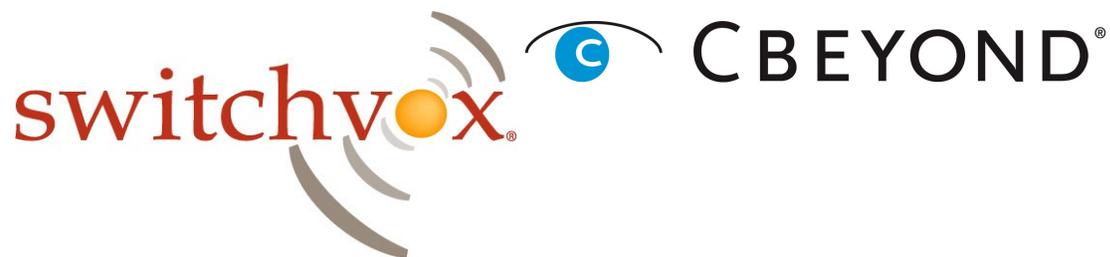


Configuration guide for Switchvox and Cbeyond.



This document will guide a Switchvox administrator through configuring the system to utilize Cbeyond's BeyondVoice with SIPconnect service.

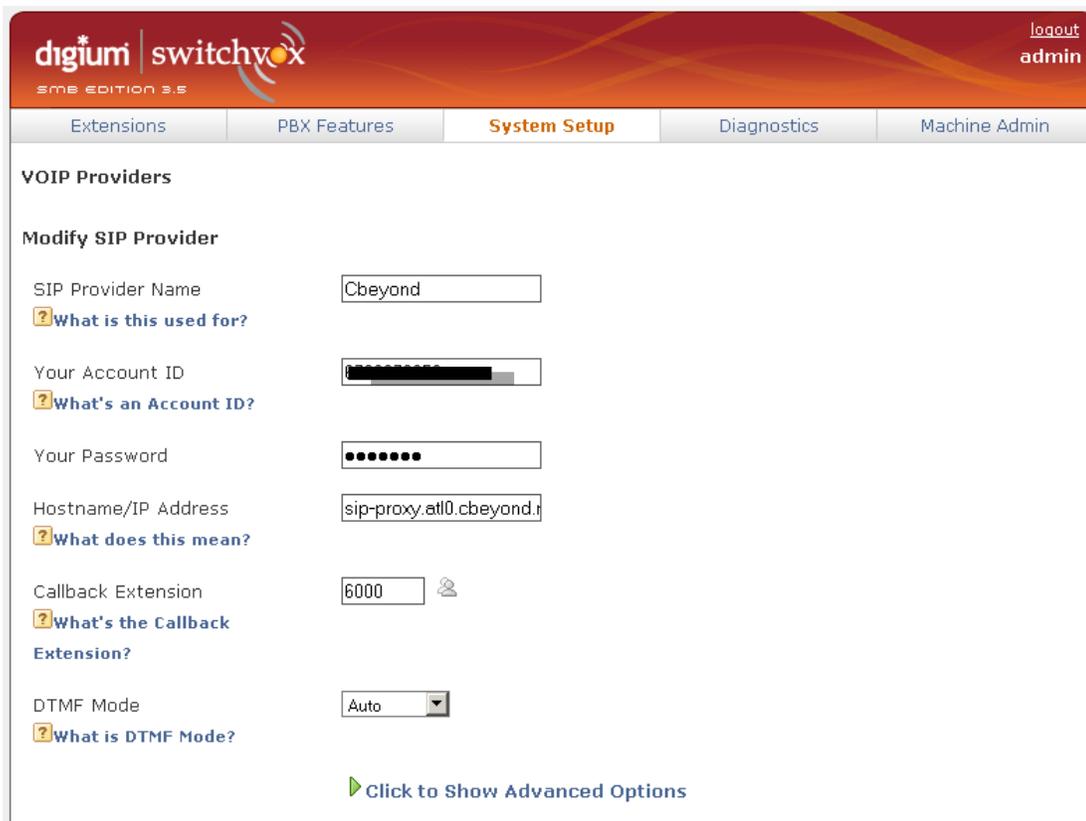
After you have the BeyondVoice with SIPconnect account information from Cbeyond, you will need to input this information into your Switchvox system through the admin web interface. The SIPconnect settings are found on the Cbeyond Install Profile, which is provided to you by your Cbeyond Service Coordinator.



Once logged into the Admin interface of the Switchvox server follow these steps to configure Cbeyond:

Creating a SIP Account in Switchvox

- * Navigate to System Setup > VOIP Providers
- * Under “Add New” make sure the drop down box is selected for SIP provider and click the “Go” button and you will be presented with the following screen:



The screenshot shows the 'Modify SIP Provider' configuration page in the Switchvox Admin interface. The page has a red header with the 'digium switchvox' logo and 'SMB EDITION 3.5' text. The 'System Setup' tab is selected. The configuration fields are as follows:

Field	Value
SIP Provider Name	Cbeyond
Your Account ID	[Redacted]
Your Password	[Redacted]
Hostname/IP Address	sip-proxy.atl0.cbeyond.t
Callback Extension	6000
DTMF Mode	Auto

At the bottom of the form, there is a link: [Click to Show Advanced Options](#)

- * **SIP Provider Name:** should be something logical that identifies this trunk as Cbeyond (i.e. “Cbeyond”), since you will be using that name later to configure calling rules.

- * **Your Account ID:** is the username Cbeyond provided. Cbeyond refers to this as the PBX Username, and it can be found in the SIPconnect settings section of the Cbeyond Install profile.
- * **Your Password:** the password for digest challenge Cbeyond provided. Cbeyond refers to this as the PBX Password, and it can be found in the SIPconnect settings section of the Cbeyond install profile.
- * **Hostname/IP Address:** the FQDN (sipconnect.[*mkt*]0.cbeyond.net) for the proxy server Cbeyond provided. Cbeyond refers to this as the SIPconnect Domain, and it can be found in the SIPconnect Settings section of the Install Profile. Note that the SIPconnect Domain has a zero in it after the three characters that represent the market (versus the letter 'O').
- * **Callback Extension:** The default extension to ring when receiving a call over this provider. (Operator extension or IVR). This is where you tell the DID where to terminate on the Line side, either to the IVR/AA or to an Extension directly.
- * **DTMF Mode:** The DTMF mode to use when sending and receiving DTMF tones to and from Cbeyond. This should be set to 'Auto'.

Now click on the “**Click to Show Advanced Options**”, additional options will now appear.



██████████

Caller ID Number	<input type="text"/>
 What is this?	
SIP Port	<input type="text" value="5060"/>
 What is this for?	
SIP Expiry (in seconds)	<input type="text" value="300"/>
 What is this for?	
Proxy Host	<input type="text" value="sip-proxy.atl0.cbeyond.t"/>
 What is this for?	
Authentication User	<input type="text" value="6783972356"/>
 What is this for?	

- * **Sip Expiry:** It is important that this is changed from the default value to ‘300’.



- * **Proxy Host:** Put the outbound proxy host that Cbeyond provides in this field. sip-proxy.[mkt]0.cbeyond.net where it is identical to the SIPconnect Domain with the exception that the first section before the period is “sip-proxy” rather than “sipconnect”. It is the Fully Qualified Domain Name for the appropriate Cbeyond Session Border Controller.

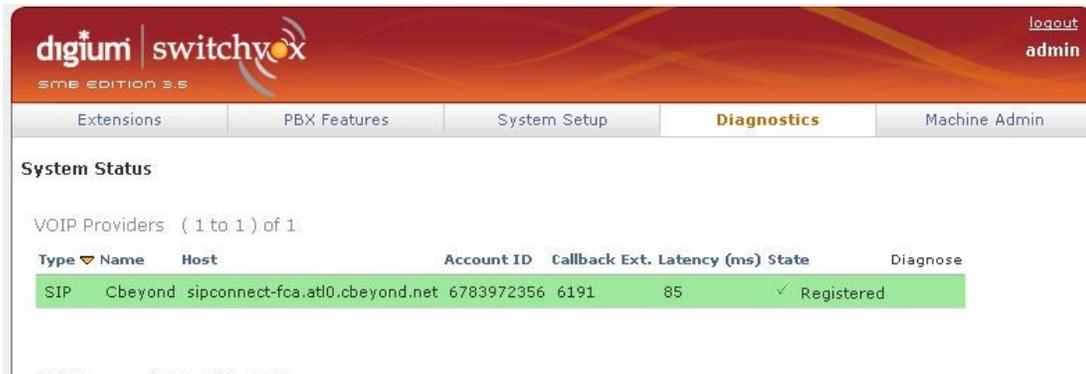
- * **Authentication User:** *** What is this set to*****

Provider Codecs	<input checked="" type="checkbox"/> ULAW(Default)	<input type="checkbox"/> ALAW(Default)	<input type="checkbox"/> GSM
? Which codecs should I use?	<input type="checkbox"/> G726	<input type="checkbox"/> ADPCM	<input type="checkbox"/> LPC10
	<input type="checkbox"/> SPEEX	<input type="checkbox"/> ILBC	<input type="checkbox"/> G729
Qualify Hosts	<input checked="" type="radio"/> Yes <input type="radio"/> No		
? What does this mean?			

- * **Provider Codec's:** Cbeyond currently supports G.711 ulaw.
- * **Qualify Hosts:** This field is optional; enabling this option allows you to view your latency to Cbeyond.
- * All other fields in this section will fill in automatically; don't worry if some are blank as they are not required.
- * Click the “**Modify SIP Provider**” button, your changes are now saved and the Provider should be successfully registered.

Verifying the SIP Connection

- * Navigate to “Diagnostics > System Status”, this page shows the status of all VOIP peers.



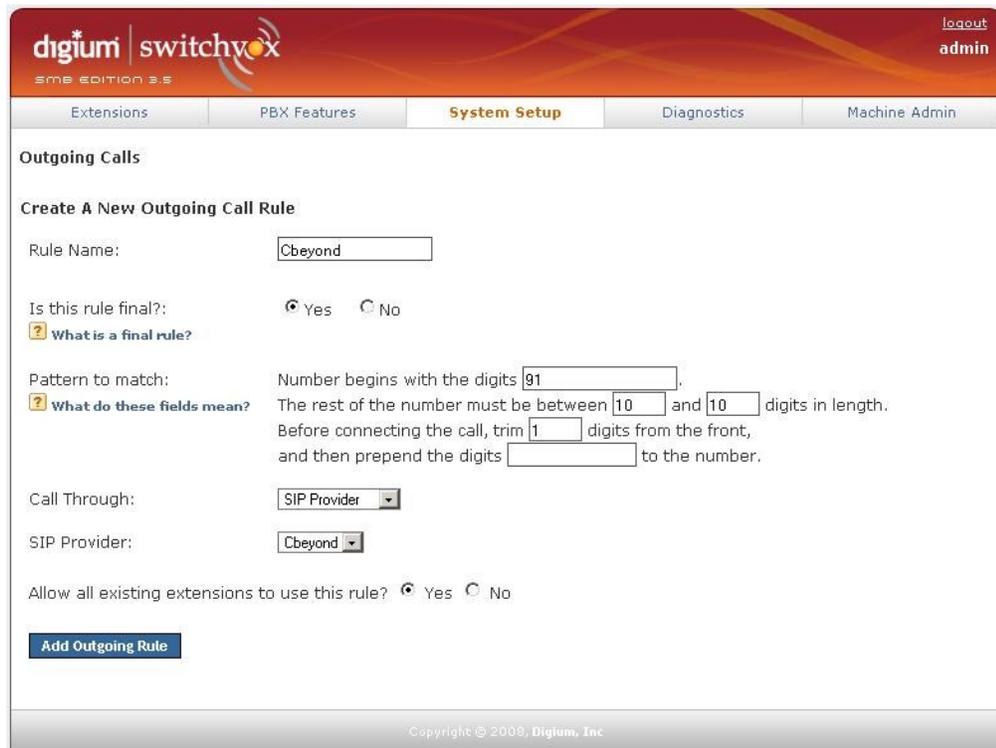
Type	Name	Host	Account ID	Callback Ext.	Latency (ms)	State	Diagnose
SIP	Cbeyond	sipconnect-fca.atl0.cbeyond.net	6783972356	6191	85	✓ Registered	

- * The above picture shows Switchvox successfully registered to Cbeyond. If the VoIP Provider is highlighted in green and the state is “Registered”, Switchvox is registered and authenticated with Cbeyond.
- * In the event there is an error registering to Cbeyond, the VoIP Provider will be highlighted in red and you will have the option to diagnose the problem with the built in mechanism.

Creating Outgoing Call Rules in Switchvox

The next step is to setup calling rules to determine which calls go through Cbeyond; Here is a standard example.

- * Navigate to “System Setup > Outgoing Calls” page and click the “Add New Outgoing Rule” button



The screenshot shows the 'System Setup' page for 'Outgoing Calls' in Switchvox. The page title is 'Create A New Outgoing Call Rule'. The form fields are as follows:

- Rule Name:
- Is this rule final?: Yes No
- Pattern to match: . The rest of the number must be between and digits in length. Before connecting the call, trim digits from the front, and then prepend the digits to the number.
- Call Through:
- SIP Provider:
- Allow all existing extensions to use this rule? Yes No

At the bottom of the form is a blue button labeled 'Add Outgoing Rule'. The footer of the page reads 'Copyright © 2008, Digium, Inc'.

These are examples and your rules may vary based upon requirements.

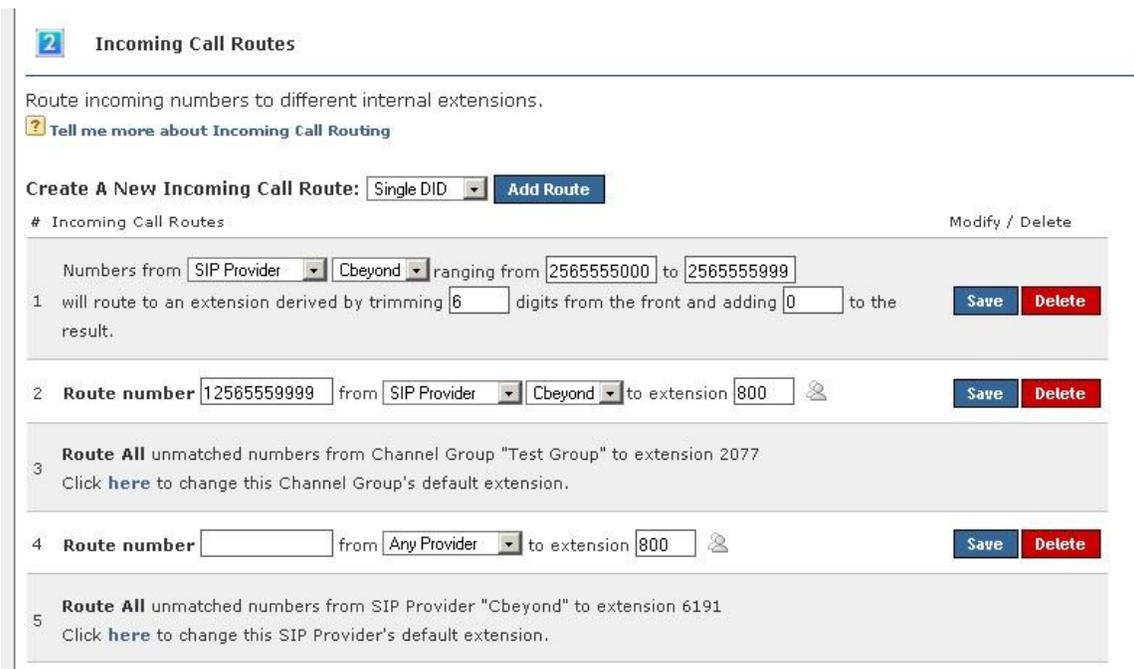
- * The rule shown in the picture above will take a number beginning with 91 and , truncate the 9 and send the call to Cbeyond. This would be an example of dialing a long distance call beginning with a 9.



Creating Incoming Call Rules in Switchvox

The next step is to determine how calls received through Cbeyond are routed in Switchvox.

- Navigate to “System Setup >Incoming Calls” page and click the “Add Route” button



2 Incoming Call Routes

Route incoming numbers to different internal extensions.
[Tell me more about Incoming Call Routing](#)

Create A New Incoming Call Route:

Incoming Call Routes Modify / Delete

1	Numbers from <input type="text" value="SIP Provider"/> <input type="text" value="Cbeyond"/> ranging from <input type="text" value="2565555000"/> to <input type="text" value="2565555999"/> will route to an extension derived by trimming <input type="text" value="6"/> digits from the front and adding <input type="text" value="0"/> to the result.	<input type="button" value="Save"/> <input type="button" value="Delete"/>
2	Route number <input type="text" value="12565559999"/> from <input type="text" value="SIP Provider"/> <input type="text" value="Cbeyond"/> to extension <input type="text" value="800"/>	<input type="button" value="Save"/> <input type="button" value="Delete"/>
3	Route All unmatched numbers from Channel Group "Test Group" to extension 2077 Click here to change this Channel Group's default extension.	
4	Route number <input type="text"/> from <input type="text" value="Any Provider"/> to extension <input type="text" value="800"/>	<input type="button" value="Save"/> <input type="button" value="Delete"/>
5	Route All unmatched numbers from SIP Provider "Cbeyond" to extension 6191 Click here to change this SIP Provider's default extension.	

* These are examples and your rules may vary based upon requirements.

- * Rule number 1 will match a range of DID's (Direct Inward Dial numbers) and send them to the matching extension on the system.
- * Rule number 2 will match one DID and send it to an IVR. (e.g. the main company number)



Optional Network Configuration

If your Switchvox PBX is behind a router that performs NAT and/or there will be phones connected to Switchvox from outside the network, you will need to enable NAT port forwarding in Switchvox.

- * Navigate to “Machine Admin -> Network Settings”
- * Make sure the yes is selected next to “Allow Nat Port Forwarding”



Switchvox is now fully configured for Cbeyond’s BeyondVoice with SIPconnect. If you have any questions please contact your Digium reseller or if you have a telephone support subscription you can contact Digium technical support directly at Digium technical support at (256) 428-6000.