



Configuration Guide

©Deerfield Communications
4241 US 27 South
Gaylord, MI 49735
Email: sales@deerfield.com
Phone: 989.732.8856
Skype: skype.deerfield

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1.0 Overview

This document presents a complete guide for integrating VoiceGear Skype gateways with 3CX phone systems running version 7.x of 3CX software. The document assumes reader familiarity with both VoiceGear gateways and 3CX PBX. For more details on VoiceGear gateway configuration, please refer to the VoiceGear SkyBridge or VoiceGear Connect user guides available at www.deerfield.net.

1.1 Setting Up 3CX IP PBX

To get started with your 3CX PBX please follow the steps outlined below.

1. Install and launch 3CX on a Windows computer and make sure it is connected to the same LAN as VoiceGear gateway. Make sure there is no firewall between the two systems.
2. Run the 3CX management console by selecting **3CX Phone system->ManagementConsole** option from the start menu and login with administrator credentials.
3. Make sure the system running 3CX software has an assigned static IP or a DHCP assigned IP that does not change.
4. Set up a new VoIP provider and an outbound route to enable the 3CX system to talk to VoiceGear gateway. For more information, please refer to section 2.1.

1.2 Setting Up VoiceGear Gateway

To get started with VoiceGear, please follow steps outlined below.

1. Connect the supplied power brick/cord and network cable to your new VoiceGear gateway.
2. Connect monitor and keyboard to the gateway and use the following username and password to access the **administration console**:
Username: root
Password: vgcroot123

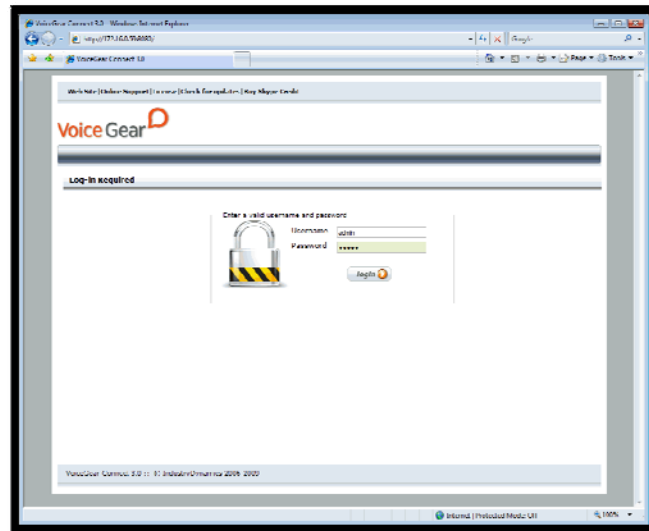
Using the console, configure networking settings and set a static IP for the gateway.

3. Open the **VoiceGear web configuration interface** in a web browser using the static IP you have assigned and TCP **port 8080**. For example, if the static IP assigned is 172.16.0.59, point your browser to <http://172.16.0.59:8080>

4. Once the **web configuration** interface has been loaded, please login with the following credentials:

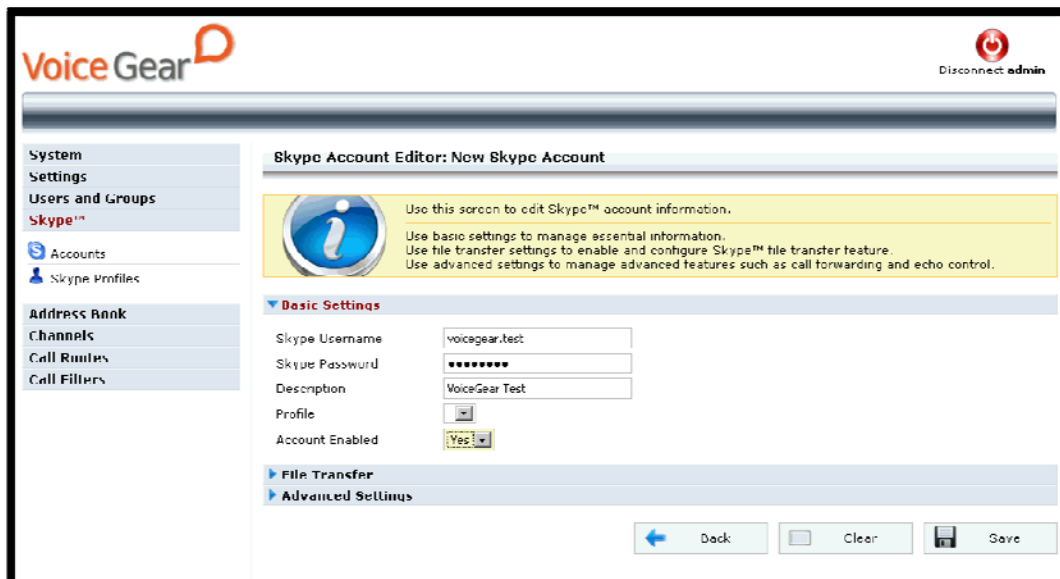
Username: admin

Password: admin



5. Once logged in, register at least one valid Skype account with the gateway via the **Skype->Accounts->Add New** page.

6. In the subsequent screen, enter an existing **Skype Username** and **Skype Password**. Enter a **Description** for this account such as VoiceGear Test. Set the account to **Enabled**.



7. Click on the **Save** button to save your changes. Once clicked, an **Apply settings** dialog will come up. Click **Apply Now** button to apply your settings.

8. Please refer to section 2.2 for more details on setting up a SIP trunk to enable VoiceGear gateway to communicate with a 3CX PBX.

NOTE: If you do not have a Skype account, you may register for a free account at:

<http://skype.com/>

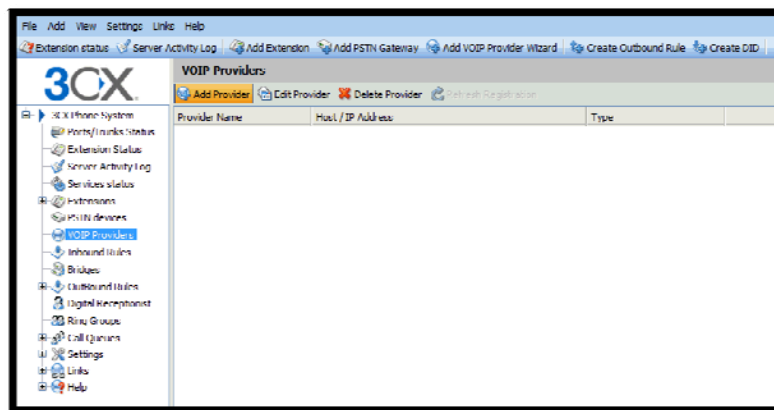


2.0 VoiceGear – 3CX SIP Integration

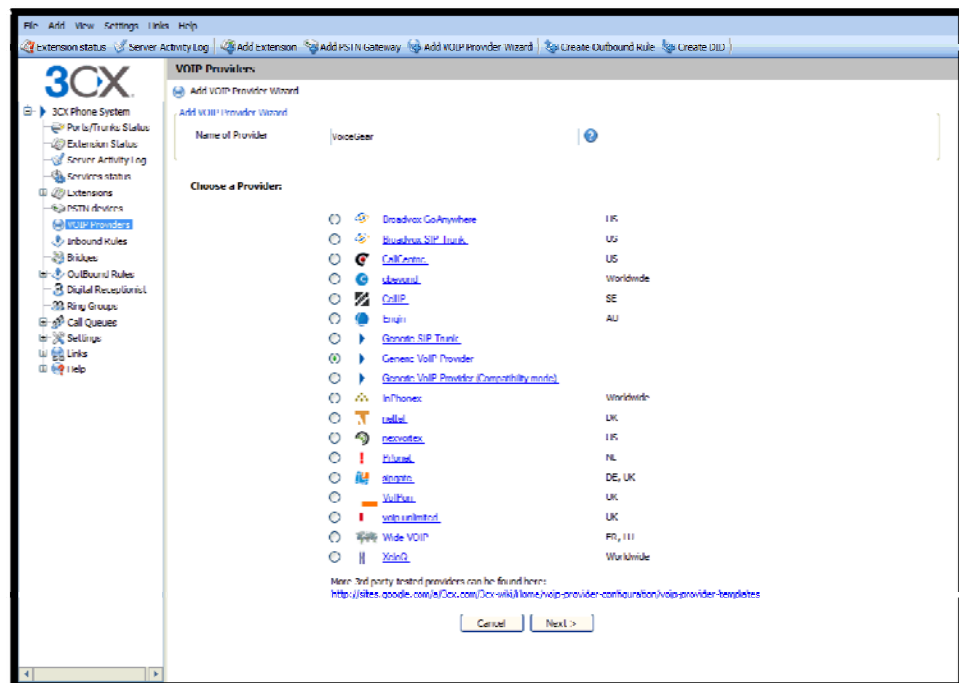
The main purpose of this section is to outline both VoiceGear gateway and 3CX PBX configuration to enable integration of both systems via the SIP protocol.

2.1 3CX Configuration

1. Navigate to the **3CX Phone System->VoIP Providers** screen via the configuration menu of the 3CX management console (open within your web browser) and click on **Add Provider** button.



2. In the subsequent screen, enter **VoiceGear** as the name of the provider, select the **Generic VoIP Provider** option in the **Choose a Provider** list, and click **Next**.



3. Enter the static IP of the VoiceGear gateway from section 1.2 for both **SIP server hostname or IP** and **Outbound proxy hostname or IP** fields, leave SIP ports set to **5060** and click **Next**.

VOIP Providers

Add VOIP Provider Wizard

VOIP Provider Details:

Enter the hostname and port for your VOIP Provider's SIP Server

SIP server hostname or IP	172.16.0.59	?
SIP Server port	5060	?
Outbound proxy hostname or IP	172.16.0.59	?
Outbound proxy port (default is 5060)	5060	?

4. In the next screen, enter **12345** or any unique value as **External Number**, **Authentication ID**, and **Authentication Password**. Set the number of maximum simultaneous calls to be the number of lines available on your VoiceGear gateway and click **Next**.

VOIP Providers

Add VOIP Provider Wizard

Account Details

Enter the Authentication ID, Password and number of your account

External Number	12345	?
Authentication ID	12345	?
Authentication Password	?

Simultaneous Calls

Maximum simultaneous calls	4	?
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5. In the subsequent screen, select the action for inbound call routing during office and out of office hours. Usually, inbound calls are routed to a digital receptionist. Click **Next** to proceed.

VOIP Providers

Add VOIP Provider Wizard

Office Hours

Configure where calls should be routed during office hours.

☐ End Call

☐ Connect to Extension 100 Mike Ryan ?

☐ Connect to Queue / Ring Group 800 Sales ?

☒ Connect to Digital Receptionist 801 Digital Receptionist Root 1 ?

☐ Voicemail box for Extension 100 Mike Ryan ?

☐ Forward to Outside Number ?

☐ Send fax to email of extension 888 Default FAX Destination ?

☒ Same as Out of Office hours

6. In the subsequent screen enter **VoiceGear Outbound** as **Rule Name** and add a prefix to apply to outbound calls. The prefix can be any number not currently used by the PBX and will be used to access the VoiceGear gateway and make calls to Skype (in this case 6 was used). To make that happen, select **VoiceGear** from the drop down list for route 1 and click **OK**.

VOIP Providers

Create an Outbound Call Rule to configure on which PSTN port, VOIP provider or bridge an outbound calls should be placed on

General

Rule Name:

Apply this rule to these calls:

Define to which outbound calls the rule must apply

Calls to numbers starting with (Prefix):

Calls from extension(s):

Calls to Numbers with a length of:

Make outbound calls on:

Configure up to 3 routes for calls. The second and third route will be used as backup. For each route, digits can be stripped or added.

Route		Strip Digits	Prepend
Route 1	<input type="text" value="VoiceGear"/>	<input type="text" value="1"/>	<input type="text"/>
Route 2	<input type="text"/>	<input type="text" value="1"/>	<input type="text"/>
Route 3	<input type="text"/>	<input type="text" value="1"/>	<input type="text"/>

Finish Skip


2.2 VoiceGear Gateway Configuration

1. Navigate to the **Channels->SIP** screen via the main menu of the VoiceGear web configuration interface.

The screenshot shows the VoiceGear web configuration interface. At the top, there is a navigation bar with links: Web Site | Online Support | License | Check for updates | Buy Skype Credit. The VoiceGear logo is on the left, and a 'Disconnect admin' button is on the right. A left sidebar contains a menu with items: System, Settings, Users and Groups, Skype™, Address Book, Channels (highlighted), SIP, Analog/Digital, and Diva. Below this are sections for Call Routes and Call Filters. The main content area is titled 'SIP Channel Configuration'. It includes an information icon and a text box stating: 'Use this screen to view and configure general SIP settings. Use "SIP Trunks" button to manage SIP trunk configuration. Please note: SIP settings below should only be modified by a system administrator. Wrong settings may prevent the system from properly connecting to the PBX. Please refer to the user guide for more information.' Below this is a section for 'Basic SIP Settings' with four fields: 'Present as IP' (set to 'auto'), 'Listening Port' (set to '5060'), 'Exposed Realm' (set to 'vgc'), and 'Agent Name' (set to 'VGConnect'). There is also an 'Advanced SIP Settings' section. At the bottom right, there are two buttons: 'SIP Trunks' (with a globe icon) and 'Save' (with a floppy disk icon).

2. Make sure **listening port** is set to 5060.
3. Click on the **SIP trunks** button to start the configuration of a SIP trunk that will communicate with 3CX PBX.
4. Under the SIP trunks page that opens, click on the **Add new** button to begin adding a new trunk.

Web Site | Online Support | License | Check for updates | Buy Skype Credit

VoiceGear  Disconnect **admin**

System


Settings


Users and Groups


Skype™

Address Book

Channels

 SIP


 Analog/Digital

 Diva

Call Routes

Call Filters

SIP Channel: 3CX

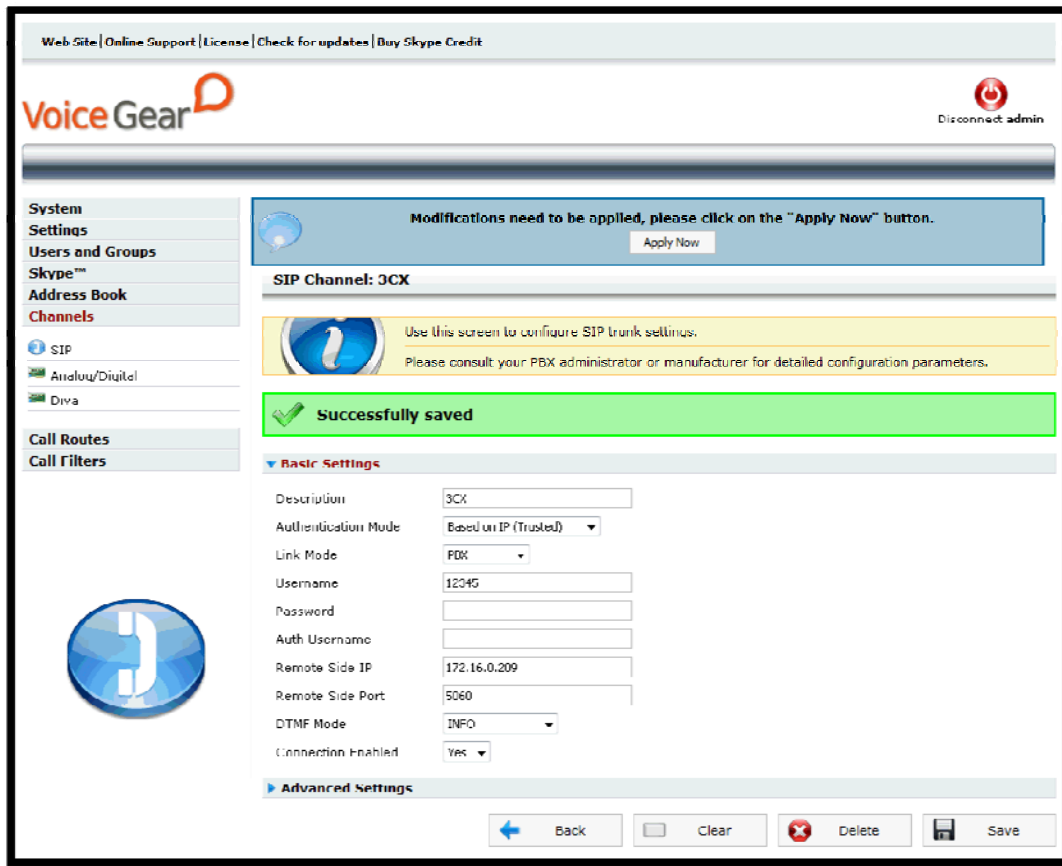
 Use this screen to configure SIP trunk settings.
Please consult your PBX administrator or manufacturer for detailed configuration parameters.

Basic Settings

Description	<input type="text" value="3CX"/>
Authentication Mode	<input type="text" value="Based on IP (Trusted)"/>
Link Mode	<input type="text" value="PBX"/>
Username	<input type="text" value="12345"/>
Password	<input type="password"/>
Auth Username	<input type="text"/>
Remote Side IP	<input type="text" value="172.16.0.209"/>
Remote Side Port	<input type="text" value="5060"/>
DTMF Mode	<input type="text" value="INFO"/>
Connection Enabled	<input type="text" value="Yes"/>

Advanced Settings

5. Under **Basic settings**, set the Description to 3CX to help future identification of this SIP trunk.
6. Select the **Authentication mode** to be **Based on IP (trusted)**.
7. Select the link mode to be **PBX**, this will tell VoiceGear gateway that it is communicating with a PBX as opposed to an individual user.
8. Set the **Username** to be **12345**. Please note that this must match the number defined in step 4 of section 2.1.
9. Set the **Remote Side IP** to the static IP configured for the 3CX PBX.
10. Set the **Remote Side Port** to 5060.
11. Set the **DTMF Mode** to **INFO**.
12. Click on the **Save** button to save your changes. Once clicked, an **Apply settings** dialog will come up. Click **Apply Now** button to apply your settings.



2.3 VoiceGear Registration to 3CX Confirmation


1. Navigate to the **3CX Phone System->Ports/Trunks Status** screen via the configuration menu of the 3CX management console (open within your web browser).
2. A properly registered VoiceGear will have a **Green** status.

Ports/Trunks Status				
Disconnect Call				
Status	Virtual Extension Number	Type	Name	
Registered (idle)	10004	Provider	VoiceGear	

3. If the status is **Red**, navigate to the **3CX Phone System->VoIP Providers** screen, select **VoiceGear** then **Refresh Registration**.
4. Return to the **Ports/Trunks Status** screen to confirm proper registration.

2.4 VoiceGear Inbound Routing

1. Navigate to the **Channels -> Call Routes -> Inbound Routes** screen via the main menu of the VoiceGear web configuration interface and click on **Incoming Calls Any/Any** route.
2. In the subsequent screen, remove the existing destination by clicking on the **X** button to the right of it and add a new destination by selecting SIP PBX trunk identified with **12345**. Fill in **12345** in the **Use this Number as Destination** field and click **Add**. Please note that the destination number must match the one defined in step 4 of section 2.1. Click **Save** to apply your changes.

VoiceGear  Disconnect admin

System
Settings
Users and Groups
Skype™
Address Book
Channels
Call Routes
Inbound Calls
Outbound Calls
Call Filters

Route Editor: New route

Use this screen to configure an inbound call route.
Please refer to the user guide for more information regarding call routing.

Successfully saved

Basic Settings

Description: Demo Route 1
If Busy Forward Calls to: First Available Account
If the Route is Full Forward Calls to:

1. When Receiving Calls to One of the Following Accounts

Account Name	Description
* ⊙	Any Skype account ✕

Select Skype Account: Click to Select Add

2. Route Them to the First Available Destination in the Following List

Destination	Description	DID	Post Selection
sip:12345@ ⊙	SIP PBX 12345	12345	✕

Select Destination Trunk: Click to Select
Use this Number as Destination:
Use this Number as Post Selection:

Back Save

3. To try a test call from any extension connected to the 3CX PBX, please dial **6123**. This will route you to the Skype call testing center.
4. If the Skype account registered with the gateway has **SkypeOut** credits, you can try dialing a landline though Skype by entering **69897328856** from any extension. This will access Deerfield Communication's corporate office.

3.0 Support Documentation

VoiceGear Connect



VoiceGear Connect User Guide:

http://ftp.deerfield.com/marcom/voicegear/VoiceGearConnect_UGuide.pdf

VoiceGear Connect DataSheet:

<http://ftp.deerfield.com/marcom/voicegear/vgcdatasheet.pdf>

VoiceGear SkyBridge



VoiceGear SkyBridge User Guide:

http://ftp.deerfield.com/marcom/voicegear/VoiceGearSkyBridge_UGuide.pdf

VoiceGear SkyBridge DataSheet:

<http://ftp.deerfield.com/marcom/voicegear/vgsbdatasheet.pdf>

3CX Phone System

3CX Administrator's Guide:

<http://www.3cx.com/manual/3CXPhoneSystemManual71.pdf>