Give OBIHAI Telephone Connectivity

This document describes how to use the Twilio Console to give your OBIHAI 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 OBIHAI Phone
3. Take advantage of optional advanced features available such as call recording, caller ID spoofing, call blocking, and simultaneous and sequential ringing.

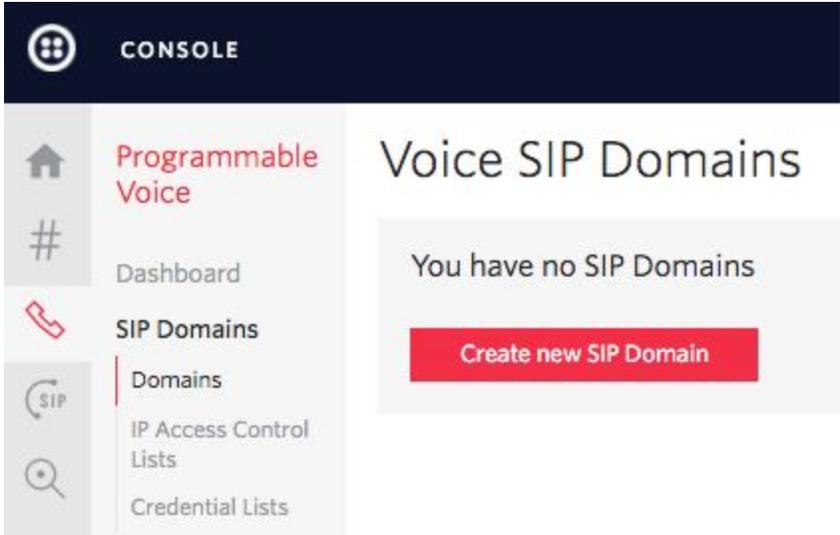What **you need to decide before getting started:**

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.

Fill out the fields:

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-simpledial.herokuapp.com/voice?callerId=+1XXXXXXXXX

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.
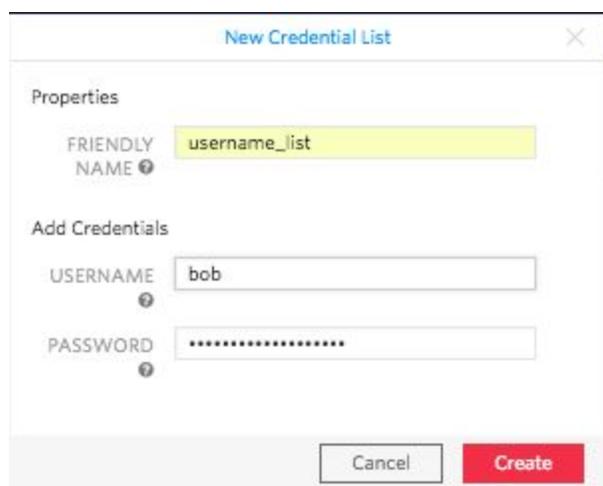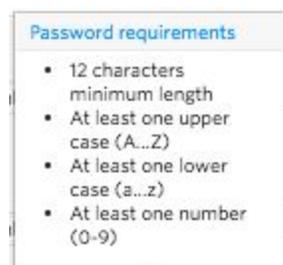

Now you can configure your OBIHai phone to make outbound calls to the public telephone network. That's all for SIP Domain configuration.

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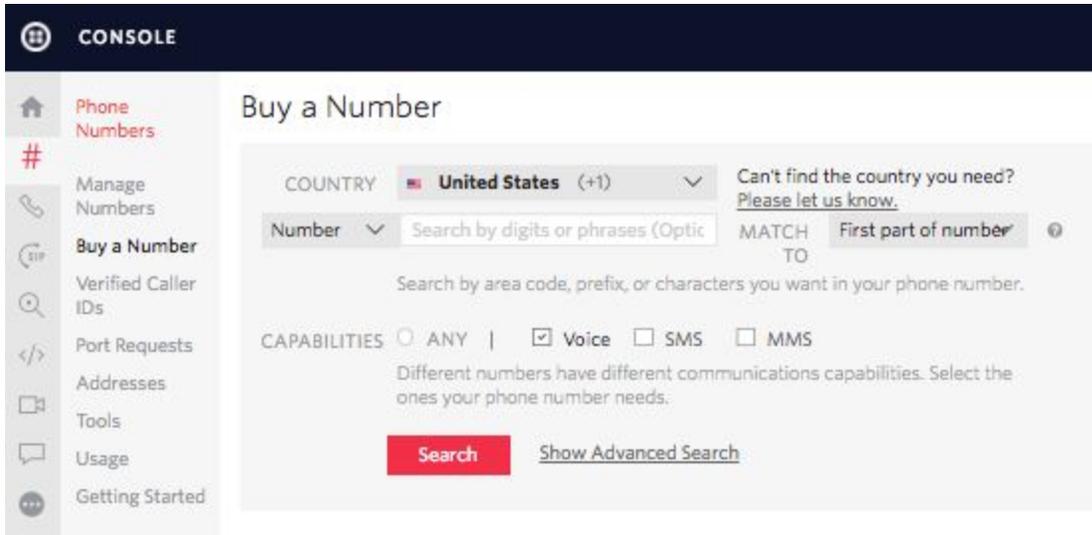
Now, when someone calls your telephone number Twilio is going to request to your application to provide XML instructions on how to handle the call. Since this is a simple application we can implement it in TwiML bins which is Twilio hosting the call handling instructions.

Below shows the instructions to call the **username bob** that is registered with the SIP Domain called: **obi-to-twilio**.sip.us1.twilio.com.
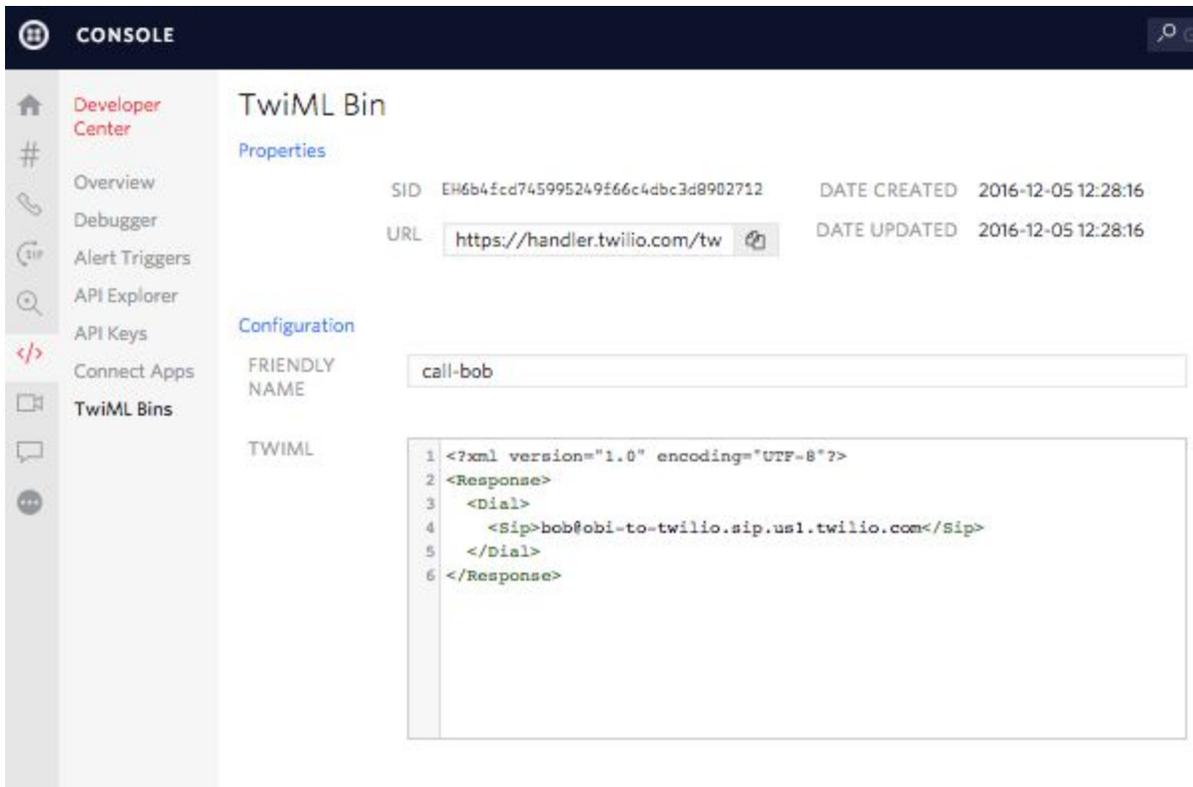
Now return to the phone number that you bought and (refresh the page if necessary) select to Configure with Webhooks/TwiML-->TwiML-->TwiML Bin call-bob.
Click Save.
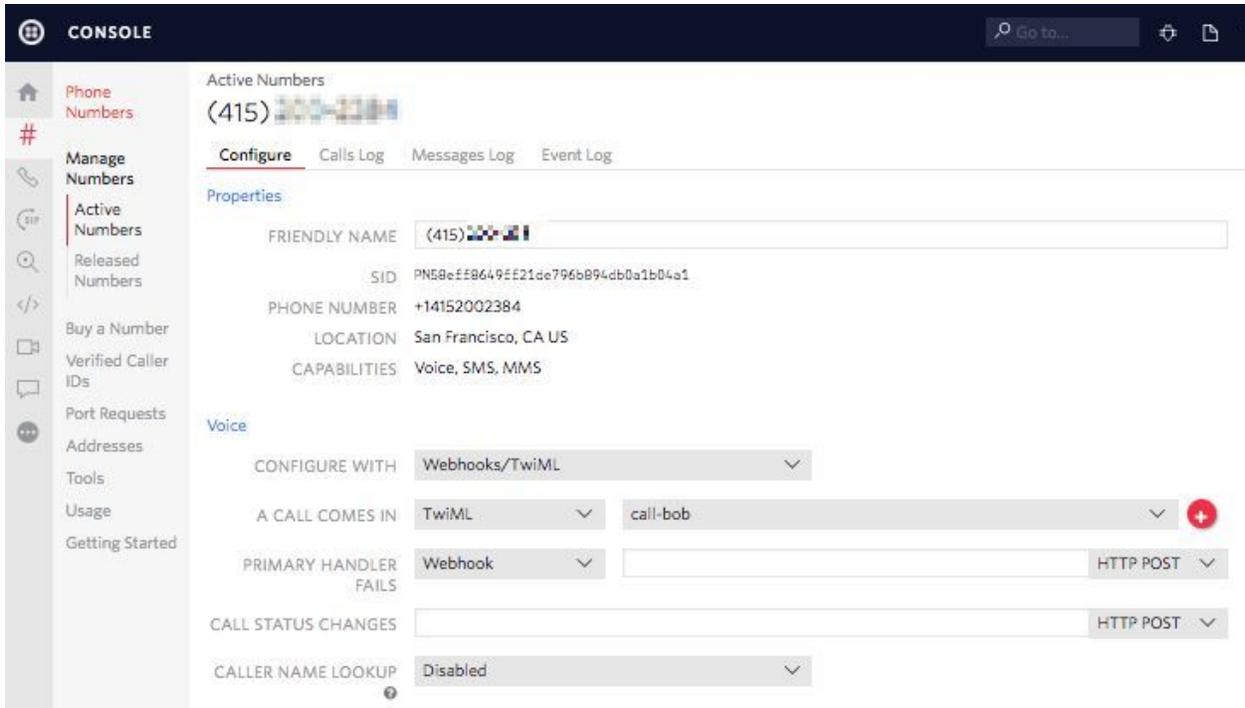
Now you have configured everything you need to do on the Twilio side.
Please return to the OBIHAI site and complete configuration of the SIP-enabled IP Phone.

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.
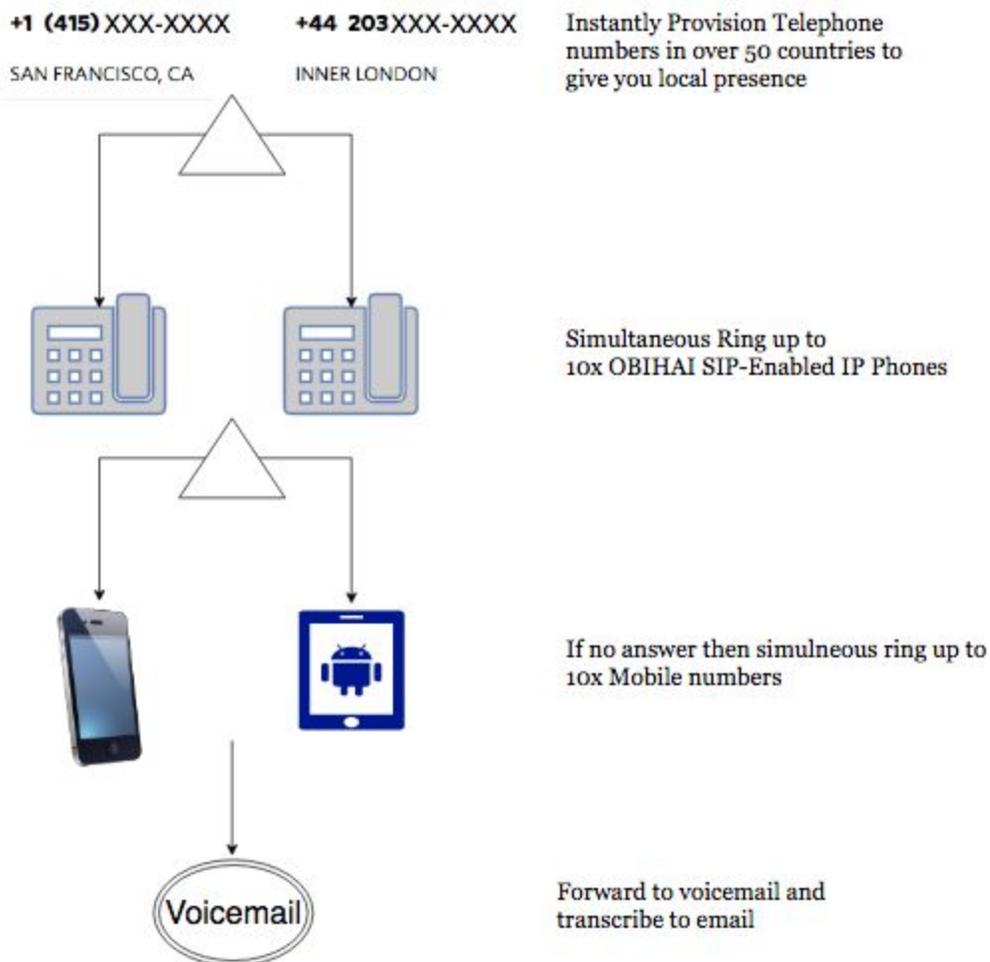
TwiML

```
<?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>
  <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.