

Configuration guide for Switchvox and Covad.



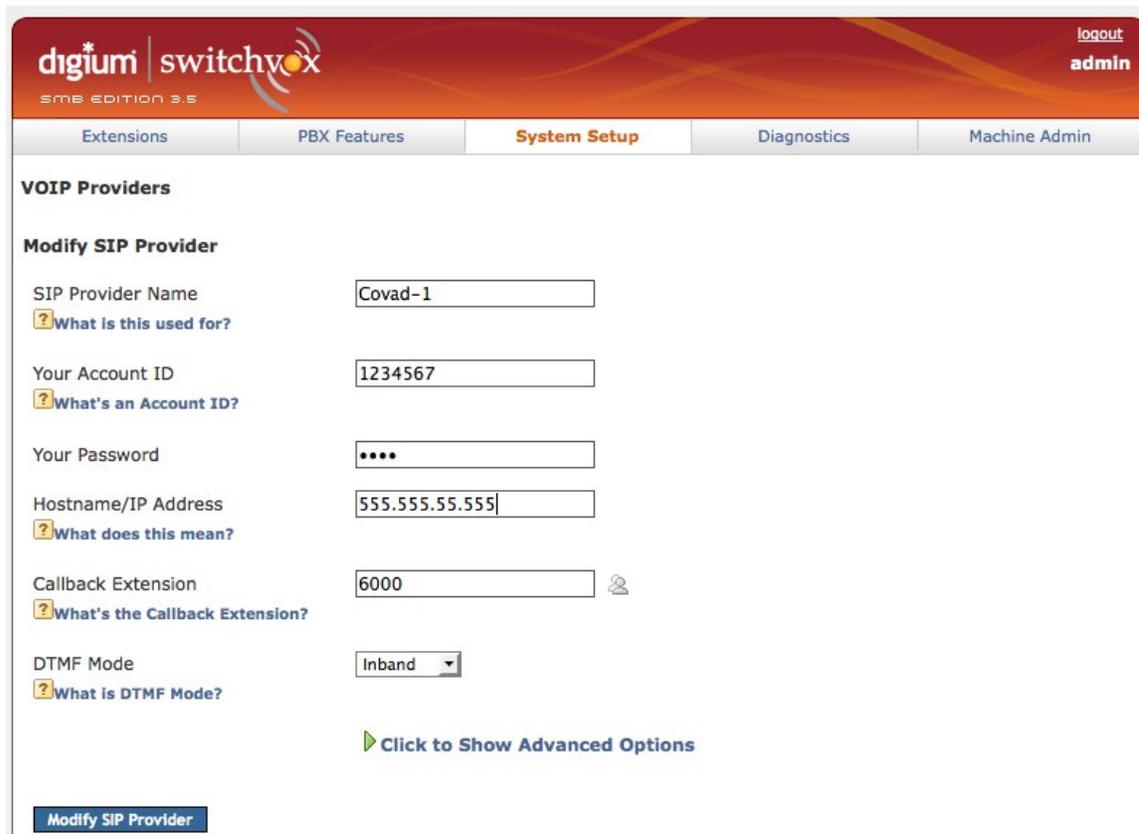
This document will guide a Switchvox administrator through configuring the system to utilize Covad Integrated Acces.

After you have the Covad Integrated Access account information from Covad, you will need to input this information into your Switchvox system through the admin web interface. The Covad SIP Settings are found on the Order worksheet, which is provided to you by Covad at the scheduled time of the install.



Once logged into your Switchvox server follow these steps to configure Covad:

- * Navigate to System Setup > VOIP Providers
- * Under “Add New” make sure the drop down box is selected for SIP provider, click “Go” and you will be presented with the following screen: (Note: For each DID, you will have to do ADD NEW to configure the DID to register with the Covad IA service.)



The screenshot shows the 'digium switchvox' admin interface, 'SMB EDITION 3.5', with the user logged in as 'admin'. The 'System Setup' tab is active, and the 'VOIP Providers' section is selected. The 'Modify SIP Provider' form contains the following fields:

- SIP Provider Name: Covad-1
- Your Account ID: 1234567
- Your Password: [masked]
- Hostname/IP Address: 555.555.55.555
- Callback Extension: 6000
- DTMF Mode: Inband

There are help links for each field. A 'Click to Show Advanced Options' link is visible below the form. A 'Modify SIP Provider' button is at the bottom left.

- * **SIP Provider Name:** should be something logical that identifies this trunk as Covad (i.e. “Covad-1”), since you will be using that name later to configure calling rules. If you have more than one DID from Covad, you can name them Covad-1, Covad-2, Covad-3, etc. as each new entry requires a unique logical identifier.)
- * **Your Account ID:** is one of the DID/s that Covad provided.
- * **Your Password:** the password for digest challenge which is the admin reg code Covad provided.
- * **Hostname/IP Address:** Covad will provide you with a Fully Qualified Domain Name as the proxy to Register with.

- * **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 Covad. This should be set to 'Inband'.

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

Host Type ? What is Host Type?	Provider ▾
Supports Changing Caller ID ? Why should I not change this?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Caller ID Name ? What is Caller ID Name?	Test User
Caller ID Number ? What is this?	55555555
SIP Port ? What is this for?	5060
SIP Expiry (in seconds) ? What is this for?	120
Proxy Host ? What is this for?	123.456.789
Authentication User ? What is this for?	1234
Always Trust this Provider ? Do I need this?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Always Send Early Media ? What is this for?	<input type="radio"/> Yes <input checked="" type="radio"/> No

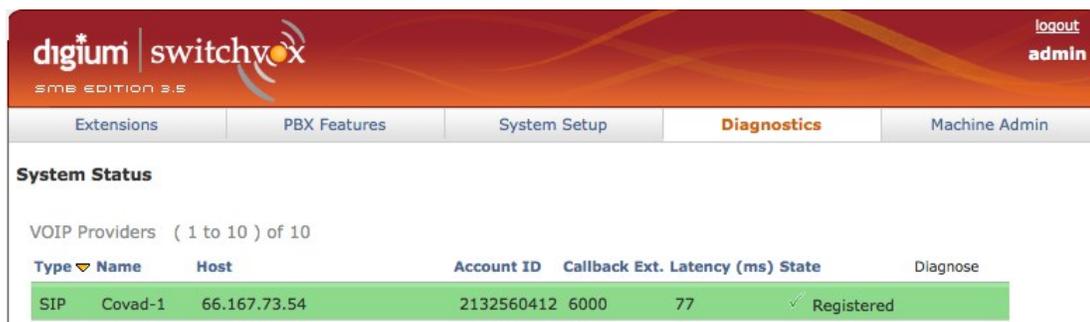
- * **Supports Changing Caller ID:** Should be set to 'no', if there is a need to change outbound Caller ID, it has to be set to a DID that is registered with Covad.
- * **Always Trust this Provider:** Should be set to 'yes' to allow inbound calls.
- * **Host Type:** set to Provider.
- * **Proxy Host:** Put the proxy host that Covad provides in this field. This is the same FQDN as referenced in the above Hostname/IP Address field.

- * **Authorization User:** This field should contain the “REG CODE PASSWORD” that Covad provides.

Note: Be sure to update this field as it by default uses the “Your Account ID” which is provisioned above as the DID that’s being registered, this has to be manually updated to reflect the reg code password.

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:** Covad currently supports G.711 ulaw.
- * **Qualify Hosts:** This field is optional; enabling this option allows you to view your latency to Covad.
- * All other fields in this section will fill in automatically; don’t worry if some are blank as they are not required.
- * Click “Modify SIP Provider”, your changes are now saved and the Provider should be successfully registered.
- * Navigate to “Diagnostics > System Status”, this page shows the status of all VOIP peers.



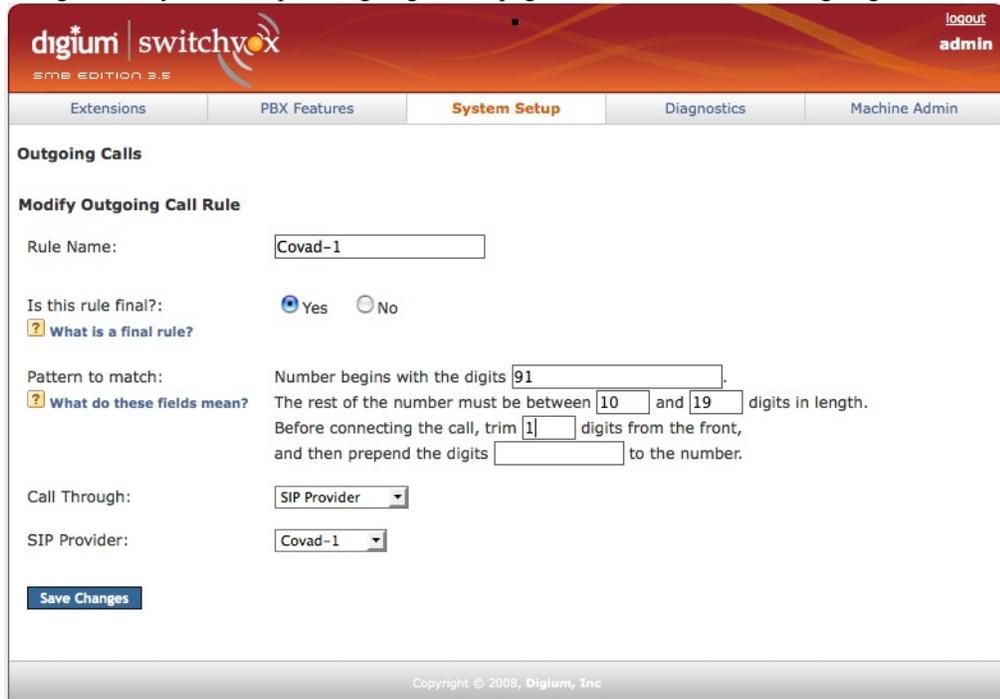
Type	Name	Host	Account ID	Callback Ext.	Latency (ms)	State	Diagnose
SIP	Covad-1	66.167.73.54	2132560412	6000	77	✓ Registered	

- * The above picture shows Switchvox successfully registered to Covad. If the VoIP Provider is highlighted in green and the state is “Registered”, Switchvox is registered and authenticated with Covad.

- * In the event there is an error registering to Covad, the VoIP Provider will be highlighted in red and you will have the option to diagnose the problem with the built in mechanism.

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

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



The screenshot shows the 'System Setup' page for 'Outgoing Calls'. The 'Modify Outgoing Call Rule' form is filled with the following information:

- Rule Name:** Covad-1
- Is this rule final?:** Yes (selected), No
- Pattern to match:** Number begins with the digits 91. The rest of the number must be between 10 and 19 digits in length. Before connecting the call, trim 1 digits from the front, and then prepend the digits to the number.
- Call Through:** SIP Provider
- SIP Provider:** Covad-1

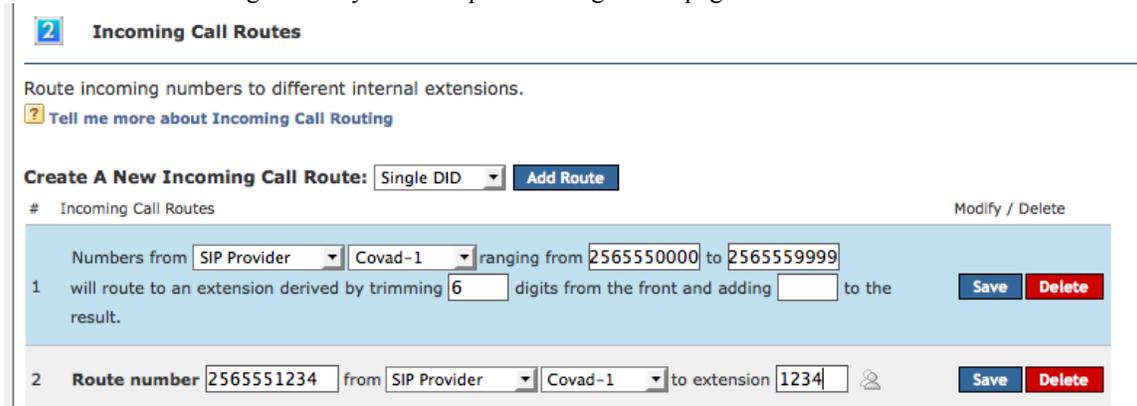
A 'Save Changes' button is located at the bottom of the form. The footer of the page reads 'Copyright © 2008, Digium, Inc'.

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 Covad. This would be an example of dialing a long distance call beginning with a 9.

Now that outgoing calls route correctly, you will need to setup where incoming calls are routed.

• Navigate to “System Setup >Incoming Calls” page and click “Add Route”



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="Covad-1"/> ranging from <input type="text" value="2565550000"/> to <input type="text" value="2565559999"/> will route to an extension derived by trimming <input type="text" value="6"/> digits from the front and adding <input type="text"/> to the result.	<input type="button" value="Save"/> <input type="button" value="Delete"/>
2	Route number <input type="text" value="2565551234"/> from <input type="text" value="SIP Provider"/> <input type="text" value="Covad-1"/> to extension <input type="text" value="1234"/>	<input type="button" value="Save"/> <input type="button" value="Delete"/>

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

- * Rule number 1 will match a range of DID's 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)

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 need to set an option in Switchvox.

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



Allow Nat Yes No

Port Forwarding

 What does this mean?

Switchvox is now fully configured for Covad’s Integrated Access. If you have any questions please contact Digium technical support at +1-256-428-6000