



Technical Brief

Configuring ProSBC with Twilio Elastic SIP Trunking

For complete details and an interactive step-by-step guide, visit:
<https://docs.telcobridges.com/tbwiki/ProSBC:Twilio>

Introduction

[Twilio Elastic SIP Trunking](#) is a cloud-based solution that provides connectivity for IP-based communications infrastructure to connect to the PSTN for making and receiving telephone calls to the rest of the world via any broadband internet connection. Twilio's Elastic SIP Trunking service automatically scales, up or down, to meet your traffic needs with unlimited capacity. In just minutes you can deploy globally with Twilio's easy-to-use self-service tools without having to rely on slow providers.

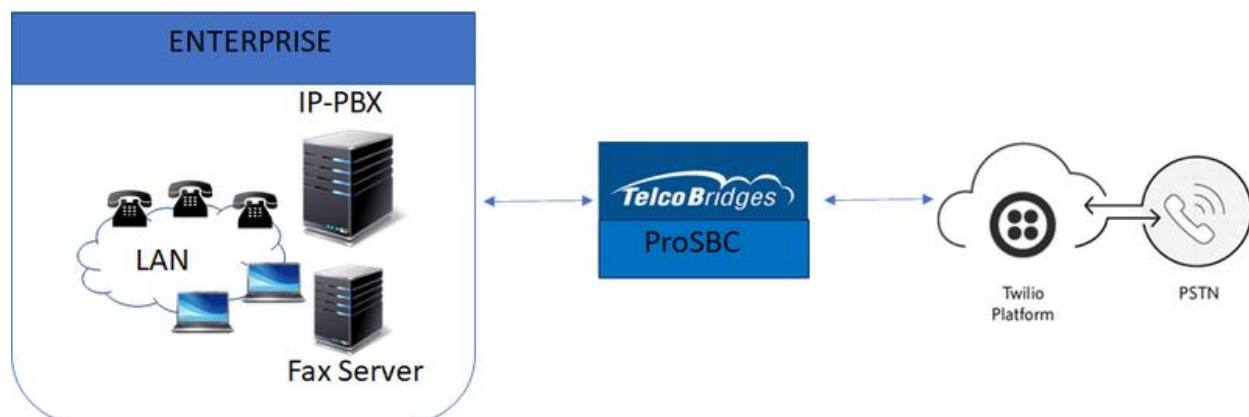
Sign up for a [free Twilio trial](#) and learn more about [configuring your Twilio Elastic SIP Trunk](#)

ProSBC connects your IP-PBX to Twilio Elastic SIP Trunking. This article describes how to connect ProSBC to Twilio Elastic SIP Trunking.

Prerequisites

- ProSBC must be installed as described in their respective [installation guides](#).
- Twilio Elastic SIP Trunking Account. Please visit the following link for more details about [Twilio Elastic SIP Trunking](#)

Typical Use Case for SIP Trunking with Twilio



Configuration Steps:

<i>(Step 1)</i> <i>Create IP Network</i>	<i>(Step 2)</i> <i>Create Protocol Stack</i>	<i>(Step 3)</i> <i>Create Call Route</i>	<i>(Step 4)</i> <i>Create Twilio Elastic SIP Trunk</i>
<ul style="list-style-type: none">▪ Configuring an IP Virtual Port▪ Configuring a VLAN▪ Configuring IP Interfaces▪ Create an IP port range	<ul style="list-style-type: none">▪ Create an IP port range▪ Create a SIP stack▪ Create a SIP transport server▪ Modify profile▪ Allocate a SIP NAP	<ul style="list-style-type: none">▪ Create a first call route	<ul style="list-style-type: none">▪ Create a new IP ACL▪ Create a New Trunk▪ Associate Phone numbers on your Trunk

NAP Configuration for Twilio Elastic SIP Trunking

- See [Create SIP NAP](#)

In this example, we will use telcobridges.pstn.twilio.com trunk information:

Configuration | Status

List

Editing NAP:

Name: TWILIO

Enabled:

Default Profile: default

Use Proxy Address:

Proxy address: telcobridges.pstn.twilio.com

Proxy port: 5060

Filter by proxy port:

Poll Remote Proxy:

Proxy Polling Interval: 1 minutes

Accept only authorized users:

[Registration Parameters](#)

[Authentication Parameters](#)

[Network Address Translation \(NAT\)](#)

[SIP-I Parameters](#)

[Advanced Parameters](#)

Save

****NOTE: Connection to Twilio Elastic SIP Trunking is available in multiple geographic edge locations. If you wish to manually connect to a specific geographic edge location that is closest to the location of your communications infrastructure, you may do so by pointing your communications infrastructure to any of the following localized Termination SIP URIs:**

- {example}.pstn.ashburn.twilio.com (North America Virginia)
- {example}.pstn.umatilla.twilio.com (North America Oregon)
- {example}.pstn.dublin.twilio.com (Europe Ireland)
- {example}.pstn.frankfurt.twilio.com (Europe Frankfurt)
- {example}.pstn.singapore.twilio.com (Asia Pacific Singapore)
- {example}.pstn.tokyo.twilio.com (Asia Pacific Tokyo)
- {example}.pstn.sao-paulo.twilio.com (South America São Paulo)
- {example}.pstn.sydney.twilio.com (Asia Pacific Sydney)

[Click here for more information on Twilio Elastic SIP Trunking IP Addresses](#)

Route Configuration for Twilio Elastic Trunking

- See [Create a first call route](#)

In this example, we will create an outgoing and incoming routes for Twilio Elastic Trunk

Route for outgoing to Twilio

Configuration

[List](#)

Creating New Route:

Name	<input type="text" value="ROUTE_2_TWILIO"/>
Routeset Name	<input type="text"/>
Called	<input type="text"/> Help
Calling	<input type="text"/> Help
NAP	<input type="text" value="IPPBX"/> ▼
Remapped Called	<input type="text"/> Help
Remapped Calling	<input type="text"/> Help
Remapped NAP	<input type="text" value="TWILIO"/> ▼
Source call leg remapped Profile	<input type="text" value="(same as NAP)"/> ▼
Destination call leg remapped Profile	<input type="text" value="(same as NAP)"/> ▼

Custom Parameters

priority	<input type="text"/>
weight	<input type="text"/>
private_address	<input type="text"/>
remapped_private_address	<input type="text"/>
forward_sip_domain	<input type="checkbox"/>
forward_sip_parameters	<input checked="" type="checkbox"/>

Route for incoming from Twilio

Configuration

[List](#)

Creating New Route:

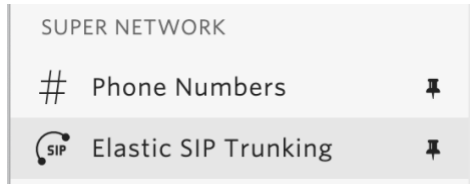
Name	<input type="text" value="ROUTE_FROM_TWILIO"/>
Routeset Name	<input type="text"/>
Called	<input type="text"/> Help
Calling	<input type="text"/> Help
NAP	<input type="text" value="TWILIO"/> ▼
Remapped Called	<input type="text"/> Help
Remapped Calling	<input type="text"/> Help
Remapped NAP	<input type="text" value="IPPBX"/> ▼
Source call leg remapped Profile	<input type="text" value="(same as NAP)"/> ▼
Destination call leg remapped Profile	<input type="text" value="(same as NAP)"/> ▼

Custom Parameters

priority	<input type="text"/>
weight	<input type="text"/>
private_address	<input type="text"/>
remapped_private_address	<input type="text"/>
forward_sip_domain	<input type="checkbox"/>
forward_sip_parameters	<input checked="" type="checkbox"/>

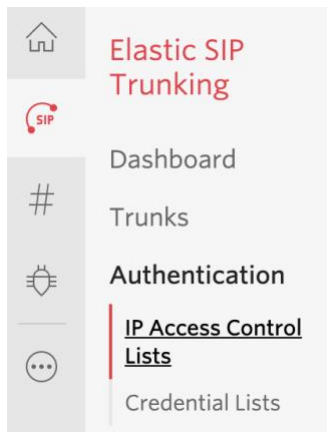
Twilio Elastic SIP Trunking Configuration

From your [Twilio Console](#), navigate to the [Elastic SIP Trunking](#) area (or click on the  icon on the left vertical navigation bar).



Create a new IP-ACL

Click on [Authentication](#) in the left navigation, and then click on [IP Access Control Lists](#).



In this example an IP-ACL is created with the name: "MyExampleACL". Add your SBCs IP addresses to the IP-ACL you create.

MyExampleACL

Properties

FRIENDLY NAME

IP-ACL SID ALf7761762142221f7075370274221bfc35

ASSOCIATED SIP TRUNKS —

ASSOCIATED SIP DOMAINS —

IP Address Ranges

IP Access Control Lists may have up to 100 IP addresses.

+	IP ADDRESS RANGE	FRIENDLY NAME	
	192.168.0.10 - 192.168.0.10		X
	192.168.0.10 - 192.168.0.10		

Create a new Trunk

For each geographical region desired (e.g., North America, Europe), create a new Elastic SIP Trunk.

Now click on **Trunks** again on the left vertical navigation bar, and create a new Trunk.

Create A New SIP Trunk

Name your new SIP Trunk, then configure it in the following steps.

FRIENDLY NAME

Under the **General Settings** you can enable different features as desired.

Features

To learn more about SIP Trunking features, please [see our user documentation](#). 

Call Recording

Disabled  Calls will not be recorded.

Call Recording

Record from ringing 


Recording Trim

Disabled  Silence will not be trimmed from recording

Secure Trunking


Disabled  RTP must be used for media packets. SIP messages may be sent unencrypted or encrypted using TLS. Any SRTP encrypted calls will be rejected

Call Transfer (SIP REFER)

Enabled  Twilio will consume an incoming SIP REFER from your communications infrastructure and create an INVITE message to the address in the Refer-To header

Enable PSTN Transfer 
Allow Call Transfers to the PSTN via your Trunk.

Symmetric RTP

Enabled  Twilio will detect where the remote RTP stream is coming from and start sending RTP to that destination instead of the one negotiated in the SDP

▶ Additional Features

In the **Termination** section, select a Termination SIP URI.

Termination URI

Configure a SIP Domain Name to uniquely identify your Termination SIP URI for this Trunk. This URI will be used by your communications infrastructure to direct SIP traffic towards Twilio. Be sure to select a localized SIP URI to ensure your traffic takes the lowest latency path. If a localized version isn't selected, then your traffic will be sent to US1. [Learn more about Termination Settings](#) ↗

TERMINATION SIP URI

telcobridges  .pstn.twilio.com

[Show Localized URIs](#)

Click on "Show localized URI's" and copy and paste this information as you will use this on your SBC to configure your Trunk.

NORTH AMERICA VIRGINIA telcobridges.pstn.ashburn.twilio.com

NORTH AMERICA OREGON telcobridges.pstn.umatilla.twilio.com

EUROPE DUBLIN telcobridges.pstn.dublin.twilio.com

EUROPE FRANKFURT telcobridges.pstn.frankfurt.twilio.com

SOUTH AMERICA SAO PAULO telcobridges.pstn.sao-paulo.twilio.com

ASIA PACIFIC SINGAPORE telcobridges.pstn.singapore.twilio.com

ASIA PACIFIC TOKYO telcobridges.pstn.tokyo.twilio.com

ASIA PACIFIC SYDNEY telcobridges.pstn.sydney.twilio.com

or

Assign the IP ACL ("MyExampleACL") that you created in the previous step.

Authentication [View all Authentication lists](#)

The following IP ACLs and Credential Lists will be used to authenticate the INVITE for termination calls inbound to Twilio.

IP ACCESS CONTROL LISTS

MyExampleACL x



CREDENTIAL LISTS

Click to select a Credential List



In the **Origination** section, we'll add Origination URI's to route traffic towards your TelcoBridges SBC. The recommended practice is to configure a redundant mesh per geographic region (in this context a region is one of North America, Europe, etc). In this case, we configure two Origination URIs, each egressing from a different Twilio Edge.

Click on 'Add New Origination URI', we'll depict the configuration for North America:

Add Origination URL ✕

ORIGINATION SIP URI	<input type="text" value="sip:telcobridges.com;edge=ashburn"/>
PRIORITY	<input type="text" value="10"/> <p>Priority ranks the importance of the URI. Values range from 0 to 65535, where the lowest number represents the highest importance.</p>
WEIGHT	<input type="text" value="10"/> <p>Weight is used to determine the share of load when more than one URI has the same priority. Its values range from 1 to 65535. The higher the value, the more load a URI is given.</p>
ENABLED	<input checked="" type="checkbox"/> ON

Continue to add the other Origination URIs if desired. Origination URIs are listed as follows:

Origination URIs

Configure the IP address (or FQDN) of the network element entry point into your communications infrastructure (e.g. IP-PBX, SBC).

Show more about provisioning for high service availability

ORIGINATION URI	PRIORITY	WEIGHT	ENABLED	
sip:telcobridges.com;edge=ashburn	10	10	✓	×
sip:telcobridges.com;edge=umatilla	10	10	✓	×

In this example, Origination traffic is routed via Twilio's Ashburn edge, if that fails then we'll route from Twilio's Umatilla edge.

Associate Phone Numbers on your Trunk

In the **Numbers** section of your Trunk, add the Phone Numbers that you want to associate with each Trunk. Remember to associate the Numbers from a given country in the right Trunk. For example, associate US & Canada Numbers with the North American Trunk and European Numbers with the European Trunk etc.

Numbers

[View my Addresses](#)

Emergency Calling Update: Each number must be associated with an emergency address with matching ISO Country. Please select numbers to enable from one country at a time.

NUMBER	FRIENDLY NAME	COUNTRY	EMERGENCY CALLING STATUS	EMERGENCY ADDRESS	
+18557766666	(855) 776-6666	US	Enabled	375 BEALE ST 3rd floor suite, SF, CA, 94105	<input type="checkbox"/>
+16802222222	(680) 222-2222	US	Enabled	375 BEALE ST 3rd floor suite, SF, CA, 94105	<input type="checkbox"/>
+17602222222	(760) 222-2222	US	Disabled		<input type="checkbox"/>

Troubleshooting

Support resources, including access to the free TBwiki and TB Support Forum, can be found here: <https://freesbc.telcobridges.com/support/>