

Lucent/Avaya Definity G3si V7 PBX with CallManager using the Cisco 6608-E1 PRI EURO Gateway

This application note discusses the integration of the Lucent/Avaya Definity G3si V7 PBX with CallManager using the Cisco 6608-E1 PRI EURO Gateway.

Integration Description

Connectivity is achieved by using the ETSI standard PRI protocol. The Lucent/Avaya Definity G3si can be configured as either the NETWORK or USER side. The figure below shows the general network layout for the integration.

Features

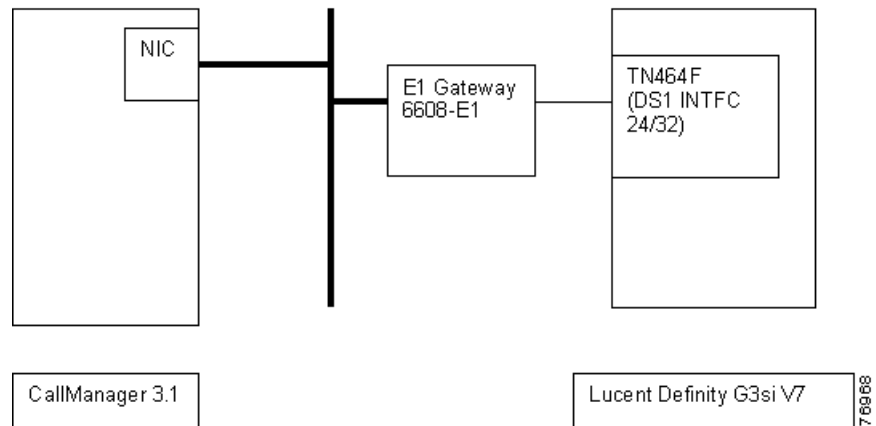
Key features supported:

- Calling/Called Number
- Calling/Called Name

Key features not supported:

- N/A

Network Layout



Cisco Systems Equipment Needed

- Hardware (Gateway): Cisco 6608 E1 Port
- Software: CallManager Release 3.1(0.212)

PBX Requirements

- Hardware: TN464F, DS1 INTFC 24/32
- Software: Version V7



Configuring the Lucent/Avaya Definity G3si PBX

To configure the Lucent/Avaya Definity G3si PBX, do the following:

- Step 1.** Add the new circuit pack.
- Step 2.** Add the new signaling group.
- Step 3.** Add the new trunk group.
- Step 4.** Add the Uniform Dialing Plan.

Circuit Pack

The following figures show the configuration of the DS1 circuit pack.

DS1 Circuit Pack

The screenshot shows the 'DS1 CIRCUIT PACK' configuration window in the Definity G3si PBX administration software. The window title is 'DEFINITY G3si Administration - [Lucent Test PBX G300]'. The configuration fields are as follows:

Location:	01A12	Name:	01 120N PBX
Bit Rate:	2.048	Line Coding:	mcB3
Signaling Mode:	isdh-ncf1	Country Protocol:	atad
Connect:	natural	Protocol Version:	a
Interface Companding:	slw	CRC?	a
Idle Code:	11111111	DCP/Analog Bearer Capability:	3.11Hz
Slip Detection?	<input type="checkbox"/>	Rear-end CSU Type:	other

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



Signaling Group

The following figure shows the configuration of the signaling group.

Signaling Group

The screenshot shows the 'DEFINTY Site Administration - [Lucent Test PBX GFDI]' window. The main area is titled 'SIGNALLING GROUP' and displays the following configuration fields:

- Group Number: 0
- Associated Signaling?
- Primary D-Channel: 01214
- Trunk Group for Channel Selection: 7
- Supplementary Service Protocol:
- Max number of NCA TSE: 3
- Max number of CA TSE: 3
- Trunk Group for NCA TSE:

At the bottom of the window, there is a status bar that reads 'Rightclick in a field to see a list of valid entries or help text' and 'Ready'. A 'MUM' button is also visible in the bottom right corner.



Trunk Group

The following figures show the configuration of the trunk group.

Trunk Group

TRUNK GROUP

Group Number: 7 Group Type: lead CDR Reports:
Group Name: E1-15DN-PRI CDR: TN: TAC: 666
Direction: expans Outgoing Display?
Dial Access? Busy Threshold: 95 Night Service:
Queue Length: 8
Service Type: isa Auth Code? TestCall ITC: roci
TestCall ICC: 1 Par End Test Line No:
TRUNK PARAMETERS
Codecset to Send Display: 0 Codecset to Send TCH,Lookahead: ?
Max Message Size to Send: 200 Charge Advice: none
Supplementary Service Preced: Digit Handling (in/out): overlap/overlap
Digit Treatment: Digit:
Trunk Hunt: ascend
Connected to Toll? STT Loss: normal DTT to OOB Loss: normal
Calling Number - Delete: Insert: Numbering Format:
Bit Rate: 1280 Synchronization: sync 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



Trunk Group—Trunk Features

The screenshot shows the Cisco ICS Administration console window titled "LOCAL TEST PCH (CCD)". The main content area is titled "TRUNK FEATURES" and contains the following configuration options:

- Measured: none
- Internal Alert?
- Data Restriction?
- Send Name:
- Send Calling Number:
- Midband Support?
- Maintenance Tests?
- MCA-TSC Trunk Member:
- Used for DCS?
- Suppress H Outpulsing?
- Numbering Format: public
- Outgoing Channel ID Encoding: preferred
- UI IE Treatment: service-provider
- Send Connected Number:
- Send DCID?
- Send Codecset G/7 LAD IE?

At the bottom of the window, there is a status bar that reads: "Right-click is used to see a list of valid entries or help text." and "Ready:"



Trunk Group—Group Member Assignments

The screenshot shows the 'Trunk Group' configuration window in Cisco Unity Group Administration. The window title is 'Cisco Unity Group Administration - Trunk Test PGM (4/0)'. The main content area displays 'TRUNK GROUP' with 'Administered Members (min/max): 1/30' and 'Total Administered Members: 30'. Below this is a table titled 'GROUP MEMBER ASSIGNMENTS' with columns for 'Port', 'Code', 'Sex', 'Name', 'Night', and 'Sig. Grp'. The table lists 15 entries, all with 'F' for sex and '3' for 'Sig. Grp'. The 'Port' column values range from 0101201 to 0101215. At the bottom of the window, there is a status bar with the text 'Right-click is enabled to see a list of valid entries or help text' and 'Ready'.

	Port	Code	Sex	Name	Night	Sig. Grp
1:	0101201	T0404	F			3
2:	0101202	T0404	F			3
3:	0101203	T0404	F			3
4:	0101204	T0404	F			3
5:	0101205	T0404	F			3
6:	0101206	T0404	F			3
7:	0101207	T0404	F			3
8:	0101208	T0404	F			3
9:	0101209	T0404	F			3
10:	0101210	T0404	F			3
11:	0101211	T0404	F			3
12:	0101212	T0404	F			3
13:	0101213	T0404	F			3
14:	0101214	T0404	F			3
15:	0101215	T0404	F			3



Trunk Group—Group Member Assignments Continued

CCP (Trunk Administration) - Locust Test Pk (CCP)

File Edit View Tools Window Help

Locust Test Pk

Trunk Group: [] Cancel (Esc) Enter (Enter) Schedule (F5) Refresh (F5) Previous (Left)

1 2 3 4 5 6 7 8 9

TRUNK GROUP

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

GROUP MEMBER ASSIGNMENTS

Per ID	Code	Sfx	Name	Right	Sig Grp
16: 0101216	TR464	F			0
17: 0101218	TR464	F			0
18: 0101219	TR464	F			0
19: 0101220	TR464	F			0
20: 0101221	TR464	F			0
21: 0101222	TR464	F			0
22: 0101223	TR464	F			0
23: 0101224	TR464	F			0
24: 0101225	TR464	F			0
25: 0101226	TR464	F			0
26: 0101227	TR464	F			0
27: 0101228	TR464	F			0
28: 0101229	TR464	F			0
29: 0101230	TR464	F			0
30: 0101231	TR464	F			0

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

Ready



Uniform Dialing Plan

The following figures show the configuration of the uniform dialing plan.

Dial Plan Record

Local Node Number:
ETA Node Number:
ETA Routing Pattern:
Uniform Dialing Plan:
UDP Extension Search Order:

FIRST DIGIT TABLE

Digit	- 1 -	- 2 -	- 3 -	- 4 -	- 5 -	- 6 -
1:						
2:				extension		
3:				extension		
4:				extension		
5:						
6:			stop			
7:						
8:	fac					
9:	fac					
0:	extid					
*	fac					
#:	fac					

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



Uniform Dialing Plan

UNIFORM DIALING PLAN
Exit Codes: 9000

Exit Code: 9000 Type: UDPCode (AAA)

dd	Type	dd	Type	dd	Type	dd	Type	dd	Type
00:		10:		20:		30:		40:	UDPCode (AAA)
01:		11:		21:		31:		41:	
02:		12:		22:		32:		42:	
03:		13:		23:		33:		43:	
04:		14:		24:		34:		44:	
05:		15:		25:		35:		45:	
06:		16:		26:		36:		46:	
07:		17:		27:		37:		47:	
08:		18:		28:		38:		48:	
09:		19:		29:		39:		49:	

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



Configuring Cisco CallManager

To configure Cisco CallManager, do the following:

Step 1. Configure the gateway.

Step 2. Configure the route pattern.

Gateway Configuration

The following figures show the configuration of the Cisco 6608 Gateway.

Cisco 6608 Gateway Configuration

The screenshot shows the Cisco CallManager Administration interface for Gateway Configuration. The page title is "Gateway Configuration" with a "Back to Product Gateways" link. The configuration details are as follows:

Product	Cisco Catalyst 6608 IS-MTP Gateway
Gateway	80/081-0180/0801C90803E
Device Protocol	Digital Access PRI
Registration	Registered with Cisco CallManager KUNING
IP Address	10.1.1.103

Buttons: Update, Delete, Power Gateway, Cancel Changes

MAC Address*	0001C90803E
Description	80/081-0180/0801C90803E
Device Pool*	Default
Media Resource Group List	<None>

Cisco 6608 Gateway Configuration Continued

The screenshot shows the continuation of the Gateway Configuration page. The configuration details are as follows:

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*	μ-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



Cisco 6608 Gateway Configuration Continued

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 NI2
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 76876

Cisco 6608 Gateway Configuration Continued

Product Specific Configuration	
Clock Reference*	Network
Framing*	GPO4
Audio Signal Adjustment into IP Network**	NoDbPadding
Audio Signal Adjustment from IP Network**	NoDbPadding
Zero Suppression*	HDB3

* indicates required item
** applicable to GPO-108 protocol only
*** may be required to force digback from some PR00

[Back to Red/Gnt Gateway](#)

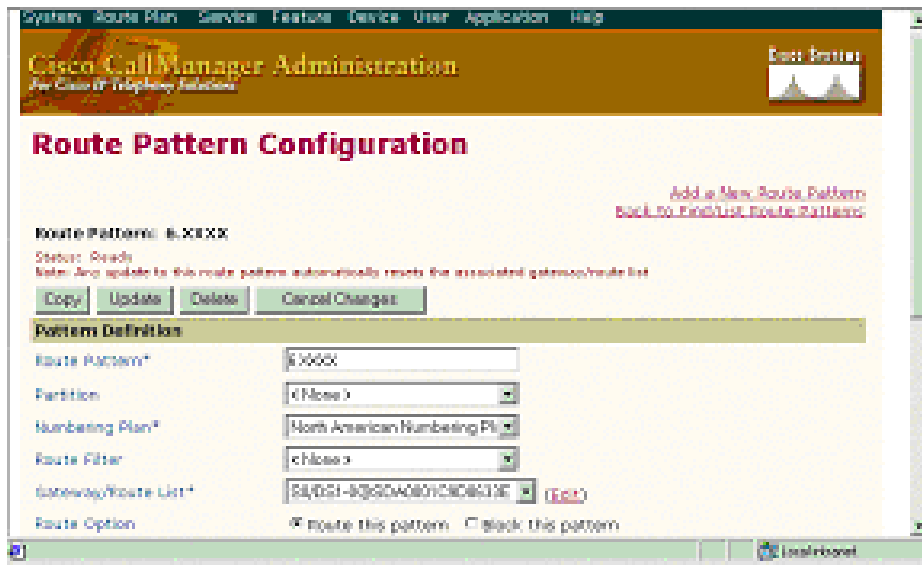
Local intranet



Route Pattern Configuration

The following figures show the configuration of the route pattern.

Route Pattern Configuration



System Route Plan Service Feature Device User Application Help

Cisco Call Manager Administration
For Cisco IP Telephony Solutions

Route Pattern

Route Pattern Configuration

Add a New Route Pattern
[Back to Find List Route Patterns](#)

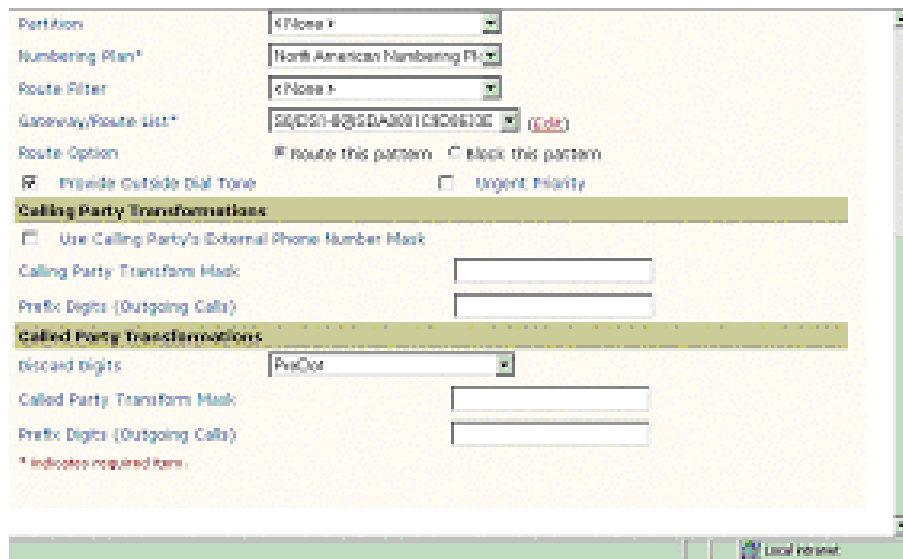
Route Pattern: 8.XXXX
Status: Ready
Note: Any update to this route pattern automatically resets the associated gateway/route list

Pattern Definition

Route Pattern*	8XXXX
Partition	<None>
Numbering Plan*	North American Numbering Plan
Route Filter	<None>
Gateway/Route List*	8(001-800)DARWINC06010E (Edit)
Route Option	<input checked="" type="checkbox"/> route this pattern <input type="checkbox"/> block this pattern

Local Intranet

Route Pattern Configuration Continued



Partition	<None>
Numbering Plan*	North American Numbering Plan
Route Filter	<None>
Gateway/Route List*	8(001-800)DARWINC06010E (Edit)
Route Option	<input checked="" type="checkbox"/> route this pattern <input type="checkbox"/> block this pattern
<input checked="" type="checkbox"/> Inside Outside Dial Tone	<input type="checkbox"/> 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.

Local Intranet



Considerations

Calling Name and Number Feature

When calling from a Cisco 7960 IP phone to a Lucent digital phone, the Calling Name and Number are displayed on the Lucent digital phone after the call is answered. The Cisco 7960 phone, however, displays only the Called Number even though the Lucent sends both the “Connected Name” and “Connected Number” in the CONNECT message.

When calling from a Lucent digital phone to a Cisco 7960 IP phone, the IP phone displays Connected Name and Number after the call is answered. The Lucent phone, however, did not display the Called Name or the Called Number. It was verified using ISDN protocol analyzer that the CallManager was not sending the Connected Name or the Connected Number information in the connect message back to PBX.

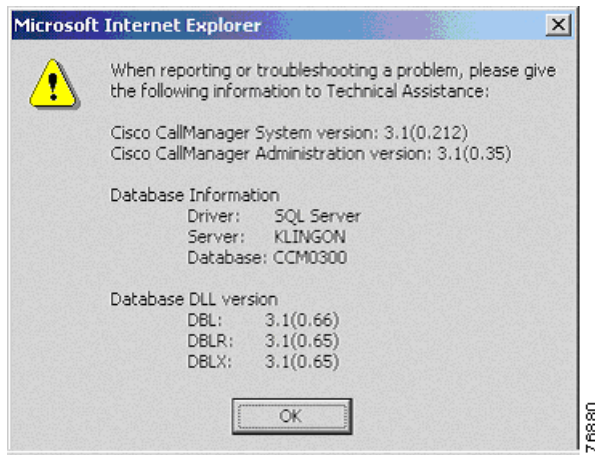
Integration Testing

This section contains information about the setup used in testing the integration of the Lucent/Avaya Definity G3si and the Cisco 6608-E1 PRI EURO Gateway.

CallManager Software Release:

The following figure shows the information about the release of CallManager being used.

CallManager Software Release



Lucent/Avaya Definity G3si Software Release

The following release of the Lucent/Avaya Definity G3si was used:

- Software Version: G3V7i.01.0.343.7

