



Give OBHAI Telephone Connectivity

This document describes how to use the Twilio Console to give your OBHAI SIP-enabled IP Phone the following telephone services:

1. Make high quality inbound and outbound phone calls to the public telephone network at very low rates with no contracts
2. Purchase a telephone number in over 50 countries that anyone can call to ring your OBHAI Phone
3. Take advantage of optional advanced features available such as call recording, caller ID spoofing, call blocking, and simultaneous and sequential ringing.

What **you need to decide before getting started:**

While a telephone number is your address for calls to reach you on the public telephone network, in VoIP a SIP URI serves as your global unique address. A Twilio SIP URI takes the form

sip:[username@yourdomain](#).sip.us1.twilio.com

1. When you create a SIP Domain you will specify [yourdomain](#).sip.us1.twilio.com which is equivalent to a web domain that allows SIP voice calls to be routed correctly over the internet to you.
2. You will specify a [username](#) and password in your IP Phone that must correspond to a username and password in two of your Twilio Credential Lists.

Configuration Steps

Start by creating a [new SIP Domain](#).

The screenshot shows a web console interface. At the top, a dark blue header contains a logo of four white squares in a circle and the word "CONSOLE" in white. Below the header is a sidebar with a light gray background. The sidebar has a home icon, a hash symbol, a telephone handset icon, and a circular arrow icon with "SIP" written inside. To the right of these icons are the labels "Programmable Voice", "Dashboard", "SIP Domains", "Domains", "IP Access Control Lists", and "Credential Lists". The "SIP Domains" section is highlighted with a red vertical line. The main content area has a white background and a large heading "Voice SIP Domains". Below the heading is a light gray box with the text "You have no SIP Domains" and a red button with the text "Create new SIP Domain".

Fill out the fields:

CONSOLE

Programmable Voice

Dashboard

SIP Domains

Domains

IP Access Control Lists

Credential Lists

Tools

Logs

Insights *Beta*

Add-ons *Beta*

Usage

Settings

Call Tracking

Getting Started

Domains

obi-to-twilio.sip.twilio.com

Configure Registered SIP Endpoints

Properties

FRIENDLY NAME: obi-to-twilio

SIP URI: obi-to-twilio .sip.twilio.com

ENDPOINT SID: 5050edd2bb34c628a319a3b218c1ee59a0

Voice Configuration

REQUEST URL: http://sip2pstn-simpliedial.herokuapp.com/voice?callerId=+1646XX: HTTP POST

FALLBACK URL: HTTP POST

STATUS CALLBACK URL: HTTP POST

Voice Authentication

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

IP ACCESS CONTROL LISTS: Click to select an IP Access Cor +

CREDENTIAL LISTS: username_list +

SIP Registration

Allow SIP Endpoints to register with this SIP Domain. Credential Lists must be specified. [Learn more](#)

DISABLED Endpoints will NOT be registered with this Domain

ENABLED Endpoints CAN register with this Domain

SIP Registration Authentication

The following Credential Lists will be used to authenticate SIP Endpoints during registration to allow them to receive outbound SIP calls from Twilio.

CREDENTIAL LISTS: username_list +

Save **Cancel** [Delete this SIP Domain](#)

Friendly Name - This can be anything and has no dependencies. Make it as descriptive as you want.

SIP URI: This is the SIP Domain address that belongs to you and used to route SIP Calls over the internet and eventually to Twilio. On ObiTalk this corresponds to the field named: **Service Provider Proxy Server**

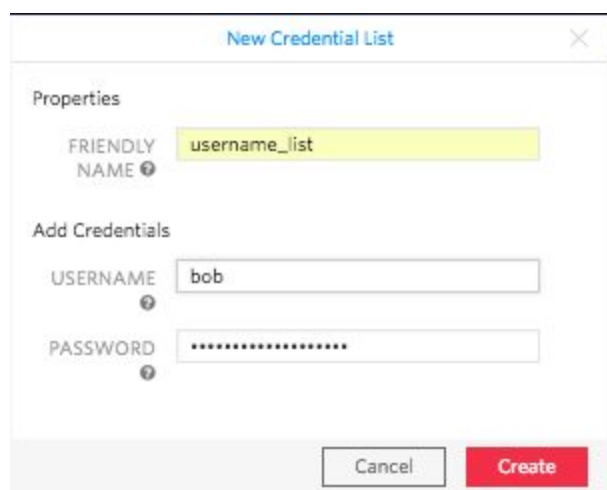
Request URL: When a SIP Call hits Twilio, after being authenticated, Twilio will Webhook a HTTP Request to the URL specified here. It is the job of your APP to interpret the Request and respond with XML instructions on how to handle the call. We have provided a sample APP at the following URL that you can use to bridge the call to the PSTN. For callerId you can either use a Twilio Number you have purchased or you can verify your own personal number with Twilio and use it.

The following URL can be used to try evaluating Twilio but the URL may be decommissioned at any time.

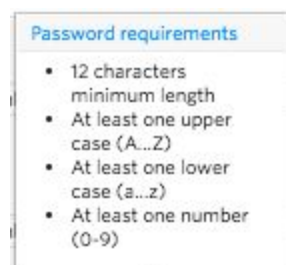
[http:// sip2pstn-simpliedial.herokuapp.com/voice?callerId=+1XXXXXXXXXX](http://sip2pstn-simpliedial.herokuapp.com/voice?callerId=+1XXXXXXXXXX)

You must deploy an APP. Follow these [instructions](#).

For Voice Authentication you can simply create a Credential List with a **username** and password. This Credential List can be reused by SIP Registration Authentication. This **username**, mentioned above, is also used in the configuration on ObiTalk.



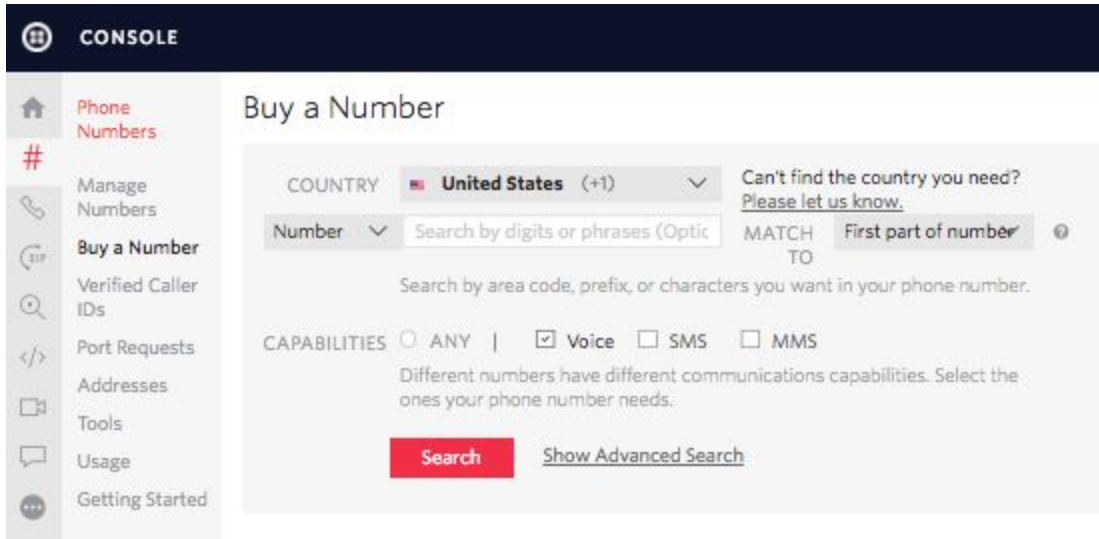
The screenshot shows a dialog box titled "New Credential List". It has a "Properties" section with a "FRIENDLY NAME" field containing "username_list". Below that is an "Add Credentials" section with a "USERNAME" field containing "bob" and a "PASSWORD" field with masked characters. At the bottom are "Cancel" and "Create" buttons.

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- The screenshot shows a "Password requirements" dialog box with the following list of requirements:
- 12 characters minimum length
 - At least one upper case (A..Z)
 - At least one lower case (a..z)
 - At least one number (0-9)

Now you can configure your OBiHai phone to make outbound calls to the public telephone network. That's all for SIP Domain configuration.

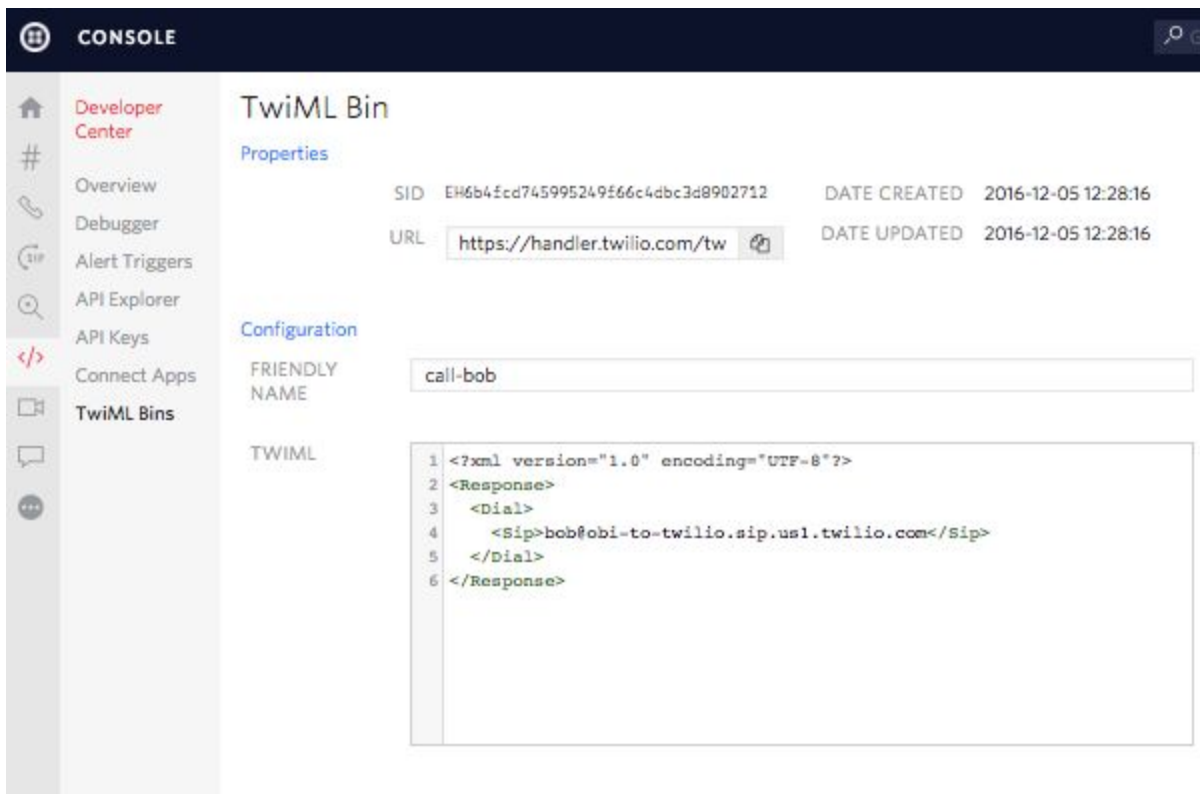
Now, if you want to purchase your own telephone number so you can receive phone calls from the public telephone network on your IP Phone then read the following.

On the Twilio Console, go to Phone Numbers, and select Buy a Number. Select a country, and check the Voice capable checkbox and click search. Now purchase your number.

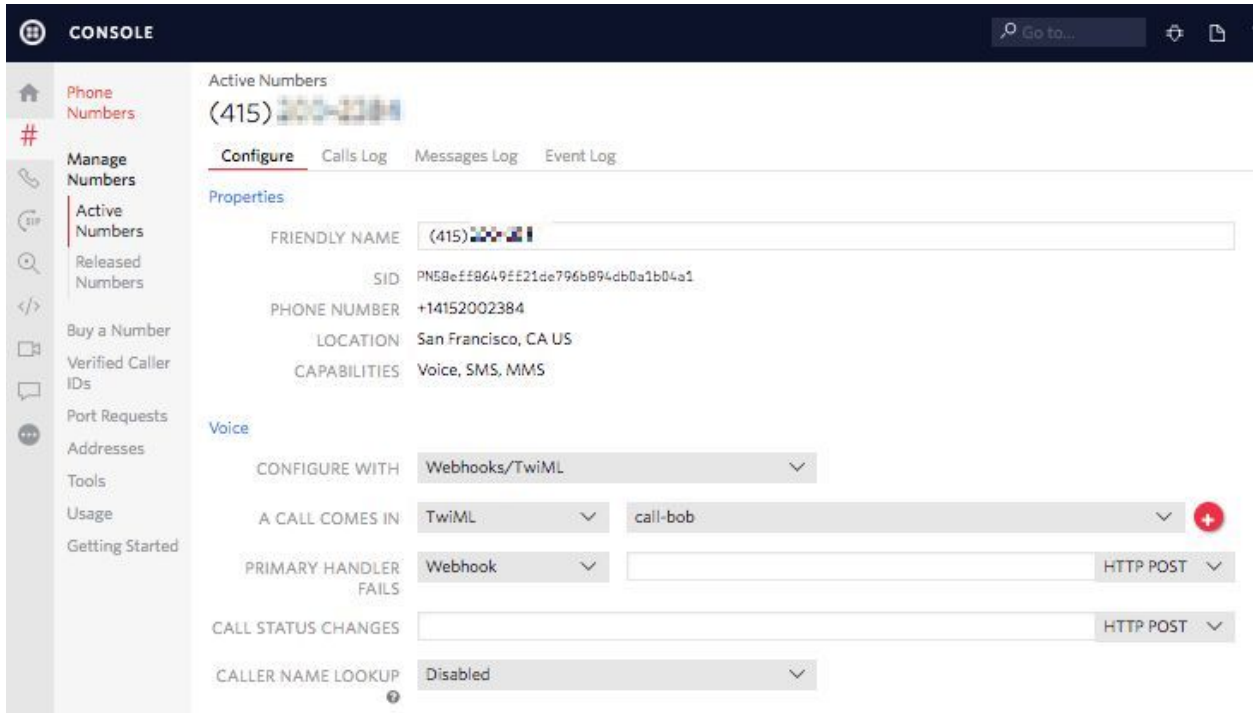


Now, when someone calls your telephone number Twilio is going to request to your application to provide XML instructions on how to handle the call. Since this is a simple application we can implement it in TwiML bins which is Twilio hosting the call handling instructions.

Below shows the instructions to call the **username bob** that is registered with the SIP Domain called: **obi-to-twilio.sip.us1.twilio.com**.



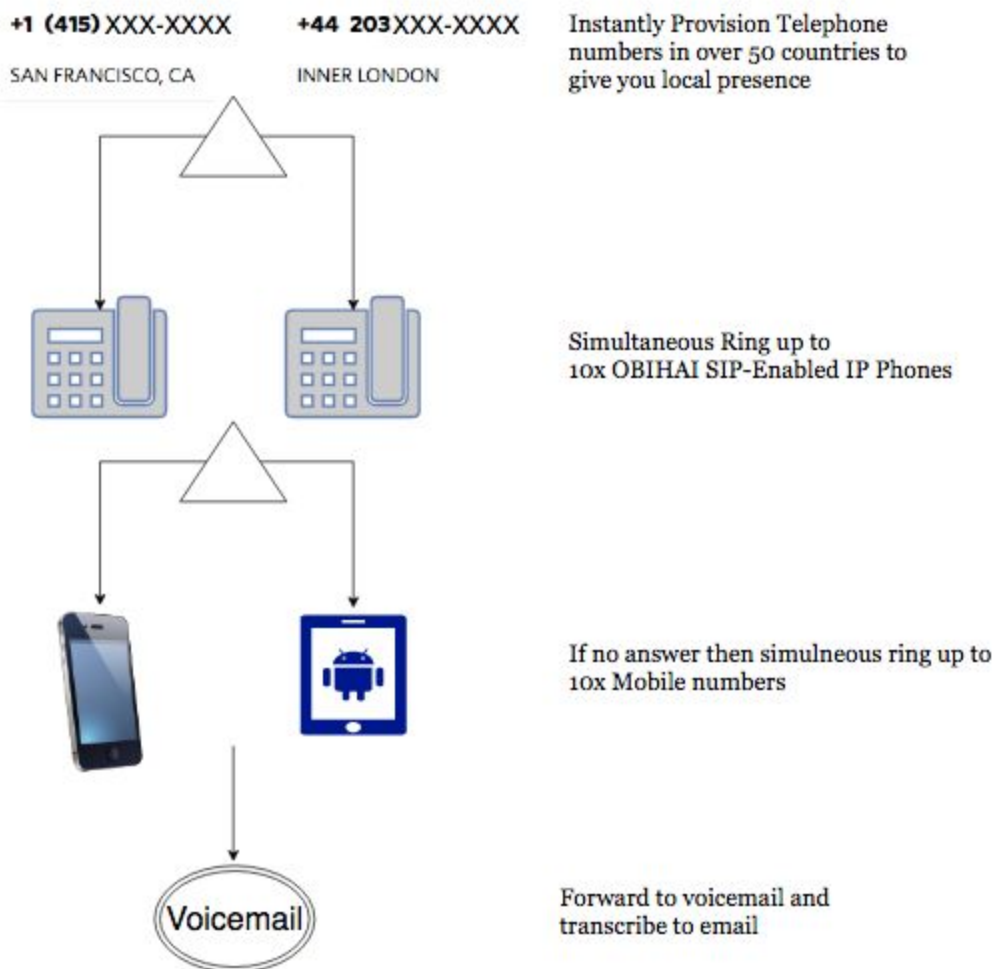
Now return to the phone number that you bought and (refresh the page if necessary) select to Configure with Webhooks/TwiML-->TwiML-->TwiML Bin call-bob. Click Save.



Now you have configured everything you need to do on the Twilio side. Please return to the OBIHAI site and complete configuration of the SIP-enabled IP Phone.

Advanced Optional Features

You can create very flexible calling plans that involve simultaneous and sequential ringing, call screening, caller ID spoofing, and voicemail. The code snippet below, written in Twilio's TwiML XML language implements the following call flow.



Twiml

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
  <Dial timeout="4">
    <Sip>bob@obi-to-twilio.sip.us1.twilio.com</Sip>
  </Dial>
  <Dial timeout="4">
    <Number>+14087998994</Number>
    <Number>+14156942293</Number>
  </Dial>
  <Forward to="voicemail" transcribe="true" />
</Response>
```

```
</Dial>
<Say voice="alice">
  You have reached Bob's voicemail. Please leave a message.
</Say>
  <Record transcribe="true"
transcribeCallback="http://twimlets.com/voicemail?Email=bob@gmail.com"
  />
</Response>
```

The best part is you don't even need to worry about hosting the webapp for this code. You can use Twilio's TwiML bins which host static TwiML. See [here](#).

Comments about code above:

Twilio allows you to have up to 10 SIP Devices registered to one username, in this case, bob. So this single line can ring 10 devices simultaneously.

```
<Dial timeout="4">
<Sip>bob@obi-to-twilio.sip.us1.twilio.com</Sip></Dial>
```

In the future Twilio will allow you to simultaneously dial mobile/landline phones and SIP phones.

International Calling

By default Twilio disables international calling to protect you against toll-fraud.

To enable please see [here](#).

See international coverage [here](#).