

Configuring Positron's V114 as a VoIP gateway for a 3cx system

Assumptions:

The IP address of the V114 is 192.168.1.2

The IP address of the 3CX PBX System is 192.168.1.110

3CX already has some IP phones registered to it (Eg: 1002- Krishna Sumanth Chava)

Procedure:

Below are the steps that need to be done on the 3CX and the V114, so that v114 can provide the gateway functionality.

Part 1: Configuration of 3CX Phone System

1. Login to 3CX as shown below:

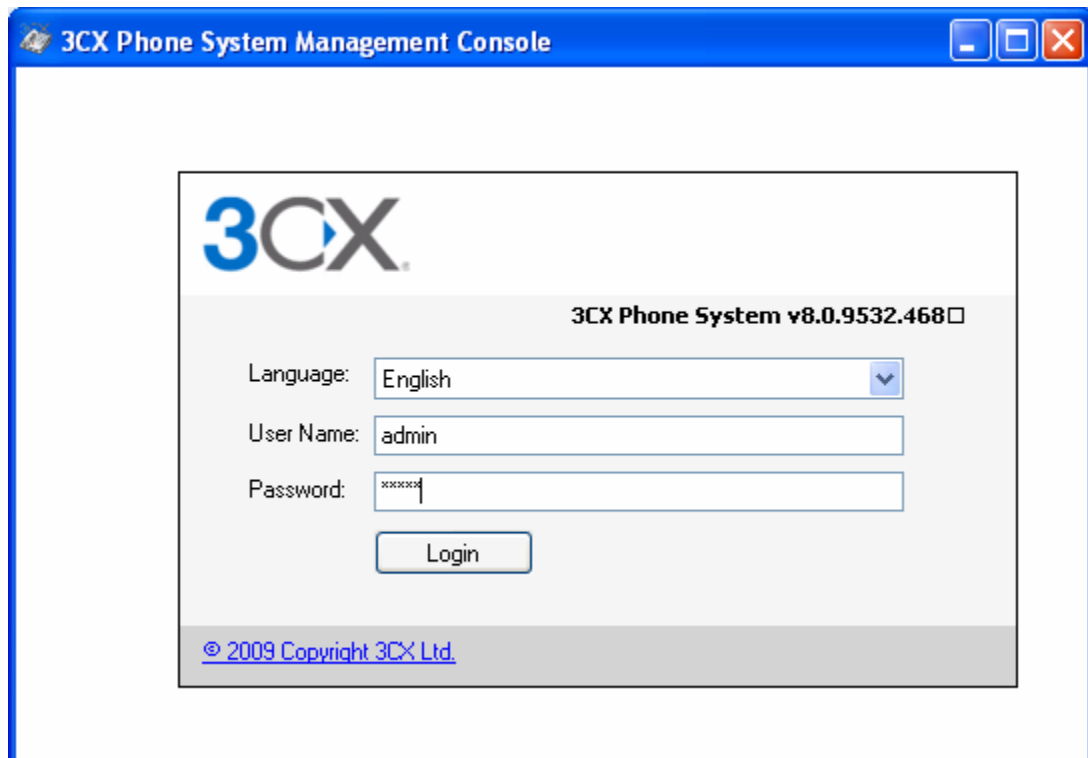


Figure 1: 3CX Login Screen

2. Ensure that an Extension say '1002' is registered to the 3CX as shown below.

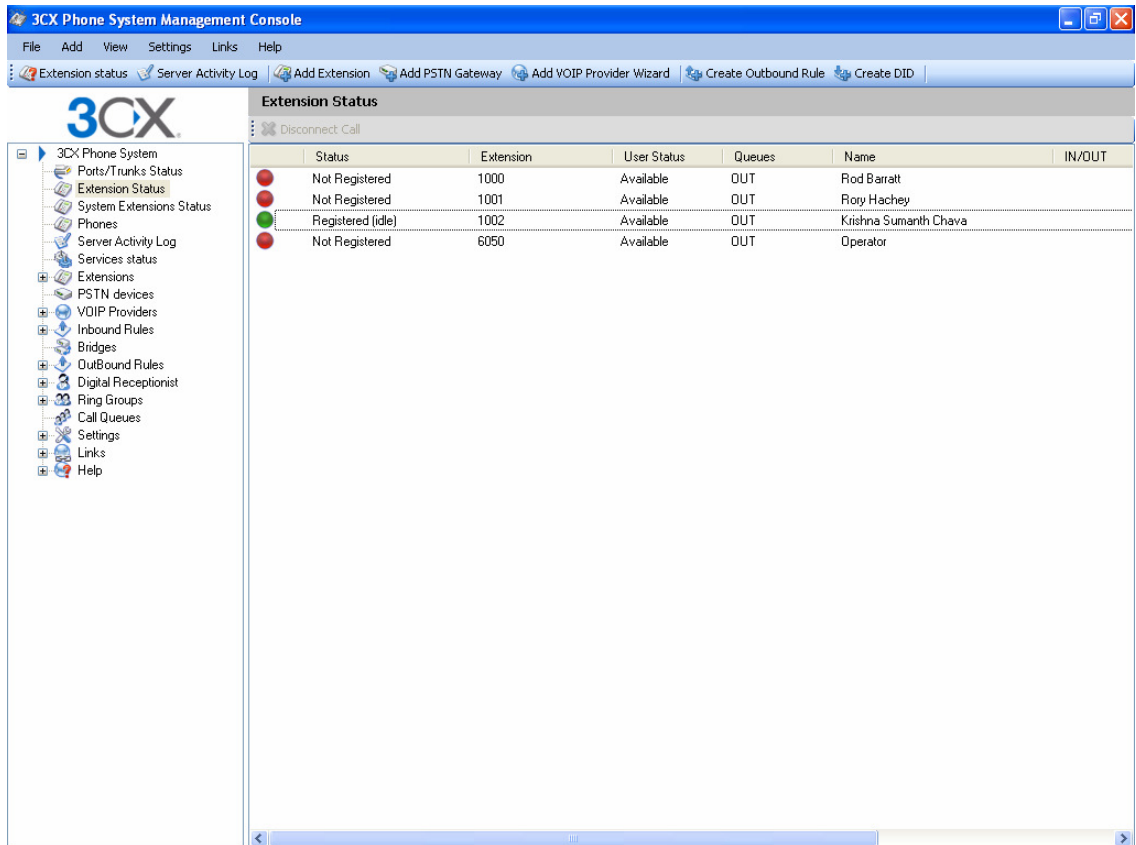


Figure 2: 3CX Extensions

3. Create SIP trunk to the V114 using the "Add VoIP Provider Wizard" as shown in the following sequence.

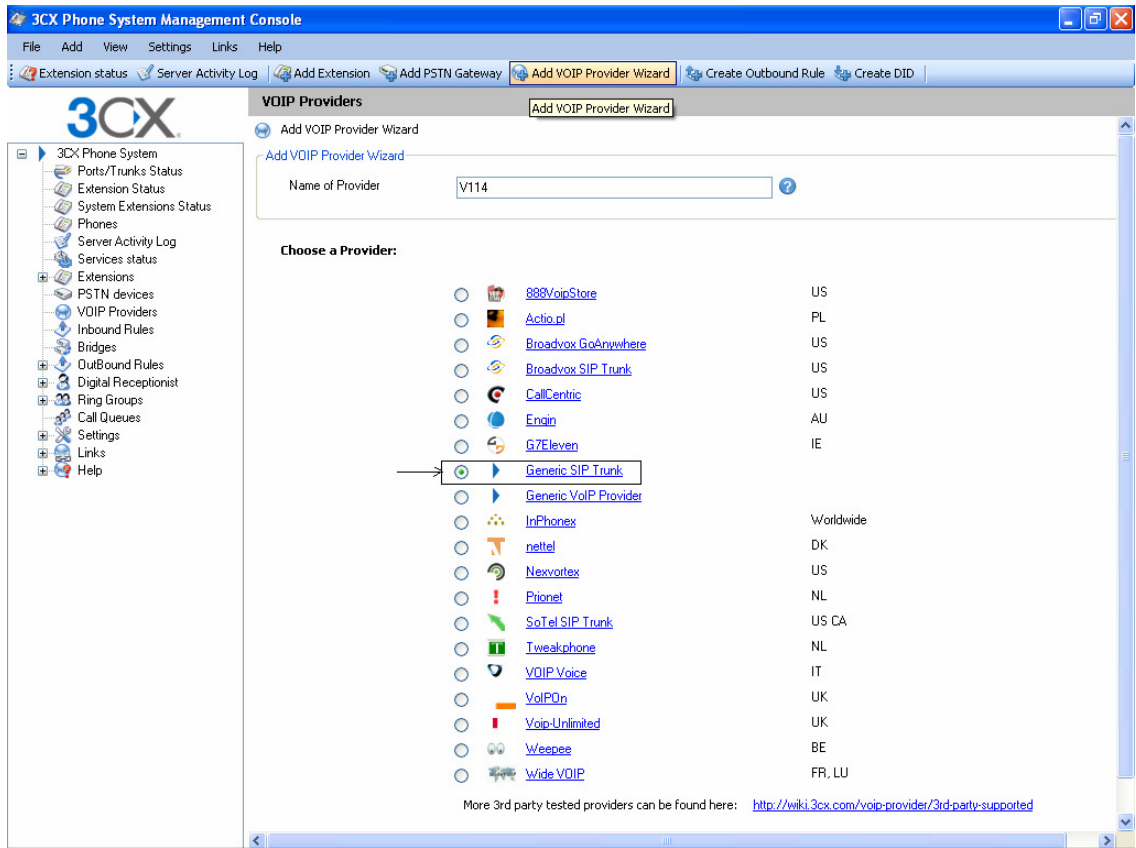


Figure 3: 3CX VoIP Provider Wizard Sequence (a)

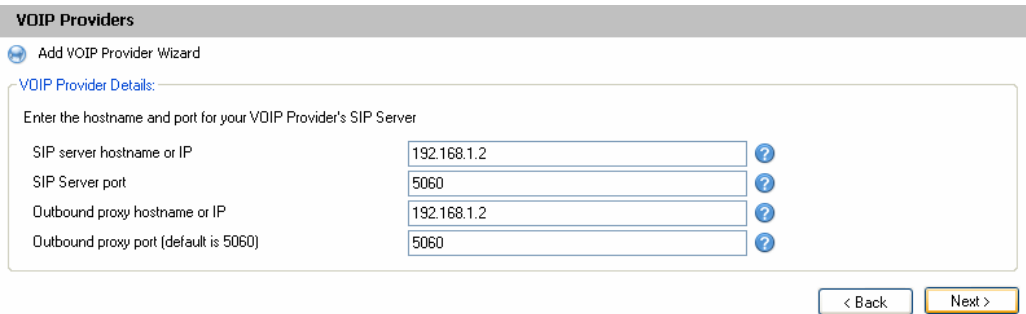


Figure 4: 3CX VoIP Provider Wizard Sequence (b)

*192.168.1.2 is the IP address of V114.

VOIP Providers

➤ Add VOIP Provider Wizard

Account Details

Enter the Authentication ID, Password and number of your account

External Number	5141234567	?
Authentication ID	3CX-PBX	?
Authentication Password	xxxxxx	?

Simultaneous Calls

Maximum simultaneous calls	4	?
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Figure 5: 3CX VoIP Provider Wizard Sequence (c)

**The External Number is chosen as '5141234567', with Authentication ID '3CX-PBX' and password as '12345'*

VOIP Providers

➤ Add VOIP Provider Wizard

Office Hours

Configure where calls should be routed during office hours.

End Call
 Connect to Extension: 1002 Krishna Sumanth Chava ?
 Connect to Queue / Ring Group: 8000 SalesRG ?
 Connect to Digital Receptionist: 8001 Main ?
 Voicemail box for Extension: 6050 Operator ?
 Forward to Outside Number: ?
 Send fax to email of extension: 8888 Default FAX Destination ?

Same as Out of Office hours

Outside Office Hours

Configure where calls should be routed outside office hours.

End Call
 Connect to Extension: 6050 Operator ?
 Connect to Queue / Ring Group: 8000 SalesRG ?
 Connect to Digital Receptionist: 8001 Main ?
 Voicemail box for Extension: 1002 Krishna Sumanth Chava ?
 Forward to Outside Number: ?
 Send fax to email of extension: 8888 Default FAX Destination ?

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Figure 6: 3CX VoIP Provider Wizard Sequence (d)

**We define all incoming calls during office hours to go to extension 1002, and outside office hours to be routed to the voice mail box of extension 1002*

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
1	V114	1
2	1	
3	1	

Figure 7: 3CX VoIP Provider Wizard Sequence (e)

**We define an outbound rule on calls prefixed with 9 (external calls) to be sent to V114 and subsequently to PSTN.*

- If needed, additional Outbound Rules can be defined on 3CX.
For instance, to treat emergency numbers like '911' as outbound calls though prefix '9' is not provided.

Edit Outbound Rule

Outbound Rule Name	Call from extension(s)	Number prefix	Number Length	Route1
911		911		V114
411		411		V114
Rule for V114		9		V114

Figure 8: 3CX Outbound Rules

- Finally, add an inbound rule so that all calls (DID - *) are routed to the port '5141234567(V114)' defined above in Step 3 – Part 1.

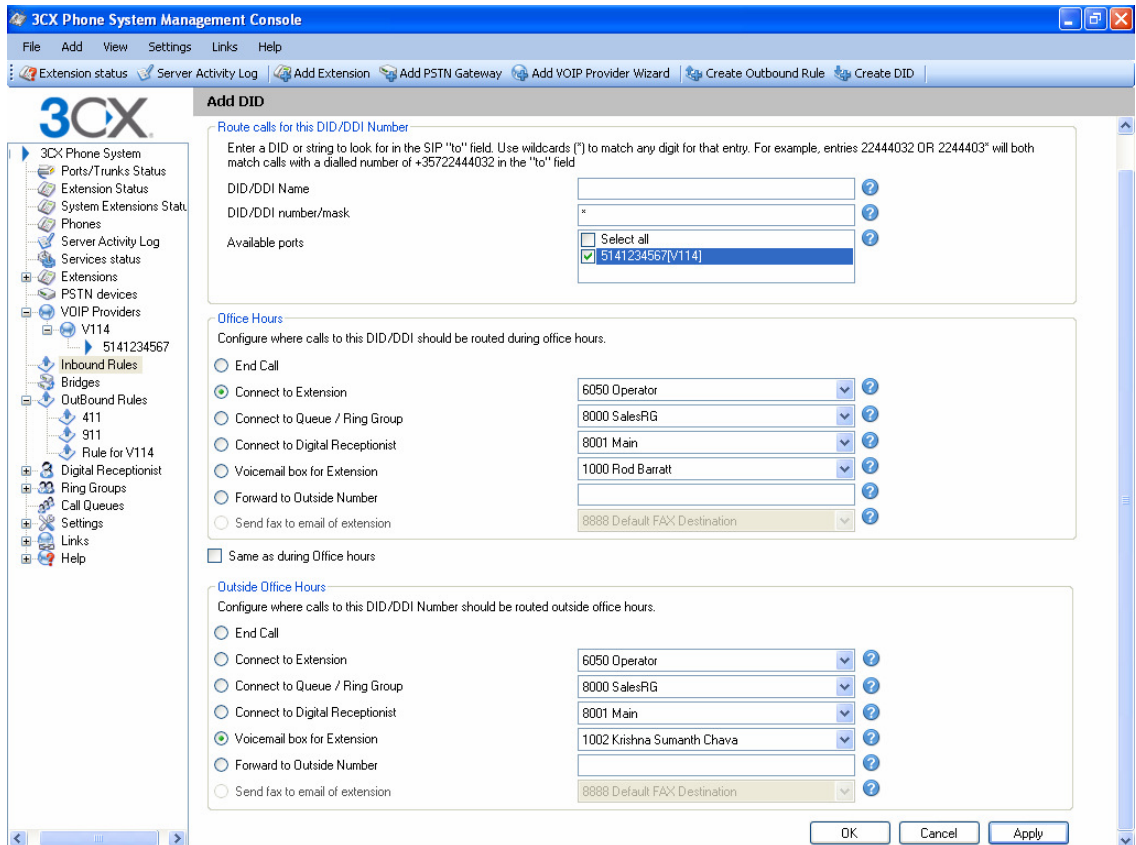


Figure 9: 3CX Inbound Rules

Part 2: Configuration of the V114

1. Login to the V114: <http://192.168.1.2> with the default user name “admin” and password as ‘password’.



Figure 10: V114 Login Screen

2. After Logging in, create a VoIP trunk of type SIP as shown in the sequence below.



Figure 11: V114 – PBX Trunks

*Select Trunks under PBX tab.

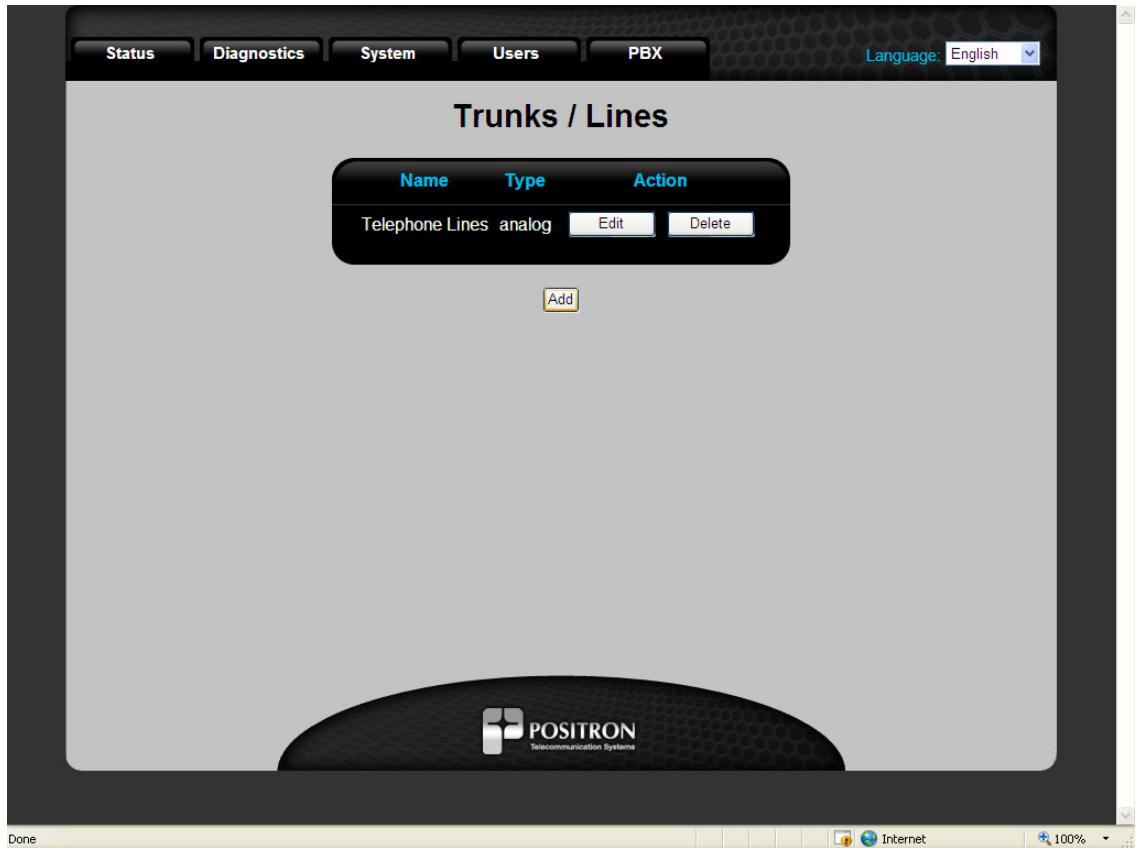


Figure 12: V114 - Trunks Page

** Add a SIP trunk by clicking the 'Add' button.*

Note: A trunk "Telephone Lines", configured with the 4 Analog (FXO ports) Lines of V114, already exists.

Trunks / Lines

Name:

Type:

Type:

Provider:

Host Name / IP Address:

User Name:

Password:

Figure 13: V114 - SIP Trunk

**The IP address '192.168.1.110' is the 3CX Server IP while the username/password credentials are the same that are used for the SIP trunk in 3CX (Step 3 – Part 1) i.e., '3CX-PBX' and '12345' respectively.*

3. After creating the trunk on the interface, click “create configuration” under System tab to apply the changes on V114.
4. Check the status of the SIP trunk by clicking the status page.
The SIP trunk would indicate ‘registered’ if it is setup right.

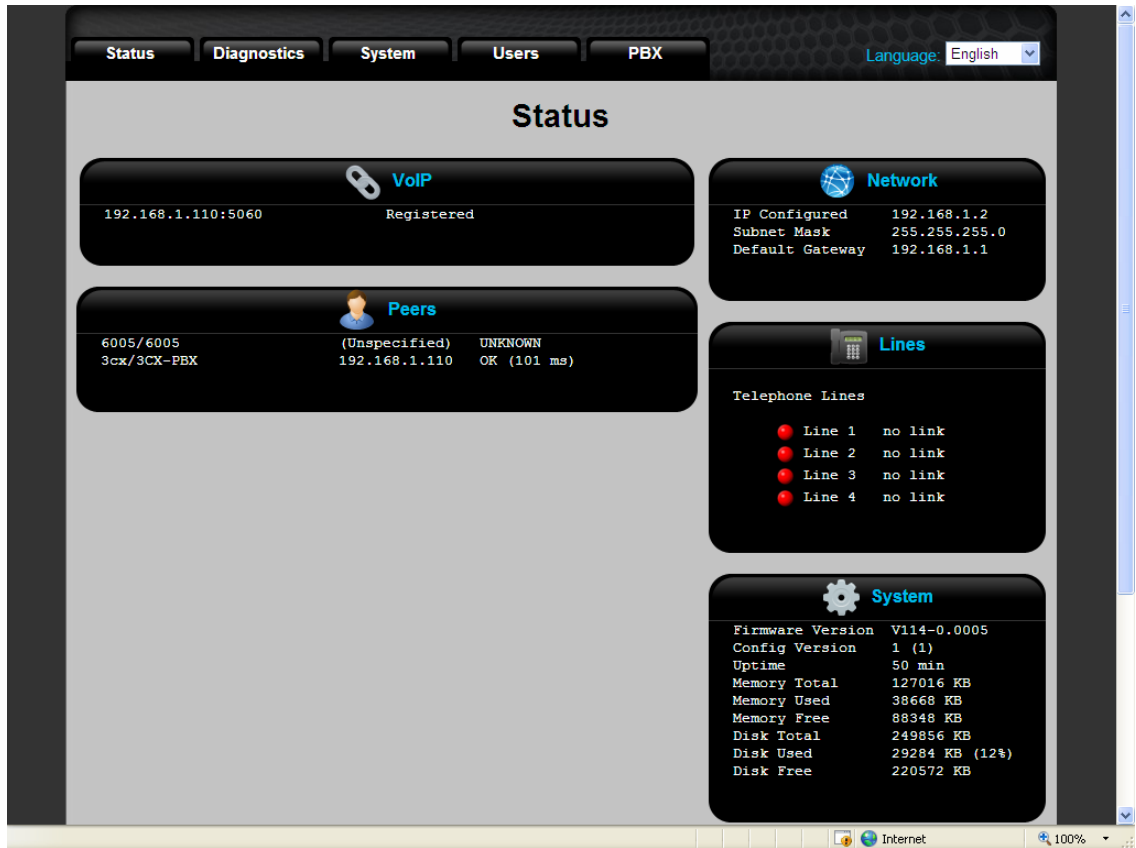


Figure 14: V114 Status Page

5. Select 'Dial groups' under the 'PBX' tab and click 'Add' button.
Create a new Dial Group "To-3CX" and assign the VoIP trunk 3CX to it as shown.

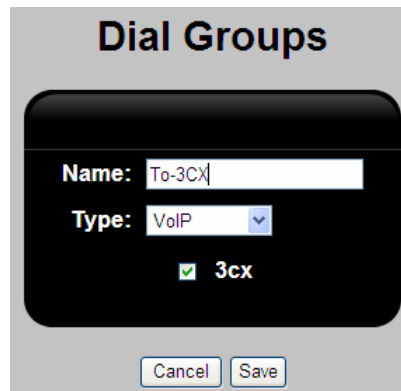


Figure 15: V114 - PBX Dial Groups

Note: A dial group "Analog", for the trunk "Telephone Lines", already exists.

6. Edit the section "Incoming" under PBX → Incoming Calls as shown below.
Ensure that the "Telephone Lines" trunk is assigned to it.

Figure 16: V114 - PBX Incoming Calls – Edit ‘Incoming’ Section

7. Create an Incoming Rule for the section “Incoming” under PBX → Incoming Calls, so that the calls received from the PSTN on the ‘Telephone Lines’ trunk will be sent to the 3CX system using the dial group “To-3CX” (created in Step 5 – Part 2) and the Phone Number as ‘5141234567’ (as defined in Step 3 – Part 1).

Figure 17: V114 - PBX Incoming Calls – Create rule in ‘Incoming’ Section

8. To configure the V114 for routing all the calls received from the 3CX to the PSTN lines, follow the below sequence.
 - (a) Select ‘Incoming Calls’ under the ‘PBX’ tab and click ‘Add’ button. Create a new Incoming Calls Section called ‘Incoming-3CX’ and assign SIP trunk ‘3cx’ to it as shown.

Figure 18: V114 - PBX Incoming Calls – Add ‘Incoming-3CX’ Section

- (b) Select ‘Incoming calls’ under ‘PBX’ tab. Click the ‘Rules’ button corresponding to the ‘Incoming-3CX’ section followed by the ‘Add’ button.

Create the rule to make V114 *act as a pass through, so that calls received from ‘3CX’ are sent to PSTN using the dialgroup ‘Analog’.*

Figure 19: V114 - PBX Incoming Calls – Create rule in ‘Incoming-3CX’ Section

9. Select “Create configuration” under ‘System’ tab for applying the above changes to V114.
10. Congratulations: You have successfully configured the Positron V114 as a gateway with 3CX. IP phones registered to the 3CX can now make and receive calls from the PSTN using the V114 as a gateway.