



Cisco 3640 Series Gateway-PBX Interoperability: Nortel Meridian 1 Option 11C with T1 CAS Signaling

This document describes the interoperability and configuration of a Cisco 3640 voice gateway with a Nortel Meridian 1 PBX using T1 CAS signaling. It includes the following sections:

- System Components
- Configuration Tasks

System Components

PBX Model	Nortel Meridian 1 Option 11C
PBX Release	Release 21, Issue 23
Telephony Signaling	T1 CAS, E&M,
Voice Gateway	Cisco 3640
Gateway Release	IOS™ 12.0(2)T
VoX Protocol	H.323

Configuration Tasks

See the following sections for configuration tasks for this feature:

- Set Up
- Nortel PBX Configuration
- Cisco 3640 Gateway Configuration

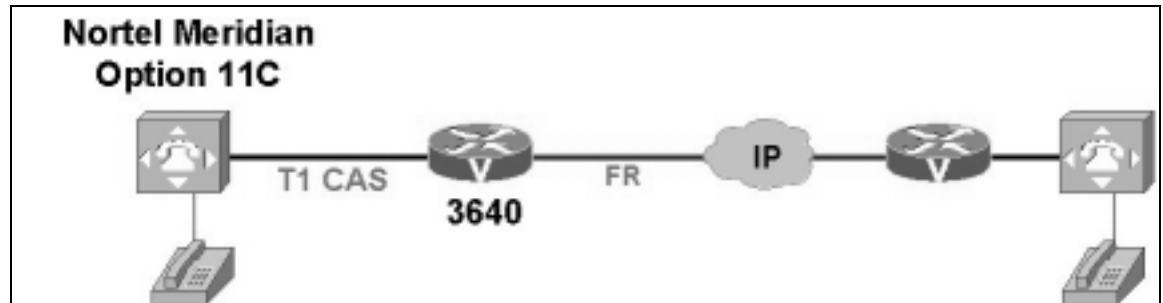
Set Up

This section includes the following information:

- Connectivity Diagrams

Connectivity Diagrams

Figure 1: *Test Configuration*



Nortel PBX Configuration

>LD 20

REQ: PRT
TYPE: TRK
TN 2 1

DATE
PAGE

TN 002 01
TYPE TIE
CDEN SD
CUST 0
TRK DTI
NCOS 0
RTMB 93 1
TGAR 0
SIGL EAM
STRI/STRO IMM IMM
SUPN NO
CLS UNR DTN WTA LPR APN THFD BARA HKD
P10 VNL MID

TKID
DATE 2 APR 1999

NACT

Nortel PBX Screen for Route Data Block

```
>LD 21

REQ: PRT
TYPE: RDB
CUST 0
ROUT 93

TYPE RDB
CUST 00
DMOD
ROUT 93
TKTP TIE
ESN NO
CNVT NO
SAT NO
RCLS EXT
DTRK YES
DGTP DTI
DSEL VOD
PTYP DTT
AUTO NO
ICOG IAO
SRCH LIN
TRMB YES
STEP
ACOD 677
TARG
OABS
INST
SIGO STD
STYP SDAT
MFC NO
TIMR ICF 512
      OGF 512
      EOD 13952
      DSI 34944
      NRD 10112
      DDL 70
      ODT 4096
      RGV 640
      GTO 896
      GTI 896
      SFB 3
      TFD 0
SST 5 0
DTD NO
SCDT NO
2 DT NO
NEDC ORG
FEDC ORG
CPDC NO
DLTN NO
```

```
HOLD 02 02 40
SEIZ 02 02
SVFL 02 02
DRNG NO
CDR NO
NATL YES
SSL
CFWR NO
IDOP NO
MUS NO
PANS YES
MANO NO
FRL 0 0
FRL 1 0
FRL 2 0
FRL 3 0
FRL 4 0

PAGE 002

FRL 5 0
FRL 6 0
FRL 7 0
TTBL 0
OHTD NO
PLEV 2
OPR NO
ALRM NO
ART 0

REQ:
```

Cisco 3640 Gateway Configuration

The following is the configuration of the Cisco 3640 gateway connected to the Nortel Option 11C PBX T1 CAS E&M wink-start interface.

Cisco 3640 Voice Gateway Version Information

```
3640-PBX-A#show version
Cisco Internetwork Operating System Software
IOS (tm) 3600 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)

3640-PBX-A 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)

Cisco 3640 Voice Gateway Sample Configuration

```
3640-PBX-A#show running-config
Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname 3640-PBX-A
!
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 1-24 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 5 pots
 destination-pattern 14001
 port 1/0:0
!
dial-peer voice 4 voip
 destination-pattern 14002
 session target ipv4:10.0.0.2
!
dial-peer voice 3 voip
 destination-pattern 14008
 session target ipv4:10.0.0.2
!
dial-peer voice 1 pots
 destination-pattern 14007
 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
```