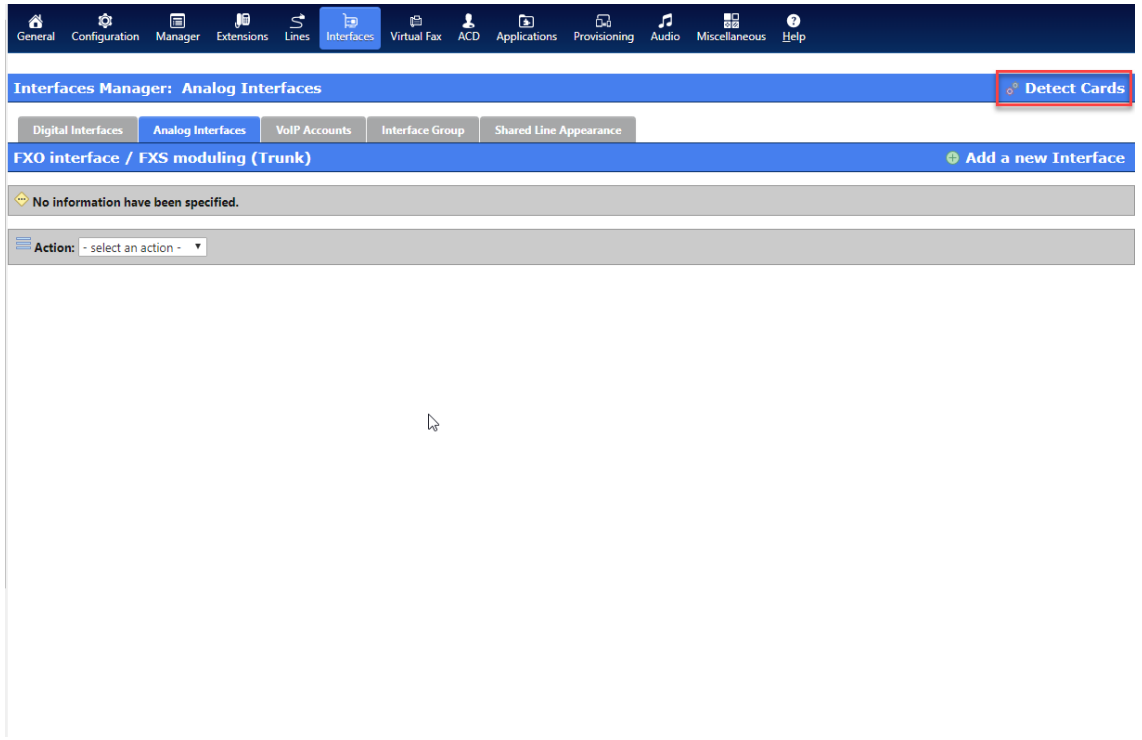
SCOPSERV
INTERNATIONAL INC.

# 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”



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# 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:

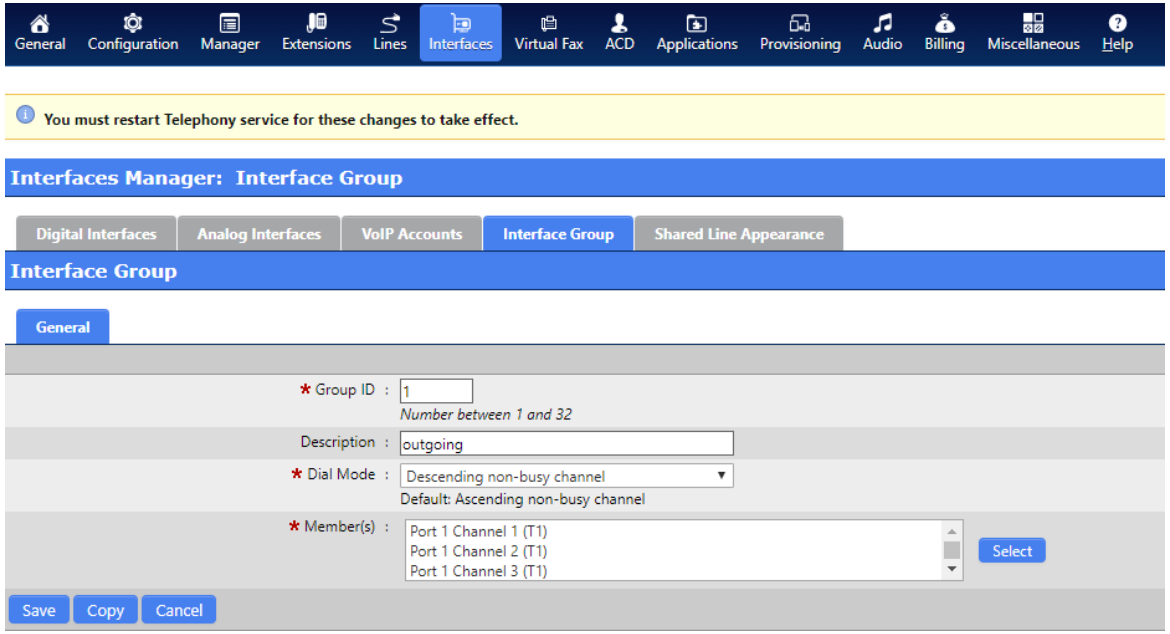
If you are using DADHI hardware

- 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.

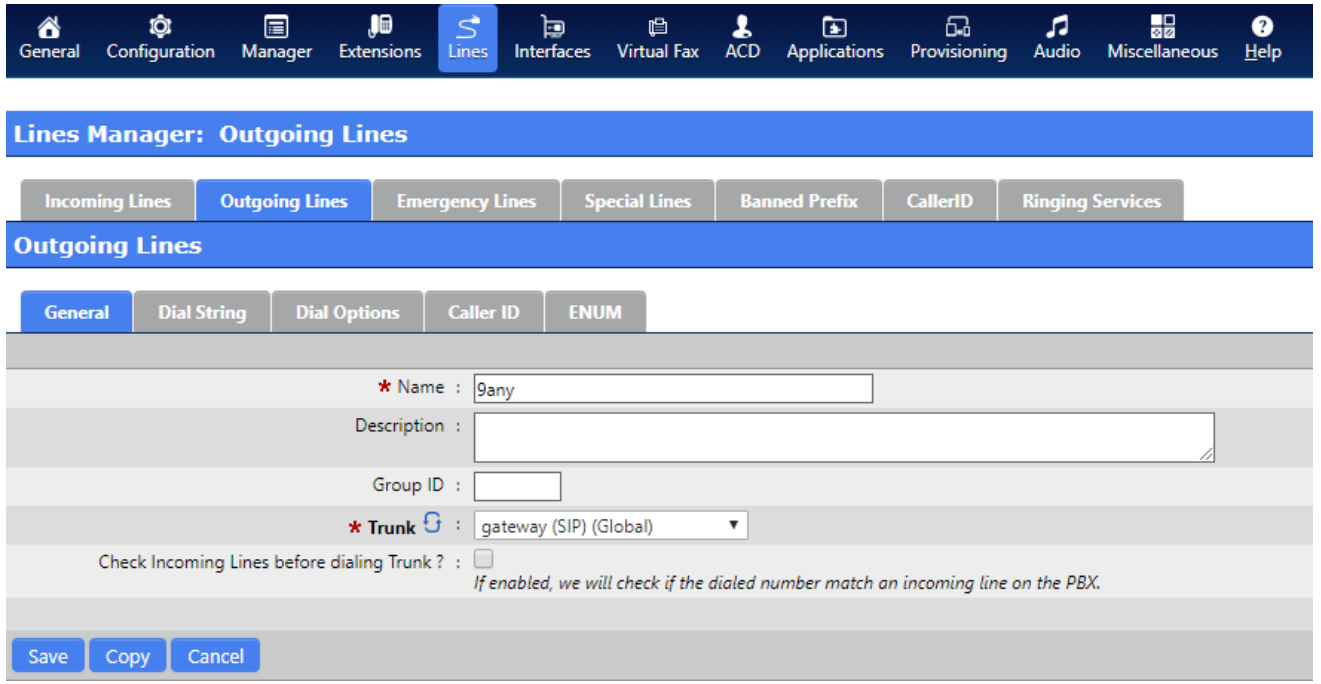
In this screenshot a PRI Outbound Group is configured using T1 B channels 1-23 in Descending order 23>1 to prevent network glare.



# 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



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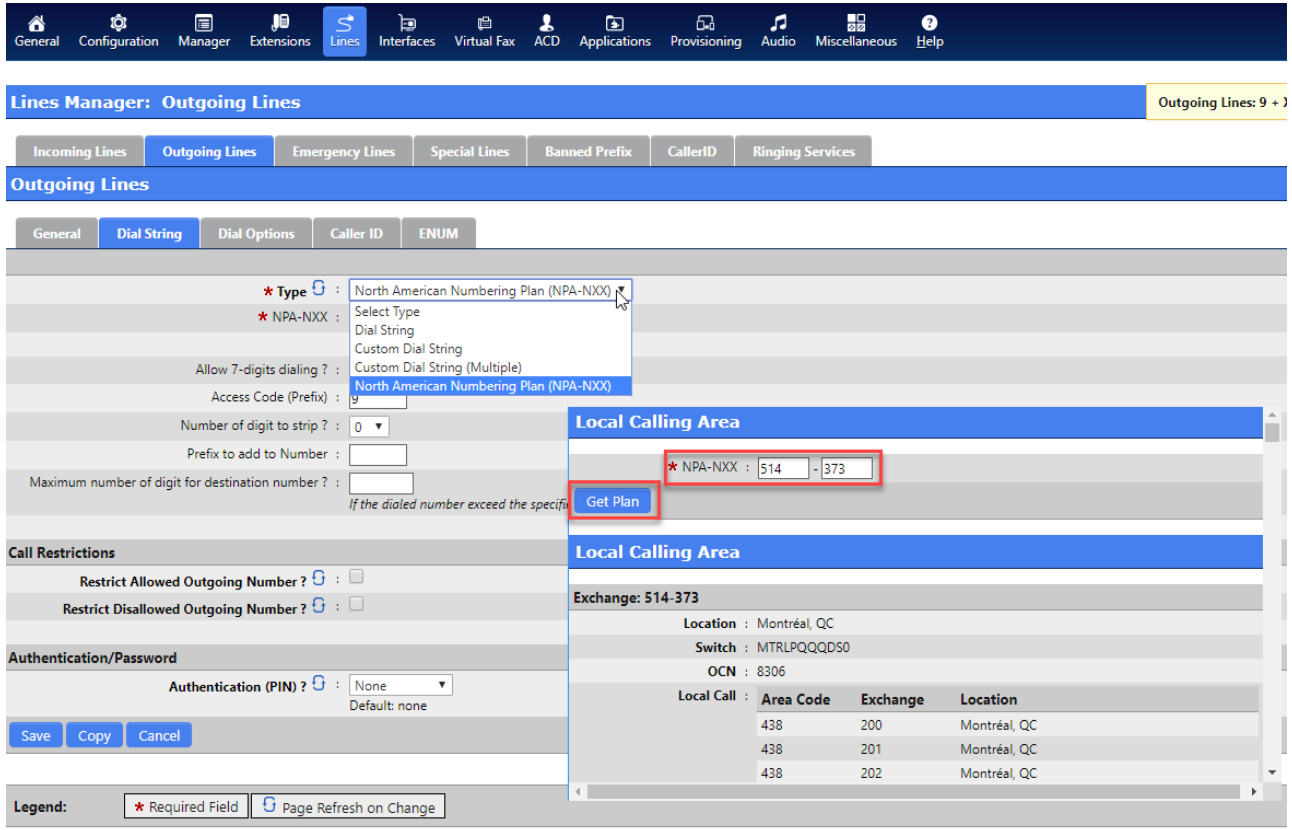
# Outgoing Lines |NPA-NXX

- 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.



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# Outgoing Lines |Custom Dial Plan Strings

**Custom Dial Plan Strings**

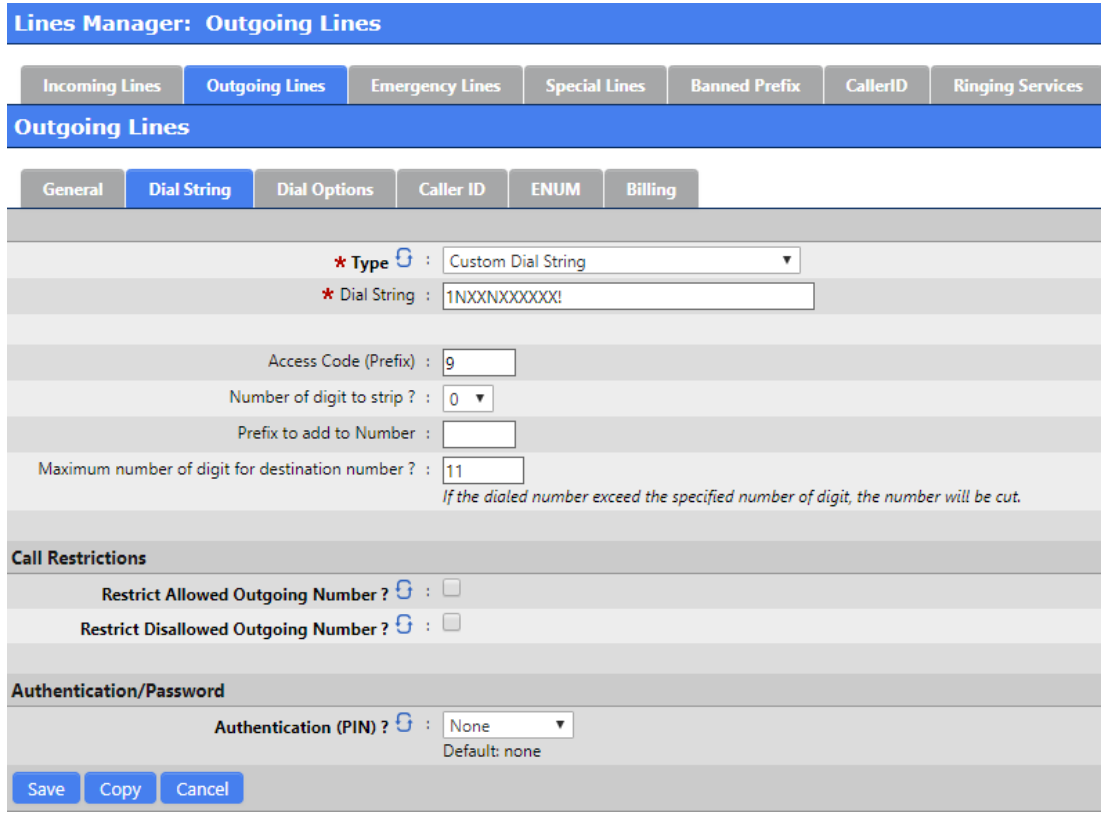
| | |
|---|---|
| X | matches any digit from 0-9 |
| Z | matches any digit form 1-9 |
| N | matches any digit from 2-9 |
| [1237-9] | matches any digit or letter in the brackets (in this example, 1,2,3,7,8,9) |
| . | wildcard, matches one or more characters |
| ! | wildcard, matches zero or more characters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



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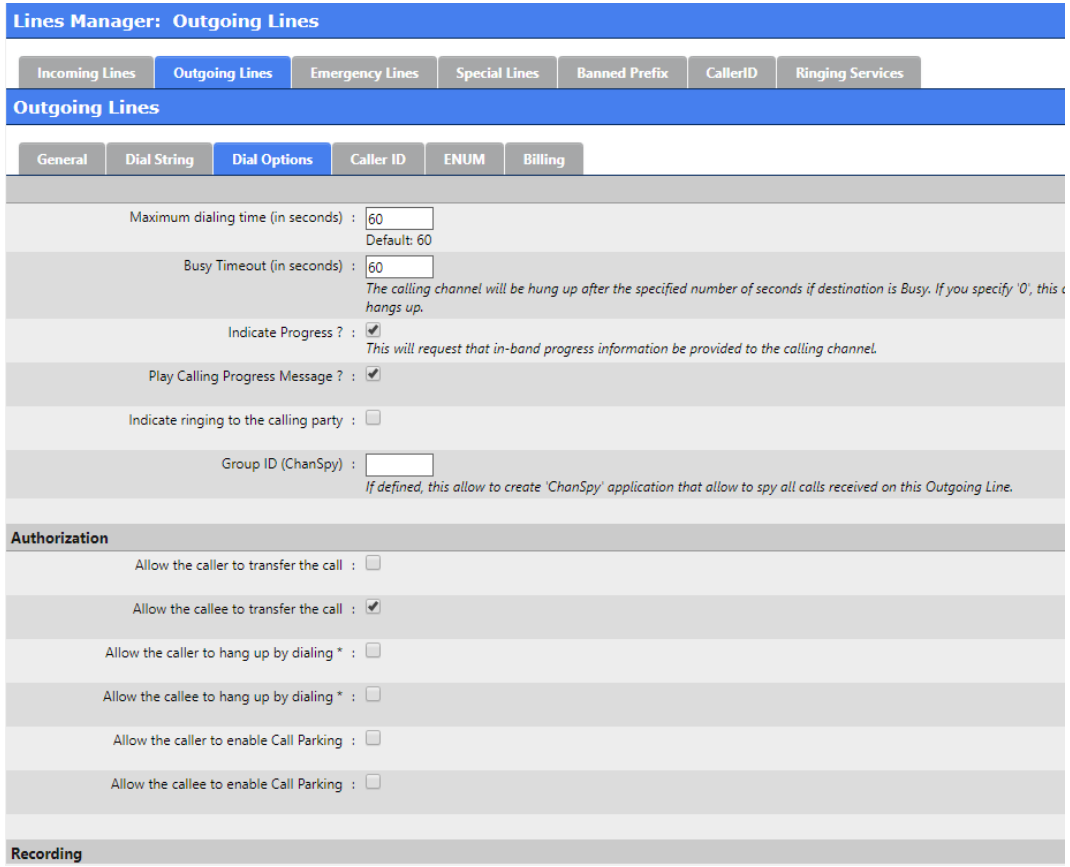
# Outgoing Lines |Dial Options

- 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.



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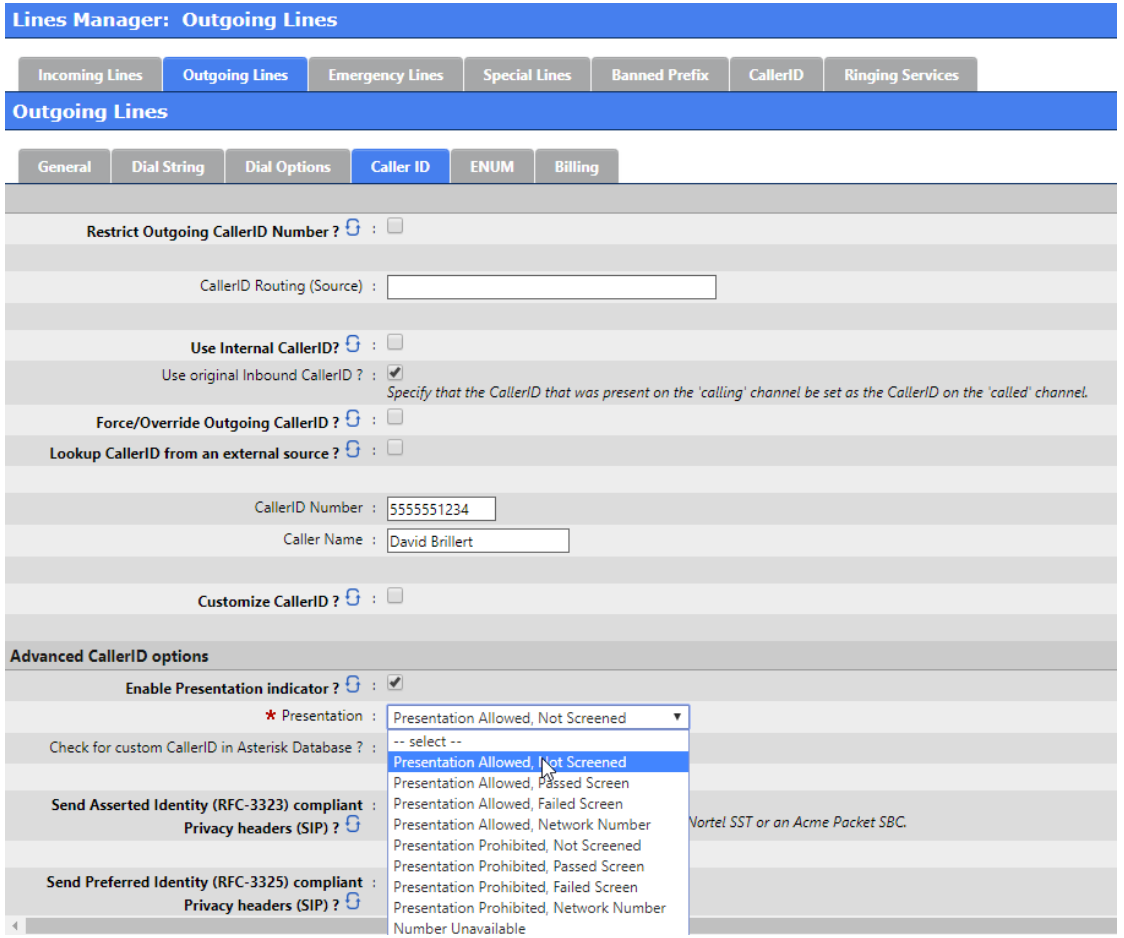
# Outgoing Lines |Caller ID

- 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/



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# 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.