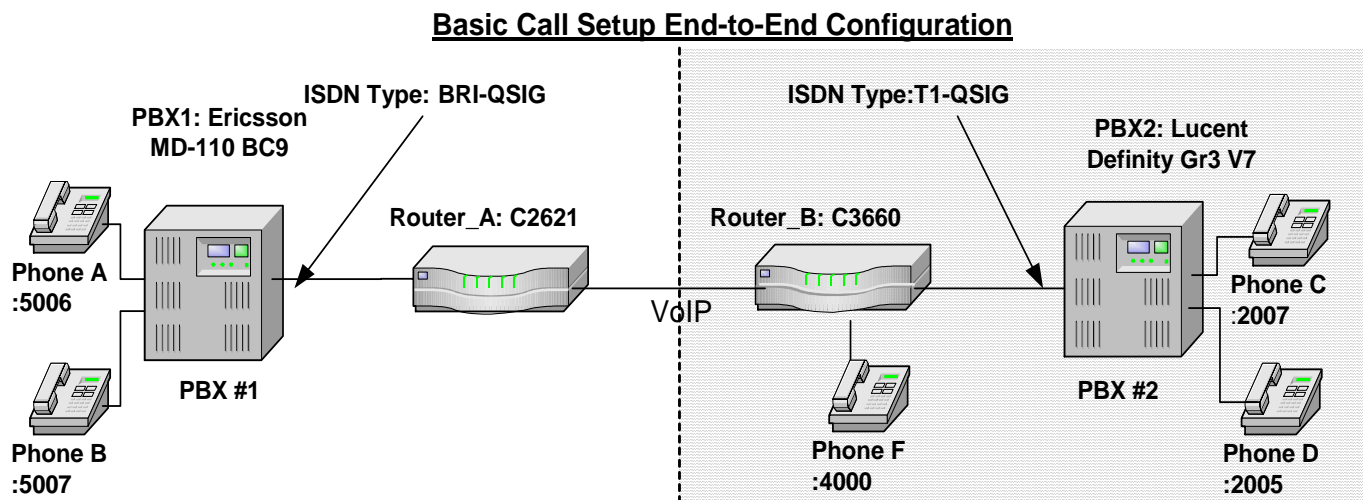


Cisco 3660 Gateway - PBX Interoperability: Lucent Definity G3r V7 PBX using T1 QSIG Interfaces with H.323

Introduction

This Application Note describes the interoperability of a Cisco 3660 gateway and a Lucent V7 PBX using T1-QSIG interfaces. The network topology diagram shows the end-to-end interoperability.

Network Topology



Limitations

Basic Call

The Lucent Definity G3r has no provision for the T1 interface to “line clock.” Because the G3r always wants to provide clock on the interface, the Cisco 3660 T1 interface must be set to “line clock” to work with it.

System Components

Hardware Requirements

- Cisco 3660 with 2MFT T1 card and an analog FXS Port
- Lucent Definity G3r V7 PBX

Software Requirements

- Cisco IOS Release.12.2 (12.12)T
- Lucent Definity G3r PBX Software Version G3V7i.01.0.343.7

Features Supported

- Calling Name Identification Presentation
- Calling Number Identification Presentation



Connected Name Identification Presentation
Connected Number Identification Presentation Updating
Connected Name and Number for Call Transfers
Updating Connected Name and Number for Call Forwarding



Configuration

Configuring the Lucent Definity G3r PBX

Lucent G3siV7, Software Version G3V7i.01.0.343.7

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File Edit View System Action Tools Window Help

change dialplan send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7)

1

DIAL PLAN RECORD

Local Node Number:
ETA Node Number:
ETA Routing Pattern:

Uniform Dialing Plan:
UDP Extension Search Order:

FIRST DIGIT TABLE

First Digit	- 1 -	- 2 -	- 3 -	- 4 -	- 5 -	- 6 -
1:				extension		
2:				extension		
3:				extension		
4:				extension		
5:				extension		
6:			dac			
7:				pextension		
8:	fac					
9:	fac					
0:	attd					
∗:			fac			
#:						

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

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change ds1.a11 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2

DS1 CIRCUIT PACK

Location:	01A11	Name:	T1/E1
Bit Rate:	1.544	Line Coding:	b8zs
Line Compensation:	1	Framing Mode:	esf
Signaling Mode:	isdn-pri	Interface:	peer-slave
Connect:	pbx	Peer Protocol:	Q-SIG
Interface Companding:	mulaw	Side:	b
Idle Code:	11111111	CRC?	n
		DCP/Analog Bearer Capability:	speech
Slip Detection?	n	Near-end CSU Type:	other

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NUM



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1 2

DS1 CIRCUIT PACK

ESF DATA LINK OPTIONS

Network Management Protocol: **tabs**

Send ANSI-T1.403 One-Second Performance Reports? **n**

Far-end CSU Address: **b**

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change signaling-group 11 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f6)

1

SIGNALING GROUP

Group Number: 11

Associated Signaling?

Primary D-Channel: 01A1124

Max number of NCA TSC:

Max number of CA TSC:

Trunk Group for NCA TSC:

Trunk Group for Channel Selection:

Supplementary Service Protocol:

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change trunk-group 11 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2 3 4 5 6 7 8 9 10

TRUNK GROUP

Group Number: 11 Group Type: isdn CDR Reports: y
Group Name: OUTSIDE CALL COR: 1 TN: 1 TAC: 611
Direction: two-way Outgoing Display? y
Dial Access? y Busy Threshold: 99 Night Service:
Queue Length: 0
Service Type: public-ntwrk Auth Code? n TestCall ITC: rest
Far End Test Line No:
TestCall BCC: 4

TRUNK PARAMETERS

Codeset to Send Display: 0 Codeset to Send TCM,Lookahead: 7
Max Message Size to Send: 260 Charge Advice: automatic
Supplementary Service Protocol: b Digit Handling (in/out): enbloc/enbloc
Trunk Hunt: ascend
Connected to Toll? n STT Loss: normal DTT to DCO Loss: normal
Calling Number - Delete: Insert: Numbering Format:
Bit Rate: 1200 Synchronization: async Duplex: full
Disconnect Supervision - In? y Out? n
Answer Supervision Timeout: 0

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change trunk-group 11 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2 3 4 5 6 7 8 9 10

TRUNK FEATURES

ACA Assignment? n Measured: Wideband Support? n
Maintenance Tests? y

Data Restriction? n NCA-TSC Trunk Member:
Send Name: y Send Calling Number: y

Used for DCS? n Hop Dgt? n

Suppress # Outpulsing? n Numbering Format:

Outgoing Channel ID Encoding: UUI IE Treatment:

Charge Conversion:

Decimal Point:

Currency Symbol:

Charge Type: Send Connected Number: y

Send UCID? y

Send Codeset 6/7 LAI IE? y

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change trunk-group 11 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2 3 4 5 6 7 8 9 10

TRUNK GROUP
Administered Members (min/max): 1/5
Total Administered Members: 5

GROUP MEMBER ASSIGNMENTS

	Port	Code	Sfx	Name	Night	Sig Grp
1:	01A1101	TN464	F			11
2:	01A1102	TN464	F			11
3:	01A1103	TN464	F			11
4:	01A1104	TN464	F			11
5:	01A1105	TN464	F			11
6:						
7:						
8:						
9:						
10:						
11:						
12:						
13:						
14:						
15:						

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File Edit View System Action Tools Window Help

display system-parameters-custo send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2 3 4

OPTIONAL FEATURES

G3 Version: U7	Maximum Ports: 200
Location: 1	
Abbreviated Dialing Enhanced List? y	CAS Main? n
Access Security Gateway (ASG)? n	Cug Of Calls Redirected Off-net? n
Analog Trunk Incoming Call ID? y	DCS (Basic)? n
A/D Grp/Sys List Dialing Start at 01? y	DCS Call Coverage? n
Answer Supervision by Call Classifier? y	DCS with Rerouting? n
ARS? y	DEFINITY Network Admin? n
ARS/AAR Partitioning? y	DS1 MSP? n
ARS/AAR Shortcut Dialing? y	Emergency Access to Attendant? y
ASAI Interface? n	Extended Cug/Fwd Admin? n
ASAI Proprietary Adjunct Links? n	External Device Alarm Admin? y
	Flexible Billing? n
Async. Transfer Mode (ATM) Trunking? n	Forced Entry of Account Codes? y
ATMS? y	Global Call Classification? y
Audible Message Waiting? y	Hospitality (Basic)? y
Authorization Codes? y	Hospitality (G3U3 Enhancements)? y

(NOTE: You must logoff & login to effect the permission changes.)

Ready NUM



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File Edit View System Action Tools Window Help

display system-parameters-custo send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2 3 4

OPTIONAL FEATURES

ISDN Feature Plus? n	Restrict Call Forward Off Net? y
ISDN-BRI Trunks? y	Secondary Data Module? y
ISDN-PRI? y	Station and Trunk MSP? n
Malicious Call Trace? y	Survivable Remote Processor? n
Mode Code Interface? y	Tenant Partitioning? n
Multifrequency Signaling? y	Terminal Trans. Init. (TTI)? y
Multimedia Appl. Server Interface (MASI)? n	Time of Day Routing? y
Multimedia Call Handling (Basic)? n	Uniform Dialing Plan? y
Multimedia Call Handling (Enhanced)? n	Usage Allocation Enhancements? y
Personal Station Access (PSA)? n	Wideband Switching? n
	Wireless? n
Processor and System MSP? n	
Private Networking? y	

(NOTE: You must logoff & login to effect the permission changes.)

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1 2 3 4

CALL CENTER OPTIONAL FEATURES

ACD? n	Service Observing (Basic)? y
BCMS (Basic)? n	Service Observing (Remote/By FAC)? n
BCMS/UuStats LoginIDs? n	Service Observing (UDNs)? n
BCMS/UuStats Service Level? n	Timed ACW? n
Call Work Codes? n	Vectoring (Basic)? n
CentreUu Advocate? n	Vectoring (Prompting)? n
DTMF Feedback Signals For URU? n	Vectoring (G3U4 Enhanced)? n
Expert Agent Selection (EAS)? n	Vectoring (ANI/II-Digits Routing)? n
EAS-PHD? n	Vectoring (G3U4 Advanced Routing)? n
Forced ACD Calls? n	Vectoring (CINFO)? n
Lookahead Interflow (LAI)? n	Vectoring (Best Service Routing)? n
Multiple Call Handling (On Request)? n	UDN of Origin Announcement? n
Multiple Call Handling (Forced)? n	UDN Return Destination? n
PASTE (Display PBX Data on Phone)? n	UuStats? n
Reason Codes? n	UuStats (G3U4 Enhanced)? n

Logged-In ACD Agents: 1

(NOTE: You must logoff & login to effect the permission changes.)

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display system-parameters-custo send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (ff)

1 2 3 4

QSIG OPTIONAL FEATURES

Basic Call Setup? y
Basic Supplementary Services? y
Interworking with DCS? n
Supplementary Services with Rerouting? y
Value-Added Lucent (VALU)? n

(NOTE: You must logoff & login to effect the permission changes.)

Ready NUM



```
linecode ami
!
!
!
interface FastEthernet0/0
 ip address 10.1.1.13 255.255.255.0
 no ip mroute-cache
 load-interval 30
 duplex auto
 speed auto
!
interface Ethernet1/0
 ip address 1.1.1.2 255.255.255.0
 no ip mroute-cache
 half-duplex
!
interface Serial1/0
 no ip address
 no ip mroute-cache
 shutdown
 no fair-queue
!
interface TokenRing1/0
 no ip address
 no ip mroute-cache
 shutdown
 ring-speed 16
!
interface ATM3/0
 no ip address
 no ip mroute-cache
 atm vc-per-vp 256
 no atm ilmi-keepalive
 scrambling-payload
 impedance 120-ohm
!
interface ATM3/0.1 point-to-point
 ip address 192.168.50.1 255.255.255.0
 no ip mroute-cache
 pvc 10/1
 encapsulation aal5snap
!
!
interface ATM3/1
 no ip address
 no ip mroute-cache
 shutdown
 atm vc-per-vp 256
 no atm ilmi-keepalive
 scrambling-payload
 impedance 120-ohm
!
interface ATM3/2
 no ip address
 no ip mroute-cache
 shutdown
 atm vc-per-vp 256
 no atm ilmi-keepalive
 scrambling-payload
 impedance 120-ohm
!
interface ATM3/3
 no ip address
```



```
no ip mroute-cache
shutdown
atm vc-p 256
no atm ilmi-keepalive
scrambling-payload
impedance 120-ohm
!
interface Serial4/0:15
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn overlap-receiving
isdn incoming-voice voice
isdn global-disconnect
no cdp enable
!
interface Serial6/0:23
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn protocol-emulate network
isdn incoming-voice voice
no isdn T309-enable
no cdp enable
!
ip default-gateway 171.69.231.62
no ip classless
no ip http server
ip pim bidir-enable
!
!
logging trap debugging
dialer-list 8 protocol ip permit
!
!
call rsvp-sync
!
voice-port 2/0/0
input gain -6
output attenuation 14
!
voice-port 2/0/1
!
voice-port 2/1/0
!
voice-port 2/1/1
!
voice-port 4/0:15
echo-cancel coverage 32
playout-delay maximum 60
playout-delay nominal 40
playout-delay minimum low
cptone AU
timeouts interdigit 2
timeouts wait-release 3
shutdown
codec g729r8
!
voice-port 6/0:23
!
!
mgcp profile default
!
!
```



```
!  
dial-peer cor custom  
!  
!  
dial-peer voice 2 pots  
  destination-pattern 2...  
  direct-inward-dial  
  port 6/0:23  
  prefix 2  
!  
dial-peer voice 4000 pots  
  destination-pattern 4000  
  port 2/0/0  
!  
dial-peer voice 1 voip  
  destination-pattern 5...  
  session target ipv4:1.1.1.1  
!  
dial-peer voice 4001 pots  
  destination-pattern 4001  
  port 2/0/1  
!  
!  
line con 0  
  privilege level 15  
line aux 0  
  privilege level 15  
line vty 0 4  
  password cisco  
  login  
!  
!  
end
```

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