PGW 2200 Softswitch - CLIP and CLIR Support

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Introduction

This document explains how to configure calling line identification presentation (CLIP) to calling line identification restriction (CLIR) support when you place a call from the H.323 network to the SS7 network. It applies to the call control PGW 2200 Softswitch version 9.4(1) and higher and to the Cisco HSI solution.

CLIP is a service provided to the called party that allows the display of the calling number (caller ID). The user-provided calling number must be transported from the caller to the called party.

CLIR is a service provided to the calling party that allow the calling party to indicate whether or not the calling number is to be displayed to the called party. It sets a calling number presentation indicator to allowed or restricted. Regulations require that network administrations remove the calling number before it is sent to the called party, if the calling party has so requested.

Prerequisites

Requirements

Readers of this document should have knowledge of the Cisco Media Gateway Controller Software Release 9 Documentation.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco PGW 2200 Software Releases 9.4(1) or higher
- Cisco HSI software 4.1 or higher

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Resolution for Presentation Bit Setting in SS7 IAM Message

The local exchange function establishes the SS7 IAM message in the SS7 network, after a number of basic decisions about the supplied caller ID (if any) are made. If no CLI is supplied or a network CLI is required, then the Cisco PGW 2200 must be able to supply a CLI to the outgoing call on a trunk group basis.

Make the changes in the next section while in call control mode.

For the Cisco HSI

This feature allows the CLI presentation and screening indicators to be passed from ISDN User Part (ISUP) IAM messages to the Q.931 portion of the H.323 setup messages, and vice versa. Issue these commands to configure this on the Cisco HSI:

```
gw mml> prov-sta::srcver="active",dstver="presentation"

gw mml> prov-add:name=SYS_CONFIG_STATIC,ClipClirSupported=enabled

gw mml> prov-add:name=CCPackage,A_CC_AnumDataSI=1

gw mml> prov-add:name=CCPackage,A_CC_Clir=1

gw mml> prov-cpy
```

Restart the Cisco HSI. You must restart HSI because these are some of the static variables that must be read at start time or switch-over.

Note: To switch the feature on, the element must be present and given any arbitrary (string) value. To switch the feature off, the element must be given no value (""). Alternatively, it can be deleted from the configuration.

- On

  ```
  prov-add/ed:name=SYS_CONFIG_STATIC, ClipClirSupported=enabled
  ```

- Off

  ```
  prov-ed:name=SYS_CONFIG_STATIC, ClipClirSupported=""
  ```

  or

  ```
  prov-dlt:name=SYS_CONFIG_STATIC, ClipClirSupported
  ```

Refer to HSI Data Collection for Technical Support Service Requests.

For the Cisco PGW 2200

If the presentation restriction bit is still set in the SS7 IAM message, also check the information in the routing plan of the Cisco PGW 2200. In the event that you have to add the command to the routing table, check the `dw` information. If it set to `1`, then it will always go out as restricted.

```
numan-add:resulttable:custgrpid="dp01",name="PresEnabled",
resulttype="CG_PRES_IND",dw1="1",setname="cisco1"
```

Note: These are the meanings of the `dw` values:

- 1—Restricted
- 2—Unavailable
- 3—Allowed

For the Trunk Group Properties

Also check this configuration settings on the Cisco PGW 2200 trunk group basis: time-division multiplexing (TDM), Extended ISDN User Part (EISUP), and session initiation protocol (SIP).

Egress (these apply to messages that exit the Cisco PGW 2200, both backward and forward):

- SendAddressInCgPN—If set to 0, this setting unconditionally removes address digits.0—Do not include address digits in the Calling Party Number.1—Include address digits in the Calling Party Number.
- SuppressCLIdigit—If set, this setting removes address parameters, if the presentation indicator is set to restricted.
- CgPNInclude—(on SIP only) Removes the Calling Party Number parameter, if the presentation indicator is set to restricted.

Note: Refer to Table A-62 Software Release 9.x Properties in Components and Properties for a Media Gateway Controller.

If the variant is International Telecommunication Union (ITU) Q767_Base on the call incoming side, and if the SS7 IAM message is coming with nature of address (NOA) set to 000011 (not used), then this results in a missing A_number. ITU Q767_Base only supports the sections C.3.7 (Called Party Number) and C.3.8 (Calling Party Number):

```
C.3.7   Called party number:
b)      Nature of address indicator
0000000                 spare
0000001                 , not used
0000010                 , not used
0000011                 national (significant) number
0000100                 international number

C.3.8   Calling party number
b)      Nature of address indicator
0000000         spare
```

```
0000001         , not used
0000010         , not used
0000011         , not used
0000100         international number
```

Here you can see that 0000011 is not supported for Calling Party Number.

If you run a Cisco PGW 2200 Message Definition Language (MDL) trace, you will see the error as `validation failed for RANGE or MAP`:

```
!--- Information from the MDL trace. !--- Output suppressed. reading element
Q767CallingPartyNumber
                        reading field RAW
                           56 bits read
                        ok
                        reading field DATA
                           reading field oddEven
                              '1'B
                           ok
                           reading field cgpnoa
                              reading field ok
                                 '0000 011'B
                                 validation failed for RANGE or MAP
                              not found
                              reading field err
                                 '0000 011'B
                              ok
```

Related Information

- **Cisco PGW 2200 Softswitch Tech Notes**
- **Cisco Signaling Controllers Technical Documentation**
- **Voice Technology Support**
- **Voice and Unified Communications Product Support**
- **Troubleshooting Cisco IP Telephony**
- **Technical Support - Cisco Systems**