

Installation manual for using 3CX with MachCloud



Title	Installation manual for using 3CX with MachCloud
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Introduction

This installation manual will help to setup a basic 3CX PBX configuration with a MachCloud provided SIP trunk.

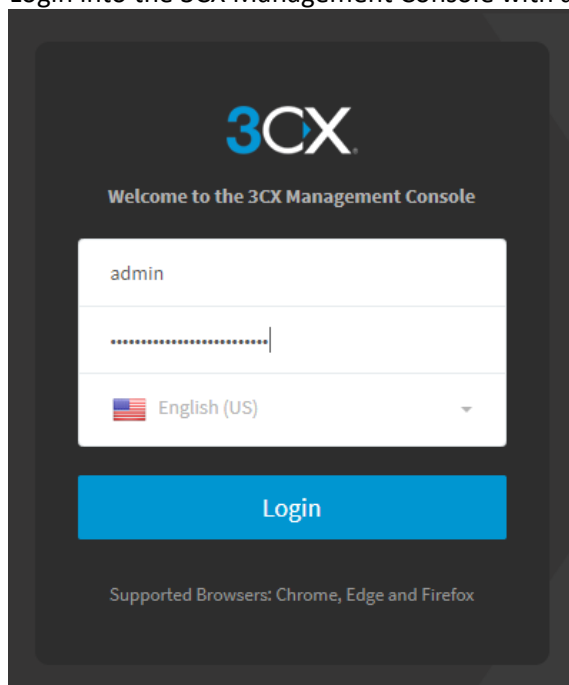
This manual assumes that the following is available.

- An operational 3CX Phone System version 16 (or higher) with admin rights.
- An MachCloud SIP trunk that has at least one phone number assigned to it.

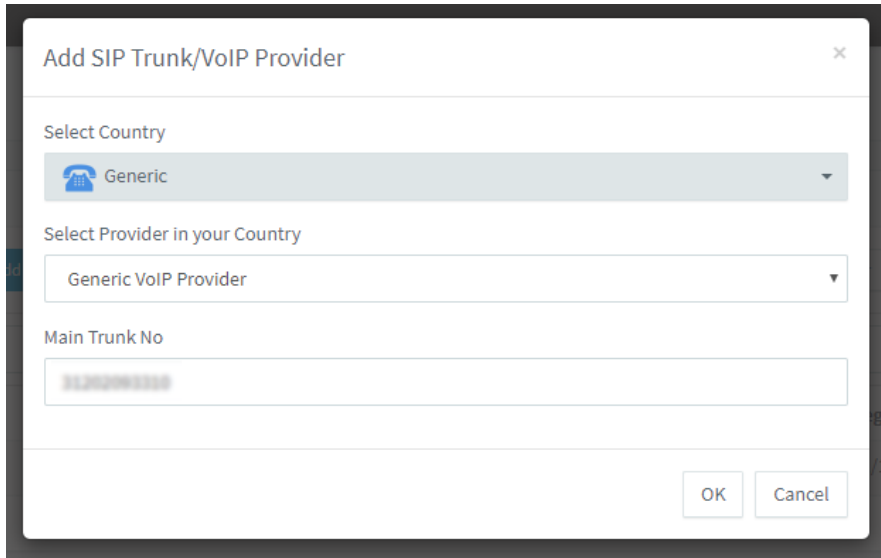
Installation steps

Follow the steps to add a MachCloud Trunk to the 3CX PBX.

1. Login into the 3CX Management Console with administrator privileges.



2. Open the SIP Trunks section and click on 'Add SIP Trunk'. Choose in the Country drop down box for 'Generic' and select in Provider in your Country for 'Generic VoIP Provider'.

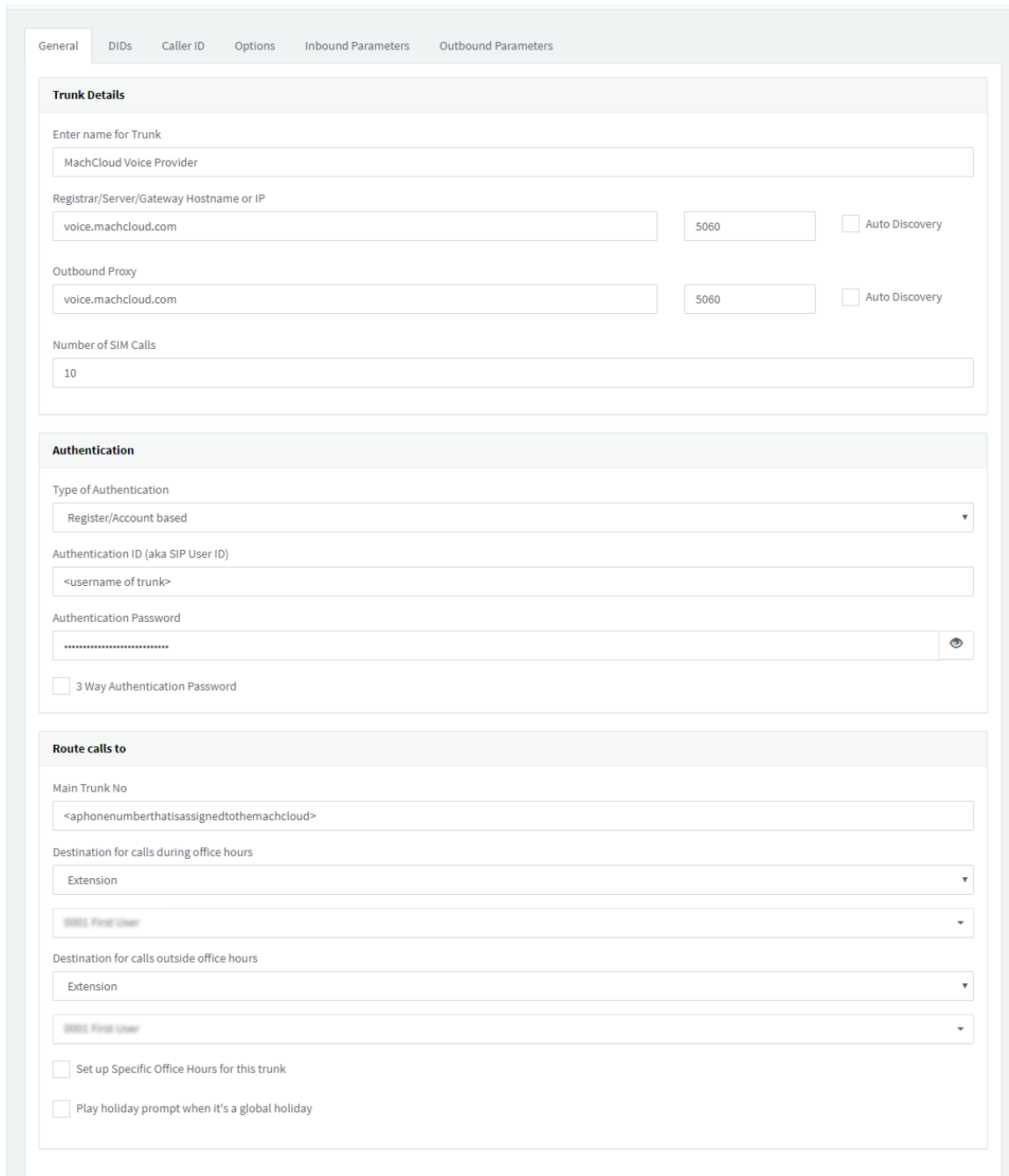


Enter a known trunk phone number to use as default main phone number. Click on OK to continue.

3. Continue the trunk setup by fill out the other fields of the SIP trunk.

Check the following tabs and make changes where it is needed.

General



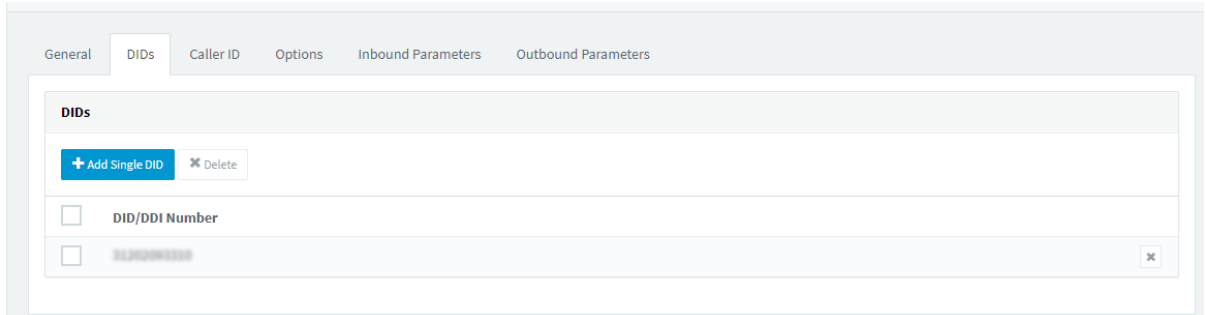
The screenshot shows the 'General' tab of a SIP trunk configuration page. It is divided into three main sections:

- Trunk Details:**
 - Enter name for Trunk: MachCloud Voice Provider
 - Registrar/Server/Gateway Hostname or IP: voice.machcloud.com, Port: 5060, Auto Discovery
 - Outbound Proxy: voice.machcloud.com, Port: 5060, Auto Discovery
 - Number of SIM Calls: 10
- Authentication:**
 - Type of Authentication: Register/Account based
 - Authentication ID (aka SIP User ID): <username of trunk>
 - Authentication Password: [Redacted]
 - 3 Way Authentication Password
- Route calls to:**
 - Main Trunk No: <a phonenumber that is assigned to the machcloud>
 - Destination for calls during office hours: Extension, [Redacted]
 - Destination for calls outside office hours: Extension, [Redacted]
 - Set up Specific Office Hours for this trunk
 - Play holiday prompt when it's a global holiday

- The 'Number of SIM(ultaneous) Calls' is variable. Increase this value if needed.
- Replace the Authentication ID/User ID with the correct username.
- Enter a assigned phone number to handle as main phone number. This number should be E.164 formatted (without leading 00 or + sign). Example 31000000001

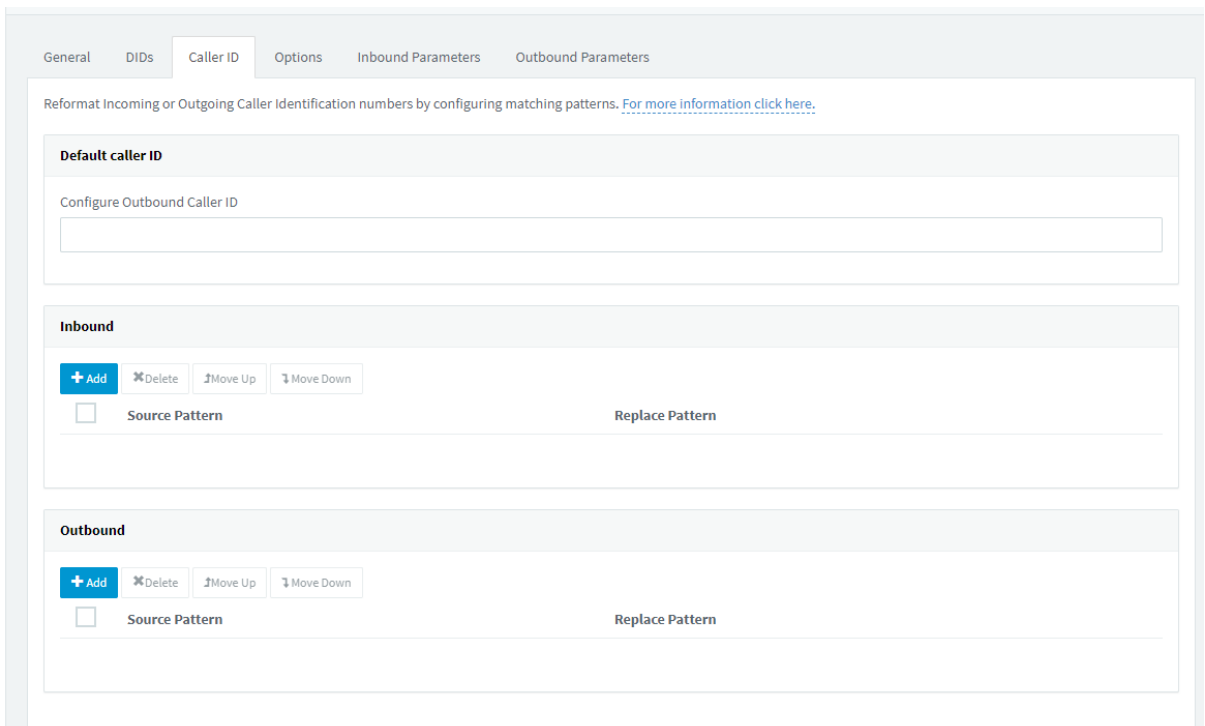
- Select an existing Extension for routing calls to.

DIDs



- Enter phone number(s) that are assigned to the MachCloud trunk

Caller ID



- *No configuration needed.*

Options

General DIDs Caller ID **Options** Inbound Parameters Outbound Parameters

Call options

Allow inbound calls

Allow outbound calls

Disallow video calls

Advanced

PBX Delivers Audio

Supports Re-Invite

Support Replaces

Put Public IP in SIP VIA Header

Alternative Proxy

SRTP

Re-Register Timeout

180

Select which IP to use in 'Contact' (SIP) and 'Connection'(SDP) fields

Use Default Settings

Transport Protocol

UDP

IP Mode

IPV4

Codec Priority

+ Add codecs ↑ Move Up ↓ Move Down

G.711 A-law	x
G.711 U-law	x
G729	x

- Disallow video calls is optional to enable or disabled.
- Transport Protocol can be set to 'UDP' or keep it on Any.
- Set the IP Mode to IPv4 is preferred.
- Codec Priority should be: G.711 A-law, G.711 U-law, G729

Inbound Parameters

General DIDs Caller ID Options **Inbound Parameters** Outbound Parameters

Caller Number/Name Field Mapping:

Review the SIP header of the INVITE and specify where the following values should be present within the INVITE:

"CalledNum" number that has been dialed (default: To->user)	To : User Part
"CallerName" caller's name (default: From->display name)	From : User Part
"CallerNum" caller's number (default: From->user)	From : User Part

Call Source Identification

Configure this option only when the SIP Trunk is IP based (peering), or does not support automatic inbound call detection. If you have multiple trunks from the same vendor or issues with incoming calls, you might need to toggle this option (on/off) and see what configuration works best for this SIP Trunk

Request Line URI : User Part
"EnforcedOriginatorCallerID" To be used when you want to send Anonymous via PAI

Use both "Call Source Identification" rules and "Caller Number/Name -> CalledNum" field mappings (Note: Disables catch all routing capability)

- Call source identification is disabled.

Outbound Parameters

General DIDs Caller ID Options Inbound Parameters **Outbound Parameters**

Outbound Parameters

Assign SIP header fields to 3CX Call Variables. Requires advanced SIP knowledge. Misconfiguration will cause your PBX to malfunction

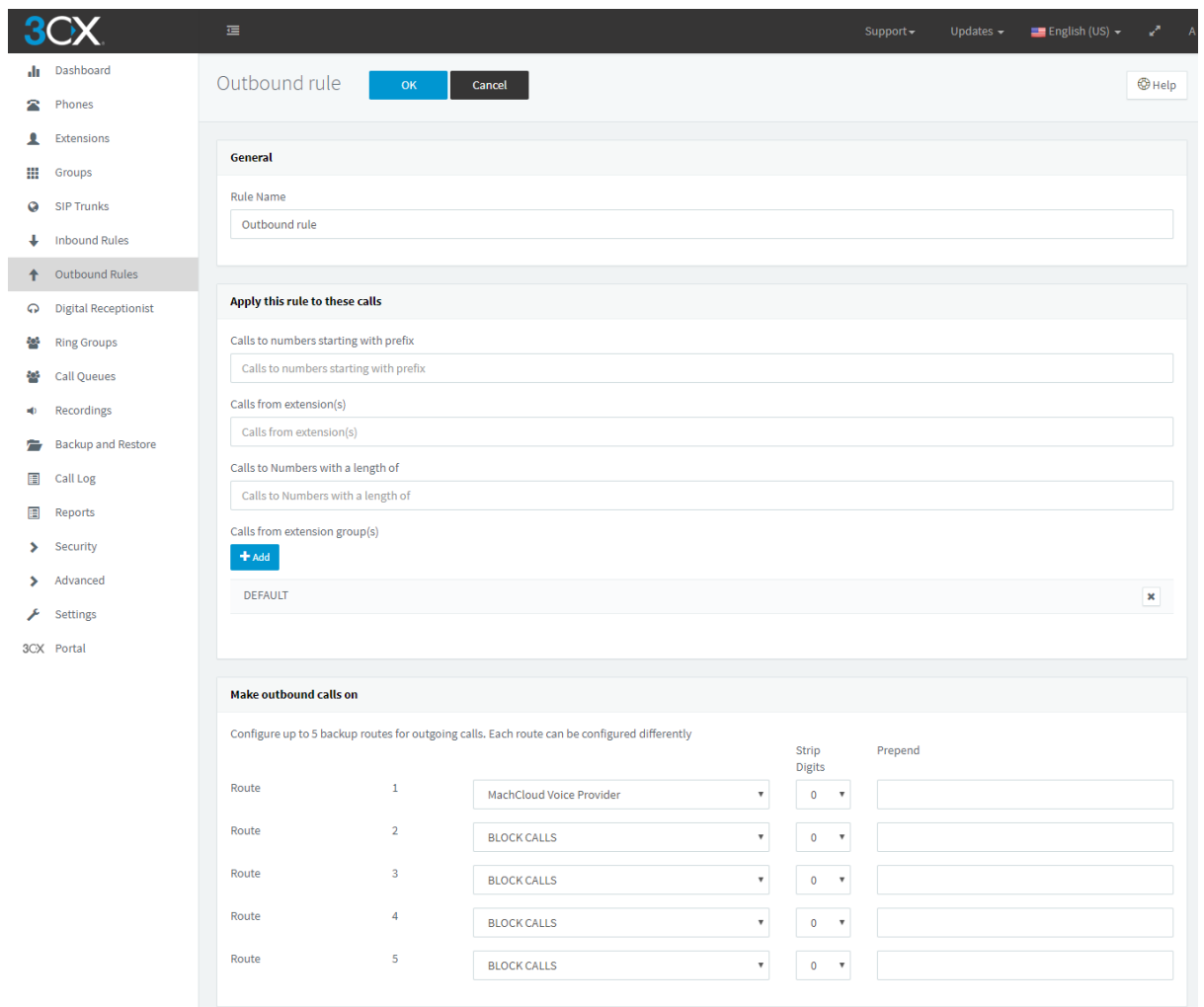
SIP Field	Variable	Custom Value
Request Line URI : User Part	"CalledNum" number that has been dialed (defa	
Request Line URI : Host Part	"GWHostPort" gateway/provider host/port	
Contact : User Part	"AuthID" authentication	
Contact : Host Part	"ContactUri" usually, content of Contact field	
To : Display Name	"CalledName" name that has been dialed (defau	
To : User Part	"CalledNum" number that has been dialed (defa	
To : Host Part	"GWHostPort" gateway/provider host/port	
From : Display Name	"OriginatorCallerID" Original Caller number will I	
From : User Part	"OriginatorCallerID" Original Caller number will I	
From : Host Part	"GWHostPort" gateway/provider host/port	
User Agent : Text String	Leave default value	
Remote Party ID - Called Party : Display Name	Leave default value	
Remote Party ID - Called Party : User Part	Leave default value	
Remote Party ID - Called Party : Host Part	Leave default value	
Remote Party ID - Calling Party : Display Name	Leave default value	
Remote Party ID - Calling Party : User Part	Leave default value	
Remote Party ID - Calling Party : Host Part	Leave default value	
P-Asserted Identity : Display Name	Leave default value	
P-Asserted Identity : User Part	Leave default value	
P-Asserted Identity : Host Part	Leave default value	
P-Preferred Identity : Display Name	Leave default value	
P-Preferred Identity : User Part	Leave default value	
P-Preferred Identity : Host Part	Leave default value	
P-Called-Party-ID : Display Name	Leave default value	
P-Called-Party-ID : User Part	Leave default value	
P-Called-Party-ID : Host Part	Leave default value	

- Contact : User Part → "AuthID"authentication
- From : Display Name → "OriginatorCallerID" Original Caller number will be sent
- From : User Part → "OriginatorCallerID" Original Caller number will be sent
- Remote Party ID - Calling Party : Display Name → Leave default value
- Remote Party ID - Calling Party : User Part → Leave default value


- Remote Party ID - Calling Party : Host Part → Leave default value

Click on OK to save the settings for the trunk.

4. Add an outbound rule to route calls via the MachCloud trunk.



Click on OK to save the outbound rule.

5. Check if the trunk is operational. This should be indicated by a green  symbol.

Trouble shooting steps

Trunk will not become operational

- This could help to restart the whole 3CX PBX the make sure that changes are applied.

Inbound calls will be ended after 30 seconds.

- Check the value of 'DEFAULT_CONFIGURED_PUBLIC_IP' in 'Settings/Network'. Adjust the value if it is not right.

Can make outbound calls

- Make sure that there the trunk is online. On the SIP Trunks section this should be indicated by a green symbol. If it is red, please check the config of the trunk. Make sure that the username and password are correct.