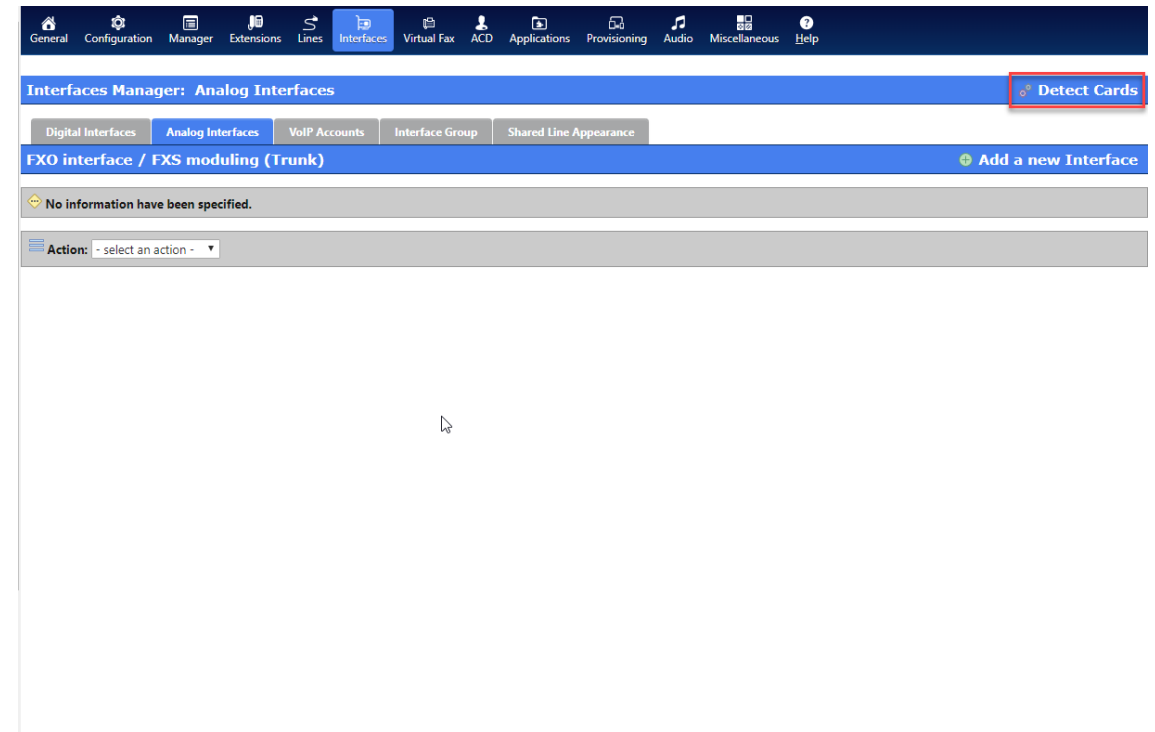


SCOPSERV
INTERNATIONAL INC.

ScopTEL™ IP PBX Software
Outgoing Lines and Interface Groups

Interfaces Card Detect

- If any analog FXO/FXS or T1/E1 or BRI cards are installed then you must do a “Card Detect” to recognize and configure that hardware before the drivers and configurations can be properly loaded.
Configuration > Telephony > Interfaces > Detect Cards
- Follow the pop-up windows to complete the card detection procedure and be certain to read and follow any instructions that will appear in those pop-up windows. After your PSTN hardware is detected and the required services are running it will be necessary to configure regional properties and gain settings for each of your PSTN cards and ports. If a change is made to any settings on the “Interfaces” tabs it is a good practice to “Commit” those changes and then restart the following services in the correct order. First navigate to the “General” tab...
- The correct order to reset services is:
 - Stop the “Telephony Server”
 - Restart the “Analog/Digital Modules (Zaptel/Wanpipe)”
 - Start the “Telephony Server”



Interface Groups

Once your PSTN hardware is detected and the required services are running you can set up Interface Groups.

An Interface Group is a “pool” of physical DAHDI interfaces:

If you are using DADHI hardware

- Navigate to Configuration>Telephony>Configuration>Interfaces>Interface Group>Add a new Group
- The Group Interface can be a collection of DAHDI PRI, FXO, interfaces but it is normally a collection of only one technology.
- The purpose of an Outgoing Line Group is to isolate outgoing physical interfaces to specific Applications, Extensions, Outgoing Lines, Emergency Lines, Special Lines.

For example there are 10 FXO (analog PSTN lines aka POTS lines) ports shared between two companies:

- FXO ports 1-2 belong to Company ABC
- FXO ports 3-4 belong to Company XYZ
- Group 1 is a collection of FXO ports 1-2
- Group 2 is a collection of FXO ports 3-4
- Therefore Group 1 belongs to Company ABC and Group 2 belongs to company XYZ.

In this screenshot a PRI Outbound Group is configured using T1 B channels 1-23 in Descending order 23>1 to prevent network glare.

The screenshot displays the web interface for configuring an Interface Group. At the top, a navigation bar includes options like General, Configuration, Manager, Extensions, Lines, Interfaces, Virtual Fax, ACD, Applications, Provisioning, Audio, Billing, Miscellaneous, and Help. A yellow notification banner states: "You must restart Telephony service for these changes to take effect." Below this, the page title is "Interfaces Manager: Interface Group". There are tabs for "Digital Interfaces", "Analog Interfaces", "VoIP Accounts", "Interface Group", and "Shared Line Appearance". The "Interface Group" tab is active, and the "General" sub-tab is selected. The configuration fields are as follows:

- Group ID:** 1 (with a note: "Number between 1 and 32")
- Description:** outgoing
- Dial Mode:** Descending non-busy channel (with a note: "Default: Ascending non-busy channel")
- Member(s):** Port 1 Channel 1 (T1), Port 1 Channel 2 (T1), Port 1 Channel 3 (T1) (with a "Select" button)

At the bottom, there are "Save", "Copy", and "Cancel" buttons.



Outgoing Lines | General

- Outgoing Lines use dial patterns to select from ScopTEL Interfaces to place outgoing calls. Recommended interfaces are DAHDI, SIP. Other interface types exist like MGCP, IAX2, SCCP/Skinny, H323 are available but fall into extended or limited support categories. Outgoing calls can be PSTN interfaces or Private TIE trunks. A lot of detailed configuration information can be found on the ScopTEL knowledgebase at <http://blog.scopserv.com>
- To create an Outgoing Line navigate to **Configuration > Telephony > Lines > Outgoing Line** then Click “Add a New Outgoing Line”. Enter a unique name for the new Outgoing Line. The name can match the dial pattern used for easier documentation of the configuration.
- Choose the correct Trunk/Technology for this Outgoing Line. Choose the correct Interface Group if applicable. Click on the Dial String tab

The screenshot shows the configuration page for an Outgoing Line in the ScopTEL IP PBX system. The interface is organized into several sections:

- Navigation Bar:** Located at the top, it contains icons and labels for various system functions: General, Configuration, Manager, Extensions, Lines (highlighted), Interfaces, Virtual Fax, ACD, Applications, Provisioning, Audio, Miscellaneous, and Help.
- Section Header:** A blue bar at the top of the main content area reads "Lines Manager: Outgoing Lines".
- Sub-sections:** Below the header are several tabs: Incoming Lines, Outgoing Lines (selected), Emergency Lines, Special Lines, Banned Prefix, CallerID, and Ringing Services.
- Form Fields:** Under the "Outgoing Lines" section, there are sub-tabs for General, Dial String, Dial Options, Caller ID, and ENUM. The "General" tab is active, showing the following fields:
 - Name:** A text input field containing "9any".
 - Description:** A larger text input field, currently empty.
 - Group ID:** A text input field, currently empty.
 - Trunk:** A dropdown menu with a red asterisk, currently set to "gateway (SIP) (Global)".
 - Check Incoming Lines before dialing Trunk?:** A checkbox that is currently unchecked. Below it is a note: "If enabled, we will check if the dialed number match an incoming line on the PBX."
- Buttons:** At the bottom of the form are three buttons: "Save", "Copy", and "Cancel".



Outgoing Lines | NPA-NXX

- One of the most powerful and unique features in the ScopTEL IP PBX is the ability to download the entire NPA-NXX dial plan for any supported Area Code and Prefix. This greatly simplifies the LCR (Least CoSt Routing) dial plan configuration for the server. Hours and possibly days of configuration are reduced to seconds. However in this tutorial only a simple “Custom Dial String” option will be used.
- After clicking on the “Dial String” tab choose “Custom Dial String” and the page will automatically refresh.

The screenshot shows the 'Lines Manager: Outgoing Lines' configuration page. The 'Dial String' tab is active, and a dropdown menu is open for the 'Type' field, showing 'North American Numbering Plan (NPA-NXX)' selected. A 'Local Calling Area' dialog box is also visible, showing 'NPA-NXX : 514 - 373' and a 'Get Plan' button.

Local Calling Area

* NPA-NXX : 514 - 373

Get Plan

Local Calling Area

Exchange: 514-373

Location : Montréal, QC
Switch : MTRLPQQDS0
OCN : 8306

Local Call	Area Code	Exchange	Location
	438	200	Montréal, QC
	438	201	Montréal, QC
	438	202	Montréal, QC

Legend: * Required Field Page Refresh on Change

Outgoing Lines | Custom Dial Plan Strings

Custom Dial Plan Strings

X	matches any digit from 0-9
Z	matches any digit form 1-9
N	matches any digit from 2-9
[1237-9]	matches any digit or letter in the brackets (in this example, 1,2,3,7,8,9)
.	wildcard, matches one or more characters
!	wildcard, matches zero or more characters immediately

Examples

NXXXXXX	matches a normal 7 digit telephone number
1NXXNXXXXXX	matches an area code and phone number preceded by a one
9011.	matches any string of at least five characters that starts with 9011, but it does not match the four-character string 9011 itself.
#	matches a single # key press



Outgoing Lines | Dial String

- Type= drop list of possible pre configured or Custom Dial Plan rules
- Dial String= A matching pattern of digits a user can dial from their extension
- Access Code (Prefix)= Optional Outgoing Dial Plan Prefix. This digit is always stripped and never passed to the physical interface. This is most often used by PBX PSTN prefixes like 9 that must be stripped before processing by the PSTN carrier.
- Number of digit to strip = Number of prefixed leading digits stripped from the “Dial String”
- Prefix to add to Number = The digit(s) prefixed to the outgoing call after digits are dialed
- Authentication (PIN) can be used to force user authentication before call is placed.
- Once all fields are completed click on the “Dial Options” tab.

Lines Manager: Outgoing Lines

Incoming Lines | **Outgoing Lines** | Emergency Lines | Special Lines | Banned Prefix | CallerID | Ringing Services

Outgoing Lines

General | **Dial String** | Dial Options | Caller ID | ENUM | Billing

* Type : Custom Dial String

* Dial String : 1NXXNXXXXXX!

Access Code (Prefix) : 9

Number of digit to strip ? : 0

Prefix to add to Number :

Maximum number of digit for destination number ? : 11
If the dialed number exceed the specified number of digit, the number will be cut.

Call Restrictions

Restrict Allowed Outgoing Number ? :

Restrict Disallowed Outgoing Number ? :

Authentication/Password

Authentication (PIN) ? : None
Default: none

Save Copy Cancel



Outgoing Lines | Dial Options

- Dial Options must be configured if you wish to provide additional features such as call recording, early media with progress, and T.38 Gateway options
- It is often useful to have a unique Music On Hold source for each Outgoing Line if the user places an outgoing call on hold.
- Once these fields are configured click on the Caller ID tab.

Lines Manager: Outgoing Lines

Incoming Lines | **Outgoing Lines** | Emergency Lines | Special Lines | Banned Prefix | CallerID | Ringing Services

Outgoing Lines

General | Dial String | **Dial Options** | Caller ID | ENUM | Billing

Maximum dialing time (in seconds) :
Default: 60

Busy Timeout (in seconds) :
The calling channel will be hung up after the specified number of seconds if destination is Busy. If you specify '0', this channel hangs up.

Indicate Progress ? :
This will request that in-band progress information be provided to the calling channel.

Play Calling Progress Message ? :

Indicate ringing to the calling party :

Group ID (ChanSpy) :
If defined, this allow to create 'ChanSpy' application that allow to spy all calls received on this Outgoing Line.

Authorization

Allow the caller to transfer the call :

Allow the callee to transfer the call :

Allow the caller to hang up by dialing * :

Allow the callee to hang up by dialing * :

Allow the caller to enable Call Parking :

Allow the callee to enable Call Parking :

Recording



Outgoing Lines | Caller ID

- On physical interfaces that support custom ANI to be set on outgoing calls it is useful to define a global Name and Number for outgoing calls. Fill in the custom name and number for outgoing calls here if the Outgoing Line > Trunk supports custom ANI
- Note that FXO interfaces do not support custom ANI but in this example the custom “CallerID Number” and “Caller Name” are configured.
- Advanced CallerID options can be selected to comply with <https://tools.ietf.org/html/rfc3325>
- If you enable ‘Use original Inbound CallerID’ then the CallerID received on the Incoming Line will be used as the Outgoing CallerID for any forwarded calls. This applies to any extension forwarding a call by Extension|User Options or Feature Code or Incoming Line|Destination making use of the Outgoing Line by the matching Class of Service.
- See <https://blog.scopserv.com/2018/01/how-to-make-anonymous-calls-from-a-sip-trunk/>

Lines Manager: Outgoing Lines

Incoming Lines | **Outgoing Lines** | Emergency Lines | Special Lines | Banned Prefix | CallerID | Ringing Services

Outgoing Lines

General | Dial String | Dial Options | **Caller ID** | ENUM | Billing

Restrict Outgoing CallerID Number ?

CallerID Routing (Source) :

Use Internal CallerID ?

Use original Inbound CallerID ? Specify that the CallerID that was present on the 'calling' channel be set as the CallerID on the 'called' channel.

Force/Override Outgoing CallerID ?

Lookup CallerID from an external source ?

CallerID Number :

Caller Name :

Customize CallerID ?

Advanced CallerID options

Enable Presentation indicator ?

* Presentation :

Check for custom CallerID in Asterisk Database ?

Send Asserted Identity (RFC-3323) compliant Privacy headers (SIP) ?

Send Preferred Identity (RFC-3325) compliant Privacy headers (SIP) ?

Number Unavailable

Vorteil SST or an Acme Packet SBC.



Outgoing Lines | Caller ID Extension Overrides

- The Outgoing Line custom ANI is always overridden if Extension's > Caller ID > Allow extension to override outgoing CallerID checkbox is enabled and Emergency Calls will also take precedence over the Outgoing Line if configured.

Extensions Manager: Phones Add Multiple Extensions Mass Op

Phones | Extension Groups | Pickup Groups | Speed Dial | Directory | Security (ACL) | Hints (Subscribe)

Phones

General | Authentication | Voicemail | Phone Options | **Caller ID** | User Options | Identity | Web Authentication | Security

Internal Call

Use current extension information ? Default: True

External Call

Use current extension information ? Default: True

Always Block Outgoing CallerID ?

* Caller Name : Company ABC
Default: Tracey Phillips

* Caller Number : 555552234
Default: 253

Allow extension to override outgoing CallerID ?

Override Outgoing CallerID for Emergency Call ?
If the PSTN trunk allows custom CallerID then you must override default value with published phone number associated with 911 Address On Record.

* Caller Name : Help Me
Default: Tracey Phillips

* Caller Number : 555554321
Default: 252

