



Cisco 3600 Series Gateway-PBX Interoperability: Lucent Definity G3 with T1 CAS Signaling

This document describes the interoperability and configuration of a Cisco 3600 series voice gateway with Lucent Definity G3 PBX using T1 CAS signaling. It includes the following sections:

- System Components
- Configuration Tasks
- Caveats

System Components

PBX Model	Lucent Definity G3I-V4 PBX
PBX Release	G3V6i.01.0.018.2
Telephony Signaling	T1 CAS
Voice Gateway	Cisco 3640
Gateway Release	Cisco IOS™ 12.0
VoX Protocol	H.323

Configuration Tasks

See the following sections for configuration tasks for this feature:

- Set Up
- PBX Configuration
- Cisco 3640 Gateway Configuration

Set Up

This section includes the following information:

- Connectivity Diagrams
- Set Up Notes

Connectivity Diagrams

Figure 1: Test Configuration

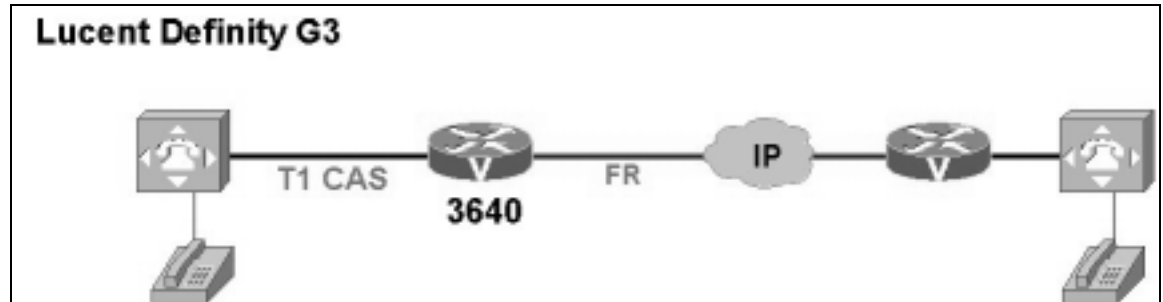


Figure 1 represents the configuration used for testing. A Lucent Definity G3 PBX connected to a Cisco 3640 voice gateway via a T1 CAS E&M wink-start connection.

Set Up Notes

There are no set up notes.

PBX Configuration

PBX Version Information

- G3V6i.01.0.018.2

PBX Sample Configuration

See the following sections for sample PBX configuration:

- Trunk Configuration using Wink-Start Signaling Screens; Trunk 13 (TAC-713)
- DS1 Board T1
- Dialplan Screen
- ARS Table Routes Screen
- Route-Pattern 13 Screen
- Synchronization Plan Screen

Trunk Configuration using Wink-Start Signaling Screens: Trunk 13 (TAC-713)

```

display trunk-group 13                                     Page 1 of 11
                                     TRUNK GROUP

Group Number: 13                                         Group Type: tie           CDR Reports: y
Group Name: 1B13-T1-RBS#1 Trk-13                       COR: 1                   TN: 1           TAC: 713
Direction: two-way                                     Outgoing Display? y     Trunk Signaling Type:
Dial Access? y                                         Busy Threshold: 99      Night Service:
Queue Length: 0                                         Incoming Destination:
Comm Type: voice                                       Auth Code? n
                                                         Trunk Flash? n

TRUNK PARAMETERS
Trunk Type (in/out): wink/wink                         Incoming Rotary Timeout(sec): 5
Outgoing Dial Type: tone                               Incoming Dial Type: tone
Wink Timer(msec): 300                                 Disconnect Timing(msec): 500
Digit Treatment:                                       Digits:
                                                         Sig Bit Inversion: none
Connected to Toll? n                                  STT Loss: normal        DTT to DCO Loss: normal
Incoming Dial Tone? y

Disconnect Supervision - In? y Out? n
Answer Supervision Timeout: 0                         Receive Answer Supervision? y

```

```

display trunk-group 13                                     Page 2 of 11
TRUNK FEATURES
ACA Assignment? n                                       Measured: none
                                                         Internal Alert? n       Maintenance Tests? y
                                                         Data Restriction? n
                                                         Glare Handling: none

Used for DCS? n
Suppress # Outpulsing? n                               Seize When Maintenance Busy: neither-end

Incoming Tone (DTMF) ANI? n
Connected to CO? n

```

```

display trunk-group 13                                     Page 3 of 11
                                     TRUNK GROUP
ADMINISTRABLE TIMERS
  Incoming Disconnect(msec): 500           Outgoing Disconnect(msec): 500
  Incoming Dial Guard(msec): 70           Outgoing Dial Guard(msec): 1600
  Incoming Glare Guard(msec): 1500        Outgoing Glare Guard(msec): 1500

                                     Outgoing Seizure Response(sec): 5
Programmed Dial Pause(msec): 1500         Disconnect Signal Error(sec): 240
  Flash Length(msec): 540   Incoming Incomplete Dial Alarm(sec): 255

END TO END SIGNALING
  Tone(msec): 350           Pause(msec): 150

OUTPULSING INFORMATION
  PPS: 10   Make(msec): 40   Break(msec): 60
    
```

```

display trunk-group 13                                     Page 4 of 11
                                     ATMS THRESHOLDS
  TTL Type: 105-w-rl           Far End Test No:
  TTL Vendor:                 TTL Contact:
  Trunk Vendor:               Trunk Contact:
  Trunk Length:

                                     MARGINAL           UNACCEPTABLE
                                     Min   Max           Min   Max
1004 Hz Loss: -2   21           -2   21

                                     -Dev  +Dev           -Dev  +Dev
404 Hz Loss: 9     9           9     9
2804 Hz Loss: 9     9           9     9

Maximum C Message Noise: 55           55
Maximum C Notched Noise: 74           74
Minimum SRL-HI: 0                     0
Minimum SRL-LO: 0                     0
Minimum ERL: 0                         0

Allow ATMS Busyout, Error Logging and Alarming? n
    
```

```
display trunk-group 13                                     Page 5 of 11
TRUNK GROUP
Administered Members (min/max): 1/4
GROUP MEMBER ASSIGNMENTS                                Total Administered Members: 4

   Port   Code Sfx Name      Night      Mode      Type      Ans Delay
1: 01B1301 TN767 E
2: 01B1302 TN767 E
3: 01B1303 TN767 E
4: 01B1304 TN767 E
```

DS1 Board T1

```
display ds1 1b13                                         Page 1 of 2
DS1 CIRCUIT PACK

Location: 01B13                                         Name: 1B13-T1-RBS#1
Bit Rate: 1.544                                         Line Coding: b8zs
Line Compensation: 1                                    Framing Mode: esf
Signaling Mode: robbed-bit

Idle Code: 11111111

MAINTENANCE PARAMETERS

Slip Detection? y                                     Near-end CSU Type: other
```

```
display ds1 1b13                                         Page 2 of 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
```

Dialplan Screen

display dialplan

DIAL PLAN RECORD

North American Area Code: 732
 ARS Prefix 1 Required? y
 Uniform Dialing Plan: none

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

FIRST DIGIT TABLE

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

ARS Table Routes Screen

list ars analysis

Page 1

ARS DIGIT ANALYSIS REPORT

Partitioned Group Number: 1

Dialed String	Total Min	Total Max	Route Pat	Call Type	Node Number
0	1	1	den	op	
0	8	8	den	op	
0	11	11	den	op	
00	2	2	den	op	
01	9	17	den	iop	
011	10	18	den	intl	
10xxx01	14	22	den	iop	
10xxx011	15	23	den	intl	
10xxx1	16	16	den	fnpa	
12xxx	5	5	12	locl	
1732625xxxx	11	11	13	fnpa	
1xxx555	11	11	den	fnpa	

Route-Pattern 13 Screen

```

display route-pattern 13
                                Pattern Number: 13

  Grp.  FRL NPA Pfx Hop Toll No. Del Inserted          IXC
  No.   Mrk Lmt List Digits Digits
1: 13   3
2:
3:
4:
5:
6:
                                user
                                user
                                user
                                user
                                user
                                user

      BCC VALUE  TSC CA-TSC   ITC  BCIE Service/Feature          Numbering LAR
      0 1 2 3 4 W   Request Request
1: y y y y y n n   rest
none
2: y y y y y n n   rest
none
3: y y y y y n n   rest
none
4: y y y y y n n   rest
none
5: y y y y y n n   rest
none
6: y y y y y n n   rest
none
    
```

Synchronization Plan Screen

```

display synchronization
                                SYNCHRONIZATION PLAN
                                SYNCHRONIZATION SOURCE (circuit pack location)
                                Stratum: 4
                                Primary: 01B13      Secondary: 01B14

Location  Name          Slip          Location  Name          Slip
01B06 1B06-T1/E1-PRI1  y
01B08 1B08-T1/E1-PRI2  y
01B13 1B13-T1-RBS#1    y
01B14 1B14-RBS-T1      y
01C12 1C12-T1-RBS      y
01C13 1C13-T1-RBS      n
01C02 test board      y

NOTE: DS1 and BRI TRUNK sources result in stratum 4, type II synchronization
    
```

Cisco 3640 Gateway Configuration

The following is the configuration of the Cisco 3640 gateway connected to the Lucent Definity G3 PBX T1 CAS A&M wink-start interface.

Cisco 3640 Voice Gateway Version Information

```
Cisco_3640# show version
```

```
Cisco Internetwork Operating System Software
IOS (tm) 3640 Software (C3640-JS-M), Experimental Version 12.0(19990505:195859)
[BLD-hawk.990505 105]
Copyright (c) 1986-1999 by cisco Systems, Inc.
Compiled Wed 05-May-99 16:11 by sdowler
Image text-base: 0x600088F0, data-base: 0x60ECA000

ROM: System Bootstrap, Version 11.1(7)AX [kuong (7)AX], EARLY DEPLOYMENT RELEASE
SOFTWARE (fc2)

Cisco_3640 uptime is 3 days, 17 hours, 43 minutes
System returned to ROM by reload
System image file is "flash:c3640-js-mz.990505"

cisco 3640 (R4700) processor (revision 0x00) with 35840K/5120K bytes of memory.
Processor board ID 05634407
R4700 CPU at 100Mhz, Implementation 33, Rev 1.0
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
Primary Rate ISDN software, Version 1.1.
4 Ethernet/IEEE 802.3 interface(s)
1 Serial network interface(s)
3 Channelized T1/PRI port(s)
2 Voice FXO interface(s)
2 Voice E & M interface(s)
DRAM configuration is 64 bits wide with parity disabled.
125K bytes of non-volatile configuration memory.
24576K bytes of processor board System flash (Read/Write)
16384K bytes of processor board PCMCIA Slot0 flash (Read/Write)

Configuration register is 0x2102
```

Cisco 3640 Voice Gateway Sample Configuration

```
Cisco_3640# show running-config
```

```
Building configuration...
CSB->NV_COMMAND : cns agent provision

Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Cisco_3640
!
boot system flash c3640-js-mz.990505
enable secret 5 $1$q8p8$9WpmKtpFAEi82g10zvQJf0
!
!
voice-card 1
!
ip subnet-zero
```



```
!  
!  
controller T1 1/0  
  framing esf  
  clock source line primary  
  linecode b8zs  
  ds0-group 0 timeslots 1-4 type e&m-wink-start  
  description TDM T1 to PBX RBS  
!  
controller T1 1/1  
  framing esf  
  linecode b8zs  
!  
controller T1 3/0  
  framing esf  
  linecode b8zs  
  channel-group 0 timeslots 1-24 speed 64  
!  
!  
voice-port 0/0/0  
  description E&M to PBX  
  operation 4-wire  
!  
voice-port 0/0/1  
  operation 4-wire  
  signal immediate  
!  
voice-port 0/1/0  
  description FXO PORT TO PBX  
!  
voice-port 0/1/1  
!  
voice-port 1/0:0  
!  
dial-peer voice 2 voip  
  destination-pattern 9....  
  session target ipv4:10.0.0.2  
!  
dial-peer voice 1 voip  
  destination-pattern 81732625....  
  session target ipv4:10.0.0.2  
!  
dial-peer voice 3 pots  
  destination-pattern 3001  
  port 1/0:0  
!  
dial-peer voice 5 pots  
  destination-pattern 7....  
  port 1/0:0  
!  
!  
interface Loopback1  
  ip address 50.0.0.1 255.0.0.0  
  no ip directed-broadcast  
!  
interface Ethernet2/0  
  ip address 192.191.0.121 255.255.255.0  
  no ip directed-broadcast  
  no cdp enable  
!  
interface Ethernet2/1  
  no ip address  
  no ip directed-broadcast  
  shutdown  
  no cdp enable  
!  
interface Ethernet2/2
```

```
no ip address
no ip directed-broadcast
shutdown
no cdp enable
!
interface Ethernet2/3
no ip address
no ip directed-broadcast
shutdown
no cdp enable
!
interface Serial3/0:0
mtu 300
no ip address
no ip directed-broadcast
encapsulation frame-relay IETF
no ip route-cache
no fair-queue
frame-relay lmi-type ansi
ip rsvp bandwidth 1000 400
!
interface Serial3/0:0.1 point-to-point
mtu 300
ip address 10.0.0.1 255.0.0.0
no ip directed-broadcast
no ip route-cache
no cdp enable
frame-relay interface-dlci 100
!
interface Serial3/0:0.2 point-to-point
mtu 300
ip address 30.0.0.1 255.0.0.0
no ip directed-broadcast
no ip route-cache
no cdp enable
frame-relay interface-dlci 200
!
router rip
network 10.0.0.0
network 20.0.0.0
network 135.16.0.0
!
ip classless
ip route 135.16.0.0 255.255.0.0 30.0.0.2
no ip http server
!
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
no cdp run
!
!
line con 0
exec-timeout 0 0
transport input none
line aux 0
line vty 0 4
password worldwide
login
!
!
end
```

Caveats

There are no caveats.