

SCOPSERV
INTERNATIONAL INC.

ScopTEL™ IP PBX Software
Outgoing Lines and Interface Groups

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 interfaces and/or VoIP Accounts.
 - Configuration>Telephony>Configuration>Interfaces>Interface Group
- The Group Interface can be a collection of PRI, FXO, SIP, or other technology 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.
- **Later when the Outgoing Lines are configured those Outgoing Line prefixes can be configured to use either Group 1 or Group 2.**
- Now these new Outgoing Line objects can be assigned to unique Class of Service objects which are then later assigned to extensions belonging to either Company ABC or Company XYZ. Therefore when an extension with an assigned Class of Service allowing access to Group 1 dials the outgoing line prefix 9 the extension will be allowed to dial from ports 1-2. Therefore when an extension with an assigned Class of Service allowing access to Group 2 dials the outgoing line prefix 9 the extension will be allowed to dial from ports 3-4
- Both companies use the same outgoing line prefix 9 but cannot inadvertently dial out and incur expenses to the other company.
- The outgoing ANI is also displayed correctly for each company.



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) Service” -Start the “Telephony Server”

The screenshot shows the ScopServ web interface. The top navigation bar includes 'General', 'Configuration Manager', 'Extensions', 'Lines', 'Interfaces', 'Virtual Fax', 'ACD', 'Applications', 'Miscellaneous', and 'Options'. The user is logged in as 'admin'. The main content area is titled 'Interfaces Manager: Digital Interfaces' and includes a 'Detect Cards' button. A pop-up window titled 'Telephony: Detect Cards' is open, displaying the following text: 'Telephony Server (Zaptel)', 'Zaptel service is currently running. We must stop it in order to detect Zaptel cards!', and a button that says 'Click here to stop Zaptel/DAHDI!'. The pop-up also has a 'Next' button and indicates 'Step 0 of 4'.

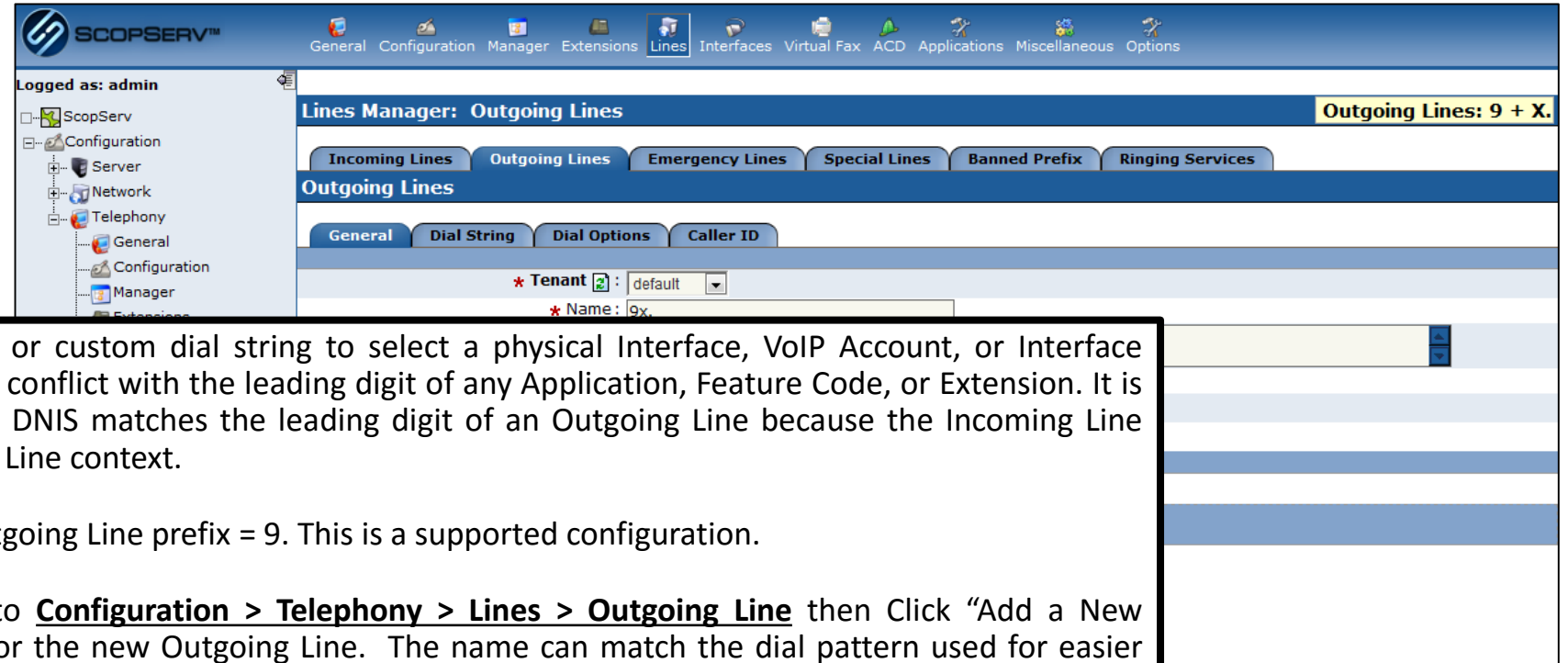
Interface Groups

The screenshot shows the ScopServ web interface. The top navigation bar includes: General, Configuration Manager, Extensions, Lines, Interfaces, Virtual Fax, ACD, Applications, Miscellaneous, and Options. The 'Interfaces' tab is selected. On the left, a tree view shows the configuration structure: ScopServ, Configuration, Server, Network, Telephony, and General. The main content area is titled 'Interfaces Manager: Interface Group' and has tabs for 'Digital Interfaces', 'Analog Interfaces', 'VoIP Accounts', and 'Interface Group'. A yellow warning banner states: 'You must restart Telephony service for these changes to take effect.' Below this, the 'Interface Group' configuration form is visible, showing fields for 'Group ID' (set to 1), 'Description' (Company ABC), and 'Dial Mode' (set to Descending non-busy channel). A dropdown menu for 'Dial Mode' is open, showing options: Descending non-busy channel, Ascending non-busy channel, Ascending Rotary Hunt Group (Round Robin), and Descending Rotary Hunt Group (Round Robin). The 'Add' button is visible next to the dropdown. At the bottom left, there are links for 'Options', 'Configuration Wizard', and 'Log out'. A 'Page Refresh on Change' button is also present.

- To set up a new Interface Group navigate to **Configuration > Telephony > Interfaces > Interface Group** then Click Add a new Group.
- Choose a numeric Group number. Description is optional but recommended. Dial Mode is normally in descending mode when the server is in a CPE environment to prevent “Glare”. Glare is when an incoming interface is ringing and an outgoing channel ring simultaneously and collide with one another. This leads to an outgoing user answering an incoming call unintentionally. Therefore if the incoming channels are ascending the outgoing channel selection should be in descending order. Click on the “Add” button to finish creating the Interface Group.



Outgoing Lines



- Outgoing Lines use an outgoing prefix or custom dial string to select a physical Interface, VoIP Account, or Interface Group. The Outgoing Line prefix cannot conflict with the leading digit of any Application, Feature Code, or Extension. It is fine if the leading digit of an incoming DNIS matches the leading digit of an Outgoing Line because the Incoming Line context is not shared with the Outgoing Line context.
- Example Incoming Line DNIS =9234. Outgoing Line prefix = 9. This is a supported configuration.
- 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.



Outgoing Lines

ScopSERVTM General Configuration Manager Extensions Lines Interfaces Virtual Fax ACD Applications Miscellaneous Options

Logged as: admin

ScopServ Configuration Server Network Telephony General Configuration Manager Extensions Lines Interfaces Virtual Fax Queues and Agents Applications Miscellaneous Import/Export Reports Tools Administration Options Configuration Wizard Log out

Lines Manager: Outgoing Lines Add a new Outgoing Line

Incoming Lines Outgoing Lines Emergency Lines Special Lines Banned Prefix Ringing Services

Outgoing Lines

General Dial String

* Type: Select Type
Select Type
Dial String
Custom Dial String
North American Numbering Plan (NPA-NXX)

Legend: * Required Field Page Refresh on Change

- 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.



Outgoing Lines

Custom Dial Plan Strings

- X matches any digit from 0-9
- Z matches any digit from 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 = Matching Pattern. Access Code = Outgoing Dial Plan Prefix. This digit is always stripped so never passed to the physical interface.
- Number of digit to strip = Number if leading digits stripped from the “Dial String”.
- Prefix to add to Number = The digit(s) prefixed to the outgoing call.
- Authentication (PIN) can be used to force user authentication before call is placed.
- Once all fields are completed click on the “Dial Options” tab.

The screenshot displays the ScopServ IP PBX configuration interface. The left sidebar shows a navigation tree with 'Lines' selected. The main content area is titled 'Lines Manager: Outgoing Lines' and shows 'Outgoing Lines: 9 + X'. The 'Dial String' tab is active, showing the following configuration:

- * Type: Custom Dial String
- * Dial String: X.
- Access Code (Prefix): 9
- Number of digit to strip?: 0
- Prefix to add to Number: (empty)

Below the 'Dial String' tab, there are sections for 'Call Restrictions' and 'Authentication/Password':

- Restrict Allowed Outgoing: Number ?
- Restrict Disallowed Outgoing: Number ?
- Authentication (PIN)?: None (Default: none)

At the bottom, there are 'Save', 'Copy', and 'Cancel' buttons, and a legend indicating that a red asterisk (*) denotes a required field and a refresh icon denotes a page refresh on change.



Outgoing Lines

- Dial Options must be configured only if you wish to provide additional features such as call recording options and audio hook inherit.
- 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 Outgoing Lines: 9 + 1

Outgoing Lines

General | Dial String | Dial Options | Caller ID

Maximum dialing time (in seconds) : 60
 Busy Timeout (in seconds) : 60 Default: 60
 Play Calling Progress Message ? :
 Indicate ringing to the calling party :

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 * :

Recording

Record all outgoing call ? :
 Allow the caller to record the call :
 Allow the callee to record the call :
 Recording Tag :
 Enable Audio Inherit ? :
By enabling inheritance on the channel, you are giving permission for the audiohook to be inherited by a descendent channel.
 Group ID (ChanSpy) :
If defined, this allow to create 'ChanSpy' application that allow to spy all calls received on this Outgoing Line.

Advanced Options

Provide Music on Hold until answer :
 Music On Hold : default

Limit Call Duration :
 Play an announcement to the called party :
 Send DTMF after remote answer ? :
 Customize Hangup Status for Fallback destination ? :
 Customize Dial Status for Fallback destination ? :
 Disable Call Record Detail (CDR) ? :
This option will tell Asterisk (PBX) to not maintain a CDR for the current call.

Script Execution (AGI)

AGI script :
This optional AGI parameter will setup an AGI script to be executed when calling this Outgoing Line.

Save Copy Cancel

Legend: * Required Field Page Refresh on Change

Outgoing Lines

- 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.

The screenshot displays the ScopServ web interface for configuring Outgoing Lines. The top navigation bar includes tabs for General, Configuration, Manager, Extensions, Lines, Interfaces, Virtual Fax, ACD, Applications, Miscellaneous, and Options. The user is logged in as 'admin'. The left sidebar shows a tree view of the system configuration, with 'Telephony' expanded to show 'Outgoing Lines'. The main content area is titled 'Lines Manager: Outgoing Lines' and shows 'Outgoing Lines: 9 + X'. Below this, there are tabs for 'Incoming Lines', 'Outgoing Lines', 'Emergency Lines', 'Special Lines', 'Banned Prefix', and 'Ringing Services'. The 'Outgoing Lines' tab is active, and the 'Caller ID' sub-tab is selected. The configuration form includes the following fields and options:

- CallerID Routing (Source): [Empty text box]
- Force/Override Outgoing:
- CallerID ? [Refresh icon]
- Lookup CallerID from an external source ?
- CallerID Number: 5555551234
- Caller Name: Company ABC
- Advanced CallerID options**
- Enable Presentation indicator ?
- Check for custom CallerID in Asterisk Database ?
- Use original Inbound CallerID ? *Specify that the CallerID that was present on the 'calling' channel be set as the CallerID on the 'called' channel.*
- Send Asserted Identity (RFC-3323) compliant Privacy headers (SIP) ? *This may be beneficial when interfacing with a Nortel SST or an Acme Packet SBC.*
- Send Preferred Identity (RFC-3325) compliant Privacy headers (SIP) ?

At the bottom, there are 'Save', 'Copy', and 'Cancel' buttons, and a legend indicating that a red asterisk (*) denotes a required field and a refresh icon indicates a page refresh on change.

