

SwitchLabs

User Manual

Version 1.3

August, 2013

CONTENTS

INTRODUCING THE SWITCHLABS SERVICE	3
REQUIREMENTS	3
QUICK START GUIDE.....	4
SIGNING UP FOR A SWITCHLABS ACCOUNT.....	4
CHOOSING A TELEPHONE NUMBER.....	4
ASSIGNING A NUMBER TO A SIP ENDPOINT.....	7
MAKING A TEST CALL.....	8
FORWARDING CALLS TO AN EXISTING NUMBER.....	8
MAKING OUTBOUND CALLS.....	9
CONFIGURING YOUR SIP ENDPOINT.....	9
PLACING OUTBOUND CALLS.....	9
REVISION HISTORY	10
<i>Version 1.0</i>	<i>10</i>
<i>Version 1.2</i>	<i>10</i>
<i>Version 1.3</i>	<i>10</i>

Introducing the SwitchLabs Service

The **SwitchLabs SIP Service** provides a way for companies to receive incoming calls to their PBX or other Session Initiation Protocol (SIP) devices for free and with little effort. SIP is a standard protocol that is commonly used for voice and video communications over the Internet and other networks¹.

The service is free for anyone to use, and includes optional fee-based features. For example, incoming calls to a regular telephone number are free, while toll-free numbers are billed monthly. Toll-free calls are billed on a per-minute basis.

Requirements

In order to use the service, you will need to sign up for an account. Once your account has been created and a telephone number assigned, you will need the following:

- Dedicated Internet connection
- SIP PBX or other SIP device(s)
- Access to configure SIP device/PBX
- Telephone, landline or mobile, to place test calls

A dedicated Internet connection is highly recommended in order to view call history and to retrieve voice messages. The type of SIP device you use will determine the types of calling features you will have. The Switchlabs product provides the ability to connect to SIP and PBX devices for features such as conferencing.

It is best to have a secondary telephone, such as a mobile phone, available in order to test your new telephone number. This will allow you to confirm that calling your new number will ring phones connected to your PBX. If you do not have a PBX, you can also use a SIP phone, as long as it has a static IP address. Your Internet service provider can assign you a static IP address if you do not have one.

¹ See Wikipedia, *Session Initiation Protocol*, http://en.wikipedia.org/wiki/Session_Initiation_Protocol (as of June 5, 2013, 16:35 GMT).

Quick Start Guide

This section helps you start using the SwitchLabs service as quickly as possible. It includes the following steps:

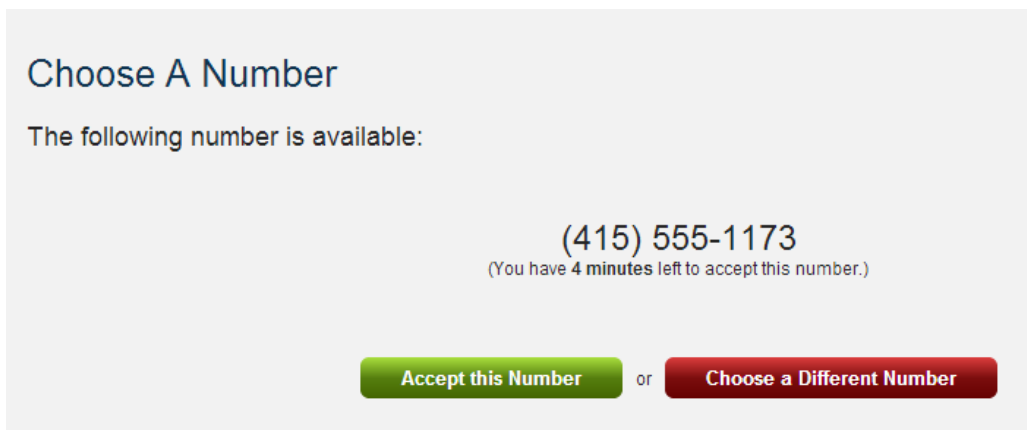
- Signing up for a SwitchLabs account
- Choosing a telephone number
- Assigning the number to a SIP endpoint
- Making a test call

Signing Up for a SwitchLabs Account

If you do not already have a SwitchLabs account, use your web browser to go to <http://www.switchlabs.com>. Click the “Sign Up Now” button.

Choosing a Telephone Number

After completing the form, you will be presented with a randomly selected telephone number. **This number is not active until you click Accept.** If the number presented is acceptable, click the “Accept this Number” button. If you would like a different telephone number, click the “Choose a Different Number” button:



Choose A Number

The following number is available:

(415) 555-1173
(You have 4 minutes left to accept this number.)

Accept this Number or Choose a Different Number

If you decided to choose a different number, you will be prompted to search for numbers based upon area code or city and state.



Request a New Number

Enter an area code or city and state to find a phone number:

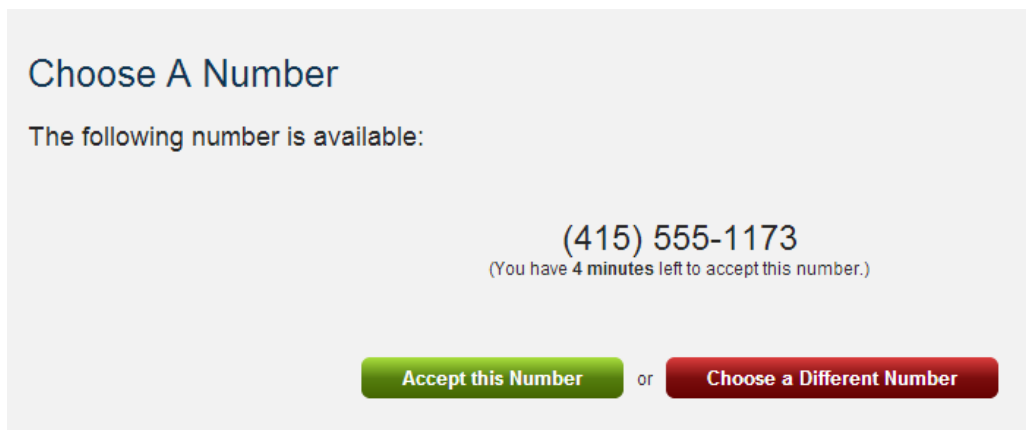
Area Code:

Or

City:

After entering your search criteria and clicking Search, a number will be presented that matches your criteria. This number will be available to you for 5 minutes. Clicking the “Accept This Number” button within 5 minutes will add this number to your assigned numbers. If you would like a different telephone number, click the “Choose a Different Number” button.

If the number presented is acceptable, click the “Accept this Number” button. If you would like a different telephone number, click the “Choose a Different Number” button:



Choose A Number

The following number is available:

(415) 555-1173
(You have 4 minutes left to accept this number.)

or

After selecting your number, the My Account page will open displaying all of your telephone numbers.

My Account

Daily Bugle Communications (Account #1234)

Name: Peter Parker
Address: 123 Any St
 New York City, NY 10004
 US
Phone: (220) 555-1212

Balance: \$49.99

Recent Calls

Date	From	To	Duration	Amount
08/12/2013 03:34 AM	+12205557232	+12205551876	00:00:18	\$0.01
08/12/2013 04:52 AM	+12205557232	+12205551876	00:01:10	\$0.00

Page 1 of 0

My Numbers

Edit	Number	City	Rate Center	SIP User	SIP Host	Dest. # (\$0.01/min)
	+12205551876	Waterford, CA	WTFR MAIN	bob	192.168.3.3	

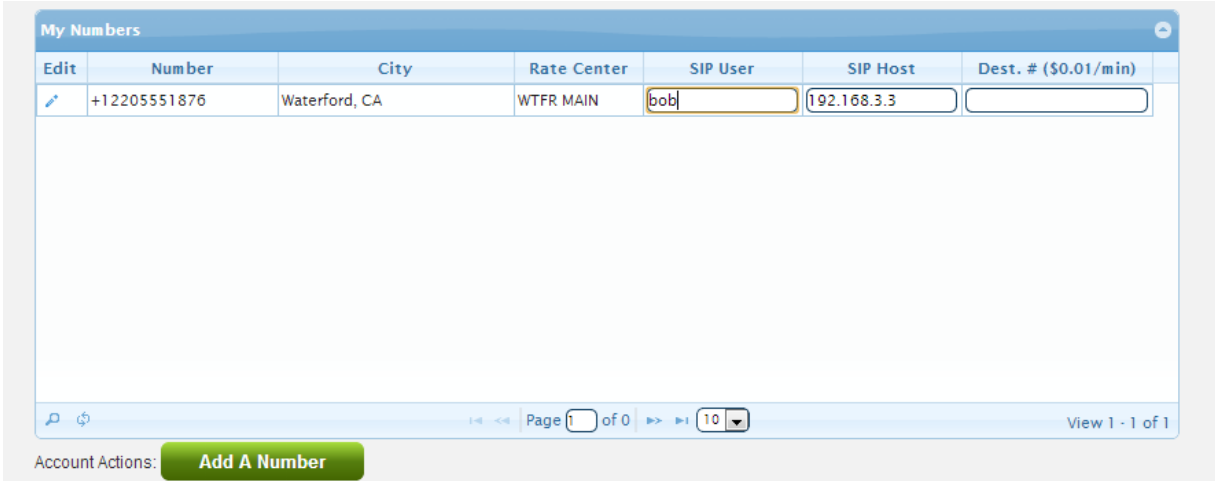
Page 1 of 0 10 View 1 - 1 of 1


Account Actions: Add A Number

Assigning a Number to a SIP Endpoint

You will need SIP endpoint information for your newly assigned number. Usually, a SIP address is expressed similarly to an email address: sip:username@hostname.com. If you do not have a SIP endpoint, you will need to either purchase a SIP phone or setup a PBX of your own. There are many open source PBX systems available such as Asterisk PBX, FreeSWITCH, and sipX. Setup instructions for each of these are available on their respective web sites.

Click the pencil (✎) icon next to the number you want to edit. The cursor will blink inside the SIP User column:



Edit	Number	City	Rate Center	SIP User	SIP Host	Dest. # (\$0.01/min)
	+12205551876	Waterford, CA	WTFR MAIN	<input type="text" value="bob"/>	<input type="text" value="192.168.3.3"/>	<input type="text"/>

Account Actions: [Add A Number](#)

Enter your SIP username in the SIP User field, and enter the hostname in the SIP Host field. When finished, press <Enter>. This will save the SIP endpoint for that telephone number. If you want to cancel this action, press <Esc>.

Making a Test Call

You are now ready to make a test call! Using your secondary telephone, simply dial your newly assigned SwitchLabs telephone number. If your SIP phone rings, your new telephone number is set up.

If, for some reason, your phone does not ring, confirm that you entered the correct SIP information in the previous step. Also, confirm that your SIP phone is on and, if you have a PBX, registered with that PBX.

If your newly assigned telephone number is not working correctly, you will hear a fast busy signal. To begin diagnosing the problem, make another call and time how long it takes from when you finish dialing your number until you hear the fast busy signal. If it is a short amount of time, less than 2 or 3 seconds, there is most likely a configuration issue with either your SIP PBX or other SIP device. If several seconds go by, it is most likely a problem connecting to your SIP endpoint over the Internet.

Forwarding Calls to an Existing Number

If you just want to forward all calls to an existing telephone number, follow the steps for entering your SIP information, and leave the SIP user and SIP host blank. Enter the destination telephone number in the Destination Number field instead. You will need a paid account with a sufficient balance in order for calls to be forwarded to the destination number. Calls forwarded will be billed at the normal outgoing rate (\$0.01/minute).

We hope your configuration and setup is quick and easy. If you need assistance, we can be reached via the Support section of our web site:

<http://www.switchlabs.com/support/>

Enjoy your new telephone service!

Making Outbound Calls

If you have signed up for a paid account, you will also be able to place calls to anywhere in the USA and Canada for \$0.01/minute. Once you have created an account and have pre-paid your initial balance, you will be able to place calls through your SwitchLabs account.

Configuring Your SIP Endpoint

When configuring your SIP endpoint for outbound calls, you will need to enter the following hostname when prompted for the outgoing (or SIP trunk) information:

sip-out.switchlabs.com

Some SIP endpoints will ask how many calls can be active at a time. Your account can support any number of simultaneous calls provided there is a sufficient balance to support the minutes generated. We may change this in the future based upon usage trends and other factors.

Finally, be sure to enter 1 of your new SwitchLabs telephone numbers for the caller ID. Without it, we will not be able to properly link calls to your account. Also, be sure the SIP endpoint has the same IP address associated with that telephone number. We require this to prevent fraud so that others won't be able to make free calls using your account.

Placing Outbound Calls

You are now ready to place calls! Try calling a telephone number that you know will work. If the call does not go through, first check your account balance to make sure you are still able to place calls. Next, be sure you have entered the correct SIP hostname above.

Common causes of call failures are firewalls. Make sure your firewall is not blocking SIP or RTP traffic to or from your SIP endpoint. SIP uses port 5060, and RTP typically uses ports 5000 and up.

Also, be sure the IP address you entered for this telephone number matches the endpoint's IP address. We will reject the call if we think someone else is placing calls using your account.

Revision History

Version 1.0

June, 2013

The initial release of the User Manual.

Version 1.2

July, 2013

Added outbound calling.

Version 1.3

August, 2013

Added forwarding to destination phone numbers.
Updated ability to use full SIP hostnames in addition to IP addresses.