



Cisco Catalyst 6000 Series Gateway-PBX Interoperability: Lucent Definity G3si with E1 PRI Signaling

This document describes the interoperability and configuration of a Cisco Catalyst 6000 series voice gateway Lucent Definity G3si PBX using E1 PRI signaling. It includes the following sections:

- System Components
- Configuration Tasks
- Caveats

System Components

PBX Model	Lucent Definity G3si
PBX Release	Software Version R 7.0
Telephony Signaling	E1 PRI
Voice Gateway	Cisco Catalyst 6608
Gateway Release	5.5(6a)
Call Manager Release	3.1(0.212)
VoX Protocol	MGCP

Configuration Tasks

See the following sections for configuration tasks for this feature:

- Set Up
-

Lucent Definity G3si PBX Configuration

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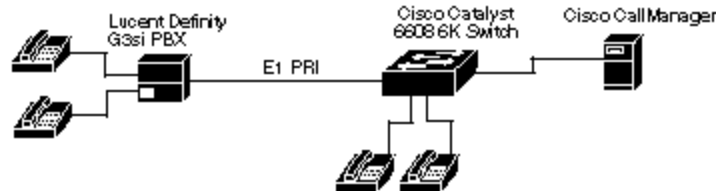
Call Manager Configuration

Set Up

This section includes the following information:

- Connectivity Diagrams
- Set Up Notes

Connectivity Diagrams



Set Up Notes

- The Cisco 6608-E1 Gateway with ISDN protocol type setting of PRI-EURO supports both protocol sides by selecting “Network/User” in the protocol side field when configuring the Gateway via CallManager.

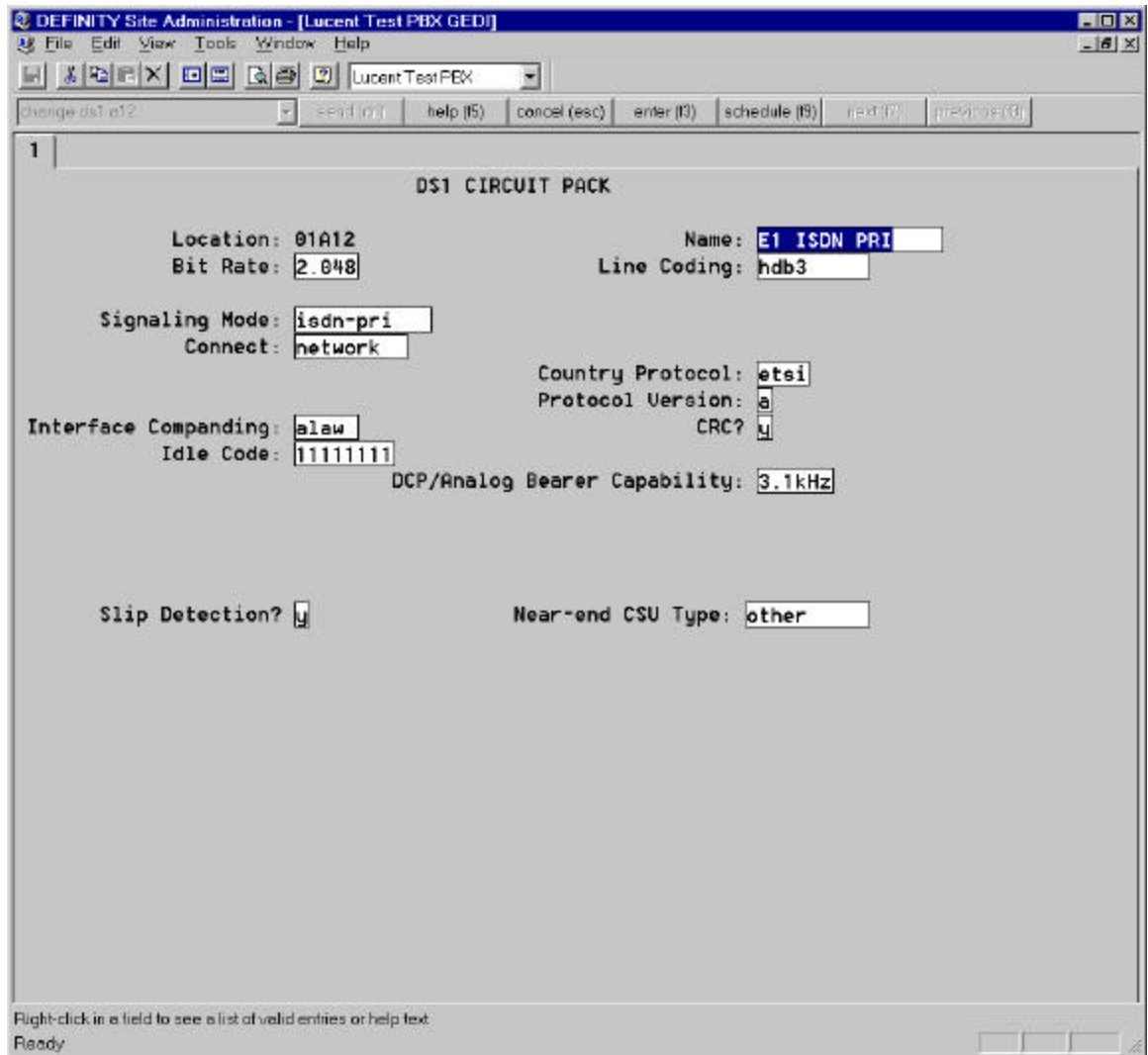
Lucent Definity G3si PBX Configuration

Lucent Definity G3si PBX Version Information

- Software: Version G3V7i.01.0.343.7
- Hardware: TN464F, DS1 INTFC 24/32

Lucent Definity G3si PBX Sample Configuration

DS1 CIRCUIT PACK



Signaling Group

The screenshot shows the 'DEFINTY Site Administration - [Lucent Test PBX GEDI]' window. The title bar includes standard window controls and a menu bar with 'File', 'Edit', 'View', 'Tools', 'Window', and 'Help'. Below the menu bar is a toolbar with icons for file operations and a dropdown menu currently set to 'Lucent Test PBX'. A status bar at the top of the main area shows 'add signaling-group 3' and several function key shortcuts: 'send (ftrj)', 'help (f5)', 'cancel (esc)', 'enter (f3)', 'schedule (f9)', 'next (f7)', and 'previous (f8)'. The main content area is titled 'SIGNALING GROUP' and contains the following configuration fields:

- Group Number: 3
- Associated Signaling?:
- Primary D-Channel:
- Max number of NCA TSC:
- Max number of CA TSC:
- Trunk Group for NCA TSC:
- Trunk Group for Channel Selection:
- Supplementary Service Protocol:

At the bottom of the window, there is a status bar with the text 'Right-click in a field to see a list of valid entries or help text' and 'Ready'. On the right side of the status bar, there is a 'NUM' button and a small icon.

Trunk Group

DEFINITY Site Administration - [Lucent Test PBX GED]

File Edit View Tools Window Help

Lucent Test PBX

Change trunk group? send (D) help (H) cancel (esc) enter (R) schedule (S) next (N) previous (P)

1 2 3 4 5 6 7 8 9

TRUNK GROUP

Group Number: 7 Group Type: isdn CDR Reports:

Group Name: E1-ISDN-PRI COR: 1 TN: 1 TAC: 668

Direction: two-way Outgoing Display?

Dial Access? Busy Threshold: 99 Night Service:

Queue Length: 0

Service Type: tie Auth Code? TestCall ITC: rest

Far End Test Line No:

TestCall BCC:

TRUNK PARAMETERS

Codeset to Send Display: 0 Codeset to Send TCH Lookahead: 7

Max Message Size to Send: 260 Charge Advice: none

Supplementary Service Protocol: c Digit Handling (in/out): overlap/overlap

Digit Treatment: Digits:

Trunk Hunt: ascend

Connected to Toll? STT Loss: normal DTT to DCO Loss: normal

Calling Number - Delete: Insert: Numbering Format:

Bit Rate: 1200 Synchronization: async Duplex: full

Disconnect Supervision - In? Out?

Answer Supervision Timeout: 0

Right-click in a field to see a list of valid entries or help text.

Ready

The screenshot shows the 'DEFINITY Site Administration - [Lucent Test PBX GED]' window. The interface includes a menu bar (File, Edit, View, Tools, Window, Help), a toolbar with icons, and a command line with 'Lucent Test PBX' selected. Below the command line is a 'Change trunk group?' dropdown and several function buttons: 'send (n)', 'help (F5)', 'cancel (esc)', 'enter (F3)', 'schedule (F9)', 'next (F7)', and 'previous (F8)'. A numeric keypad (1-9) is visible. The main area is titled 'TRUNK FEATURES' and contains the following configuration fields:

ACA Assignment?	<input type="checkbox"/> n	Measured:	<input type="text" value="none"/>	Wideband Support?	<input type="checkbox"/> n
		Internal Alert?	<input type="checkbox"/> n	Maintenance Tests?	<input type="checkbox"/> y
		Data Restriction?	<input type="checkbox"/> n	NCA-TSC Trunk Member:	<input type="checkbox"/>
		Send Name:	<input type="checkbox"/> y	Send Calling Number:	<input type="checkbox"/> y
Used for DCS?	<input type="checkbox"/> n	Numbering Format:	<input type="text" value="public"/>		
Suppress # Outpulsing?	<input type="checkbox"/> n	Outgoing Channel ID Encoding:	<input type="text" value="preferred"/>	UI IE Treatment:	<input type="text" value="service-provider"/>
				Send Connected Number:	<input type="checkbox"/> y
Send UCID?	<input type="checkbox"/> y				
Send Codeset 6/7 LAI IE?	<input type="checkbox"/> y				

Right-click in a field to see a list of valid entries or help text.
Ready

DEFINITY Site Administration - [Lucent Test PBX GED]

File Edit View Tools Window Help

Lucent Test PBX

Change trunk group? send (m) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9

TRUNK GROUP

Administered Members (min/max): 1/30
Total Administered Members: 30

GROUP MEMBER ASSIGNMENTS

	Port	Code	Sfx	Name	Night	Sig Grp
1:	01A1201	TN464	F			3
2:	01A1202	TN464	F			3
3:	01A1203	TN464	F			3
4:	01A1204	TN464	F			3
5:	01A1205	TN464	F			3
6:	01A1206	TN464	F			3
7:	01A1207	TN464	F			3
8:	01A1208	TN464	F			3
9:	01A1209	TN464	F			3
10:	01A1210	TN464	F			3
11:	01A1211	TN464	F			3
12:	01A1212	TN464	F			3
13:	01A1213	TN464	F			3
14:	01A1214	TN464	F			3
15:	01A1215	TN464	F			3

Right-click in a field to see a list of valid entries or help text.
Ready

DEFINITY Site Administration - [Lucent Test PBX GED]

File Edit View Tools Window Help

Lucent Test PBX

Change trunk group? send (m) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

TRUNK GROUP

Administered Members (min/max): 1/30
Total Administered Members: 30

GROUP MEMBER ASSIGNMENTS

	Port	Code	Sfx	Name	Night	Sig Grp
16:	01A1217	TN464	F			3
17:	01A1218	TN464	F			3
18:	01A1219	TN464	F			3
19:	01A1220	TN464	F			3
20:	01A1221	TN464	F			3
21:	01A1222	TN464	F			3
22:	01A1223	TN464	F			3
23:	01A1224	TN464	F			3
24:	01A1225	TN464	F			3
25:	01A1226	TN464	F			3
26:	01A1227	TN464	F			3
27:	01A1228	TN464	F			3
28:	01A1229	TN464	F			3
29:	01A1230	TN464	F			3
30:	01A1231	TN464	F			3

Right-click in a field to see a list of valid entries or help text.
Ready

Uniform Dialing Plan

DEFINITY Site Administration - [Lucent Test PBX GED]

File Edit View Tools Window Help

Lucent Test PBX

Change dialplan send (M) help (H) cancel (esc) enter (R) schedule (S) ipx (P) predefine (D)

1

DIAL PLAN RECORD

Local Node Number: 1
 ETA Node Number:
 ETA Routing Pattern:
 Uniform Dialing Plan: 4-digit
 UDP Extension Search Order: udp-table-first

FIRST DIGIT TABLE

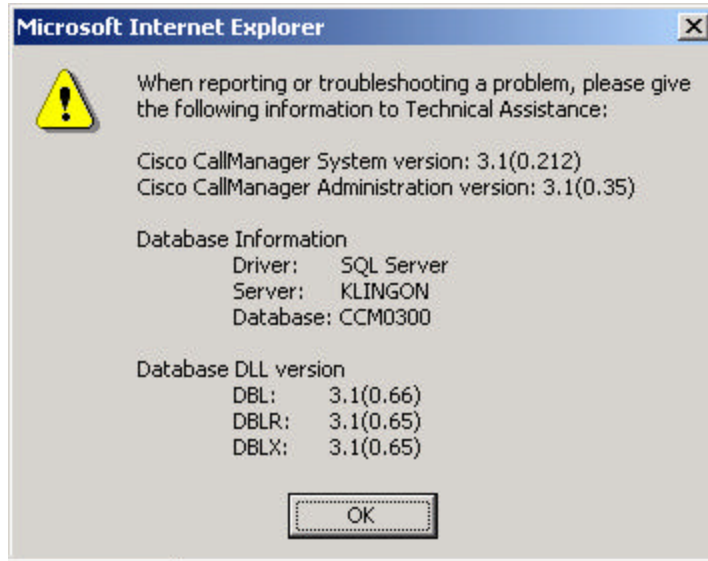
First Digit	- 1 -	- 2 -	- 3 -	- 4 -	- 5 -	- 6 -
1:						
2:				extension		
3:				extension		
4:				extension		
5:						
6:			dec			
7:						
8:	fac					
9:	fac					
0:	attd					
x:	fac					
#:	fac					

Right-click in a field to see a list of valid entries or help text

Ready

Call Manager Configuration

Call Manager Version Information



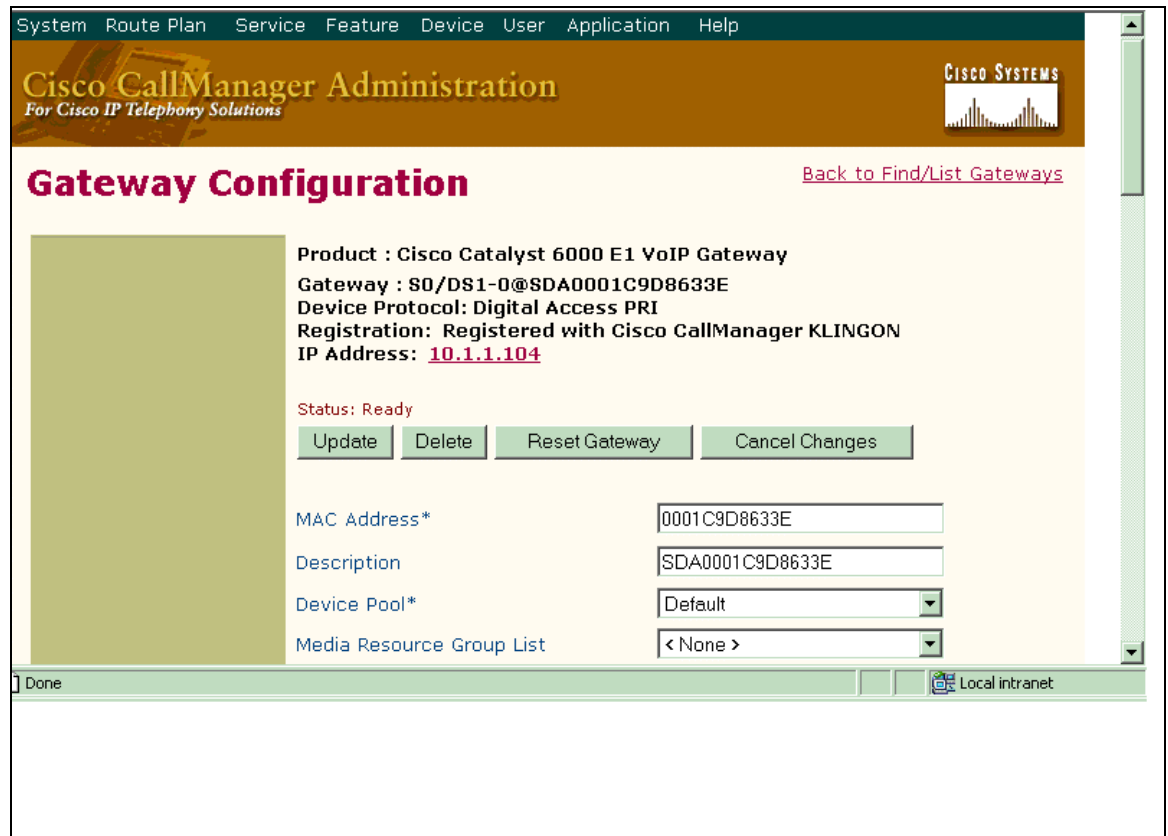
Cisco Catalyst 6608 Gateway Configuration

The following is the configuration of the Cisco Catalyst 6608 voice gateway connected to the Lucent Definity G3si PBX E1 PRI interface.

Cisco Catalyst 6608 Voice Gateway Version Information

- Software: Cisco IOS™ Version 5.5(6a)
- Hardware: Cisco Catalyst 6608

6608 Gateway Configuration



The screenshot shows the Cisco CallManager Administration web interface for Gateway Configuration. The page title is "Gateway Configuration" and it includes a "Back to Find/List Gateways" link. The configuration details for a Cisco Catalyst 6000 E1 VoIP Gateway are displayed, including the gateway name, device protocol, registration status, and IP address. The status is "Ready". Below the details are four buttons: "Update", "Delete", "Reset Gateway", and "Cancel Changes". At the bottom, there are four input fields: "MAC Address*" (0001C9D8633E), "Description" (SDA0001C9D8633E), "Device Pool*" (Default), and "Media Resource Group List" (< None >). The interface also shows a "Done" button and a "Local intranet" icon.

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Gateway Configuration [Back to Find/List Gateways](#)

Product : Cisco Catalyst 6000 E1 VoIP Gateway
Gateway : S0/DS1-0@SDA0001C9D8633E
Device Protocol: Digital Access PRI
Registration: Registered with Cisco CallManager KLINGON
IP Address: [10.1.1.104](#)

Status: Ready

Update Delete Reset Gateway Cancel Changes

MAC Address* 0001C9D8633E
Description SDA0001C9D8633E
Device Pool* Default
Media Resource Group List < None >

Done Local intranet

Network Hold Audio Source	< None >
User Hold Audio Source	< None >
Calling Search Space	< None >
Location	< None >
Load Information	
Channel Selection Order*	Top Down
PCM Type*	A-law
Protocol Side*	Network
Caller ID DN	
Calling Party Selection*	Originator
Channel IE Type*	Use Number when 1B
Interface Identifier Present**	<input type="checkbox"/>
Interface Identifier Value**	0
Display IE Delivery	<input checked="" type="checkbox"/>
Redirecting Number IE Delivery	<input checked="" type="checkbox"/>
Delay for first restart (1/8 sec ticks)	32

Local intranet

Delay between restarts (1/8 sec ticks)	4
Num Digits*	23
Sig Digits	<input checked="" type="checkbox"/>
Prefix DN	
Presentation Bit*	Allowed
Called party IE number type unknown*	Cisco CallManager
Calling party IE number type unknown*	Cisco CallManager
Called Numbering Plan*	Cisco CallManager
Calling Numbering Plan*	Cisco CallManager
PRI Protocol Type*	PRI EURO
Inhibit restarts at PRI initialization	<input checked="" type="checkbox"/>
Enable status poll	<input type="checkbox"/>
Number of digits to strip*	0
Country Code*	North America
Setup non-ISDN Progress Indicator IE Enable***	<input type="checkbox"/>

Local intranet

Product Specific Configuration

Clock Reference*	<input type="text" value="Network"/>
Framing*	<input type="text" value="CRC4"/>
Audio Signal Adjustment into IP Network*	<input type="text" value="NoDbPadding"/>
Audio Signal Adjustment from IP Network*	<input type="text" value="NoDbPadding"/>
Zero Suppression*	<input type="text" value="HDB3"/>

* indicates required item
** applicable to DMS-100 protocol only
*** may be required to force ringback from some PBXs

[Back to Find/List Gateways](#)

Local intranet

Route Pattern Configuration

The screenshot shows the Cisco CallManager Administration web interface. At the top, there is a navigation menu with items: System, Route Plan, Service, Feature, Device, User, Application, and Help. Below the menu is a header banner with the text "Cisco CallManager Administration For Cisco IP Telephony Solutions" and the Cisco Systems logo. The main heading is "Route Pattern Configuration". To the right of the heading are two links: "Add a New Route Pattern" and "Back to Find/List Route Patterns". Below this, the configuration details for a route pattern are shown:

Route Pattern: 6.XXXX
Status: Ready
Note: Any update to this route pattern automatically resets the associated gateway/route list

Buttons: Copy, Update, Delete, Cancel Changes

Pattern Definition

Route Pattern*	6.XXXX
Partition	< None >
Numbering Plan*	North American Numbering Pl
Route Filter	< None >
Gateway/Route List*	S0/DS1-0@SDA0001C9D8633E (Edit)
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern

At the bottom of the interface, there is a status bar with a "Local intranet" icon and text.

Partition: < None >

Numbering Plan*: North American Numbering Plk

Route Filter: < None >

Gateway/Route List*: S0/DS1-0@SDA0001C9D8633E (Edit)

Route Option: Route this pattern Block this pattern

Provide Outside Dial Tone Urgent Priority

Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask: []

Prefix Digits (Outgoing Calls): []

Called Party Transformations

Discard Digits: PreDot

Called Party Transform Mask: []

Prefix Digits (Outgoing Calls): []

* indicates required item.

Cisco Catalyst 6608 Voice Gateway Sample Configuration

Configure in the following sequence:

1. DS1 Circuit Pack
2. Signaling Group
3. Trunk Group
4. Uniform Dialing Plan

Caveats

- When calling from Cisco 7960 IP phone to Lucent digital phone, Calling/Called Number is displayed on both phones after the call is answered as expected. Cisco 7960 phone however only displays “Called Number” even though Lucent sends both “Connected Name” and “Connected Number” in the connect message.
- When calling from Lucent digital phone to Cisco 7960 IP phone, IP phone displays Connected Number after the call is answered. Lucent phone however did not display "Called Name" or "Called Number".