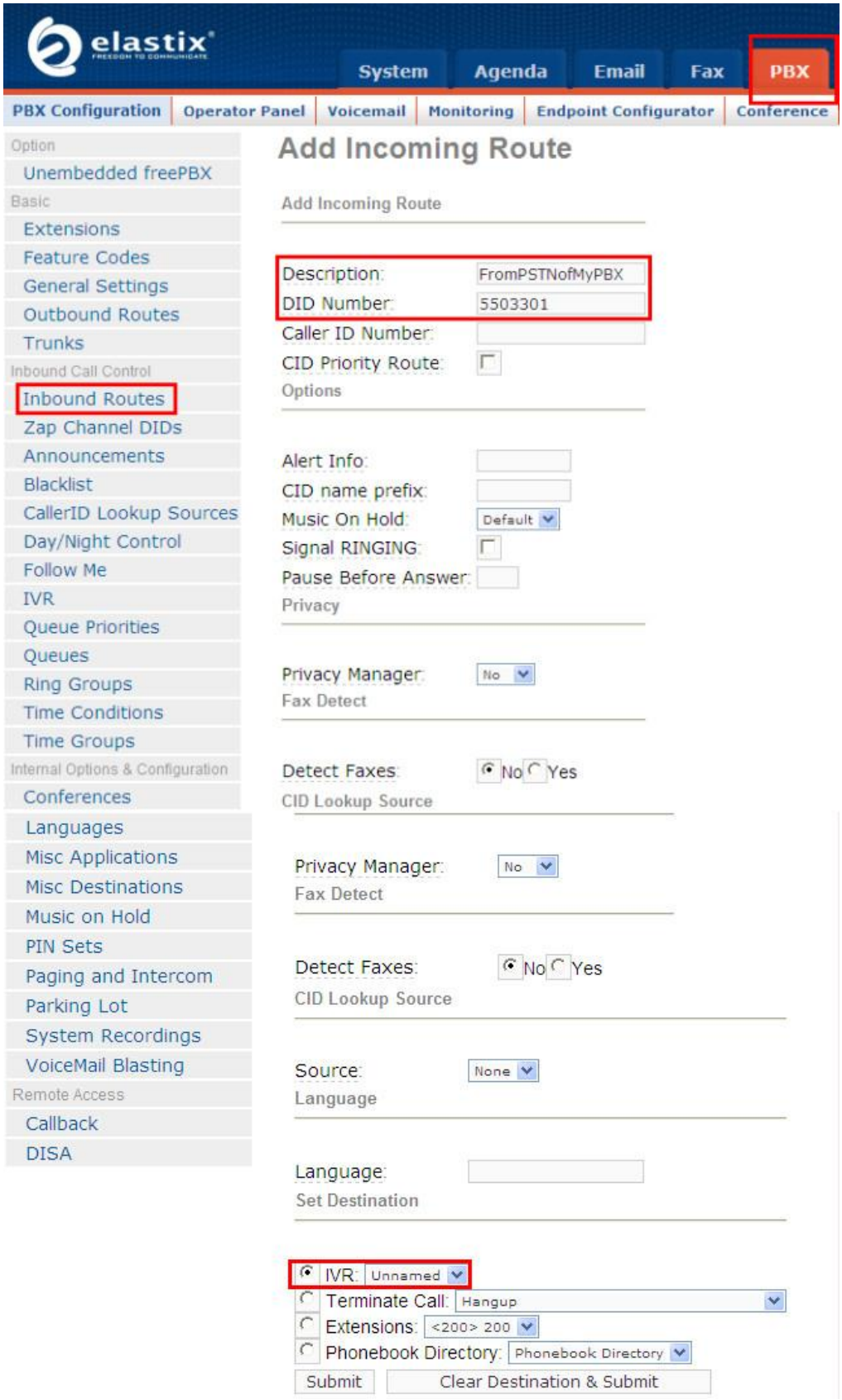


Figure 3-7 Inbound route for PSTN in Elastix

3) Create an inbound route for BRI trunk of MyPBX. Then DID Number must match that of MyPBX, so we configure DID Number of this route is 5503300.

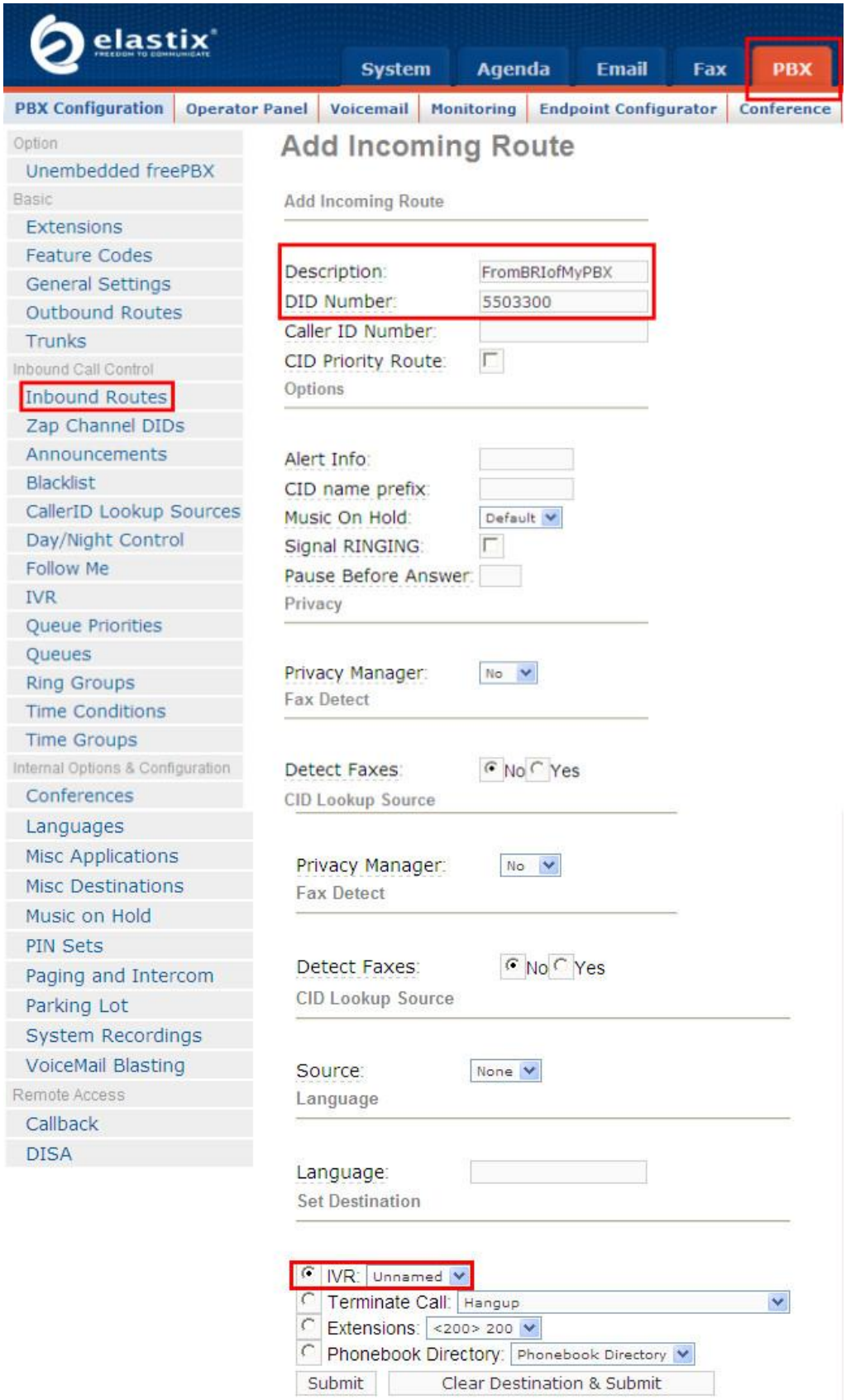


Figure 3-8 Inbound route for BRI in Elastix

3.3 Test call

Use mobile phone dial the GSM trunk's number 15060748304 / the PSTN trunk's number 5503301/ the BRI trunk's number 5503300, then it will reach the IVR of Elastix.

<END>