Cisco 7206 Series Router-PBX Interoperability: Lucent Definity G3r PBX and VXC-2TE1+ Port Adapter Card with E1 ISDN PRI Signaling

This document describes the interoperability and configuration of a Cisco 7200 series router with a Lucent Definity G3r PBX using E1 ISDN PRI signaling. It includes the following sections:

- System Components
- Configuration Tasks
- Caveats

System Components

PBX Model	Lucent Definity G3r
PBX Release	G3V7i.01.0.343.7
Telephony Signaling	E1 ISDN PRI
Voice Gateway	Cisco 7206 Series Routers
Gateway Release	Cisco IOS™ (C7200-JS-M), Version 12.2(1)
VoX Protocol	H.323

Configuration Tasks

See the following sections for configuration tasks for this feature:

- Set Up
- Lucent Definity G3r PBX Configuration
- Cisco 7206 Series Router Configuration

Set Up

This section includes the following information:

- Connectivity Diagrams
- Set Up Notes

Connectivity Diagrams

Figure 1: Test Configuration

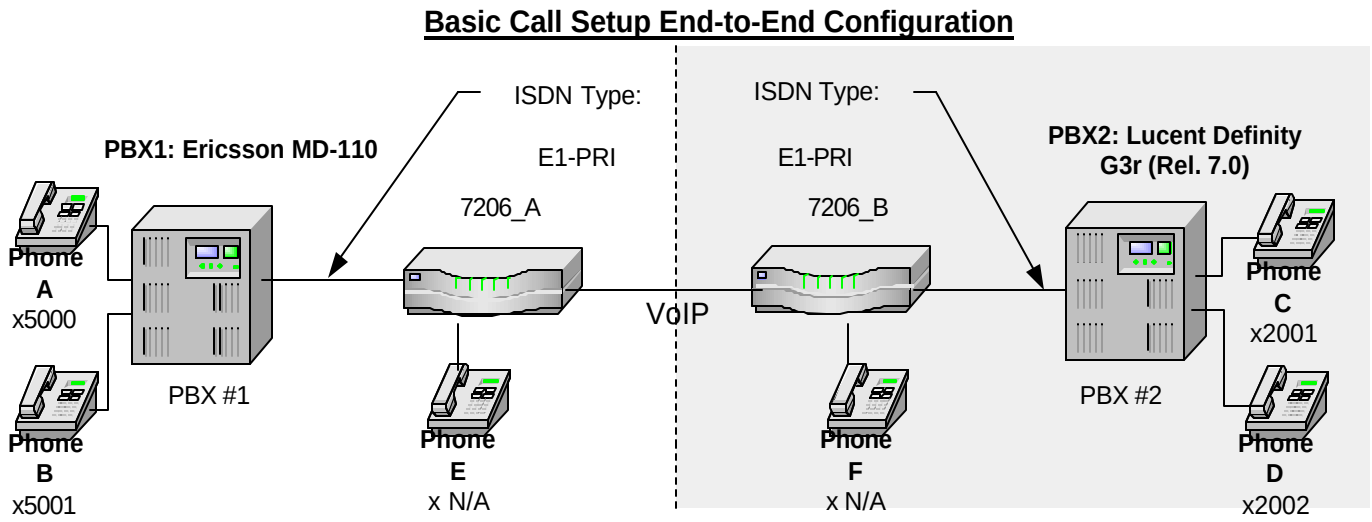


Figure 1 represents the configuration used for testing: a Cisco 7206 series router was connected to a Lucent Definity G3r PBX via ISDN E1 link.

Set Up Notes

- The Cisco 7206 series router with ISDN switch type setting of **primary-net5** supports both protocol sides by using the "isdn protocol-emulate network/user" command.
- The Lucent Definity G3r, supports both "USER" (peer-slave) and "NETWORK" (peer-master) protocol sides by using **change ds1 a12** command.
- The Lucent Definity G3r PBX configuration screen for the E1 trunk interface is reached using **change ds1 a12** command, setting the E1 physical layer parameters.

Lucent Definity G3r PBX Configuration

Lucent Definity G3r PBX Version Information

- Software: Version G3V7i.01.0.343.7
- Hardware: G3siV7.

Lucent Definity G3r PBX Sample Configuration

The following screens display the sample configuration of the Lucent Definity G3r PBX. Use these screens to configure the Lucent Definity G3r PBX.

Figure 2: Dial Plan Record

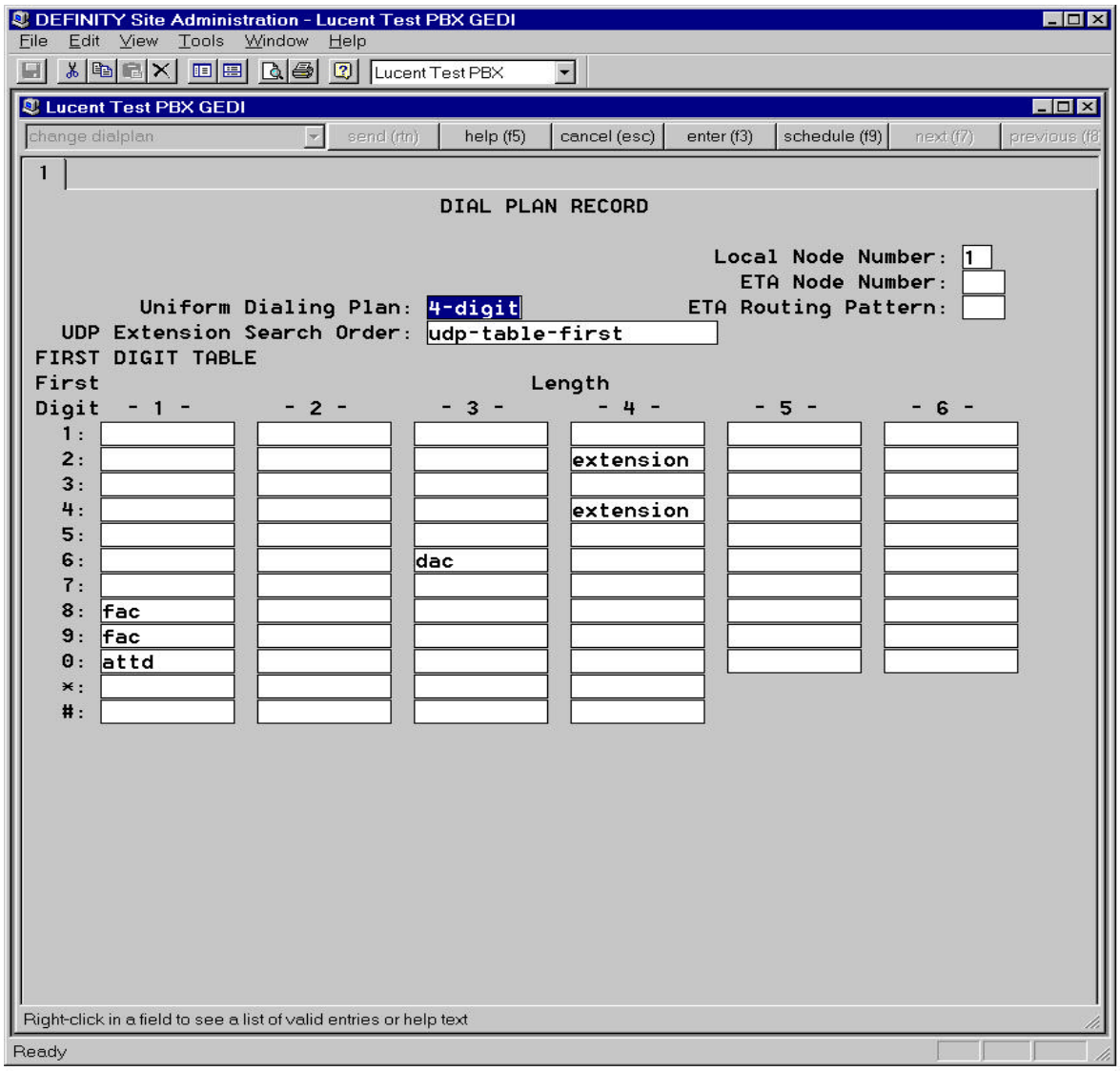


Figure 3: Pattern Number

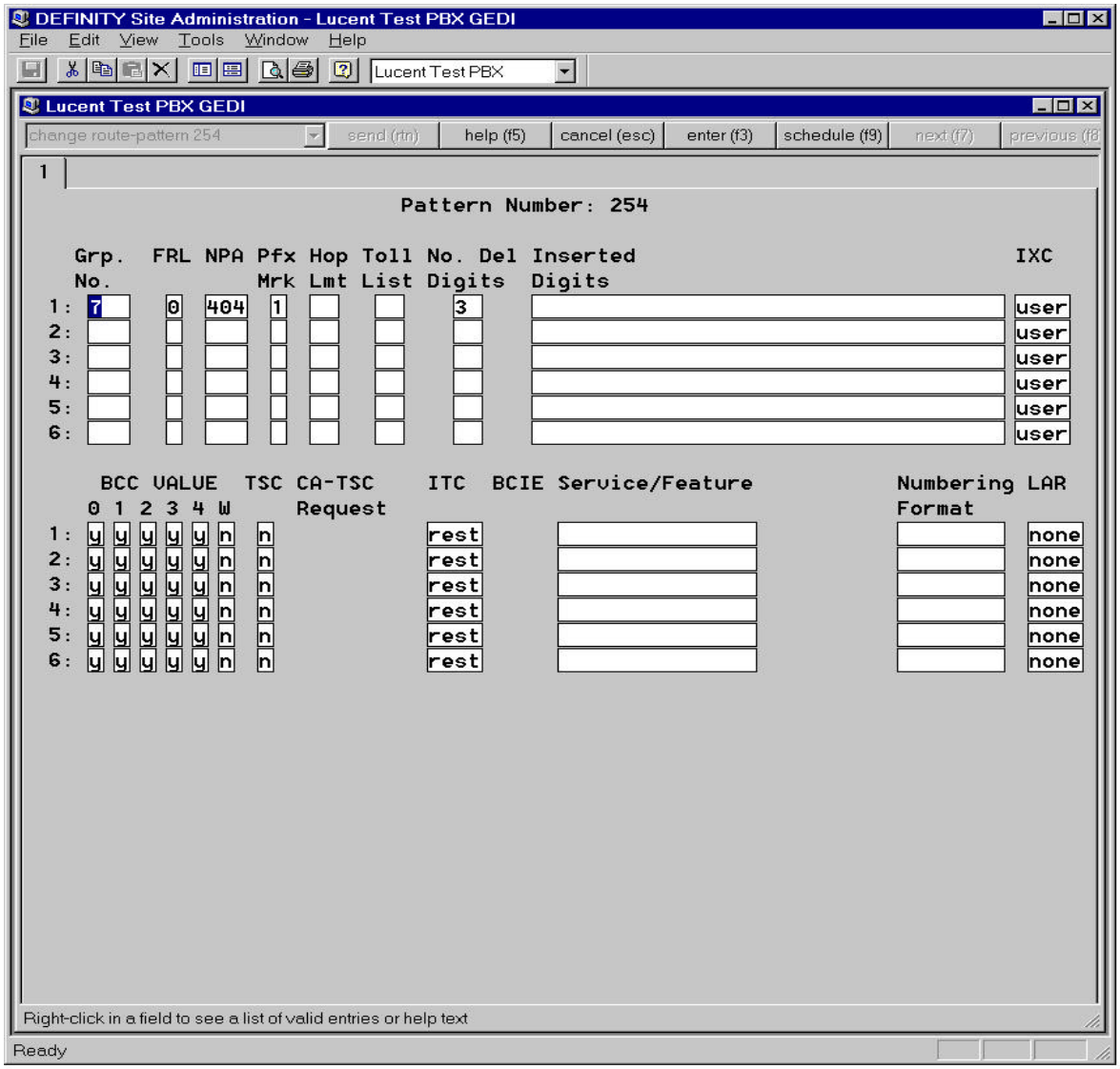


Figure 4: DS1 Circuit Pack

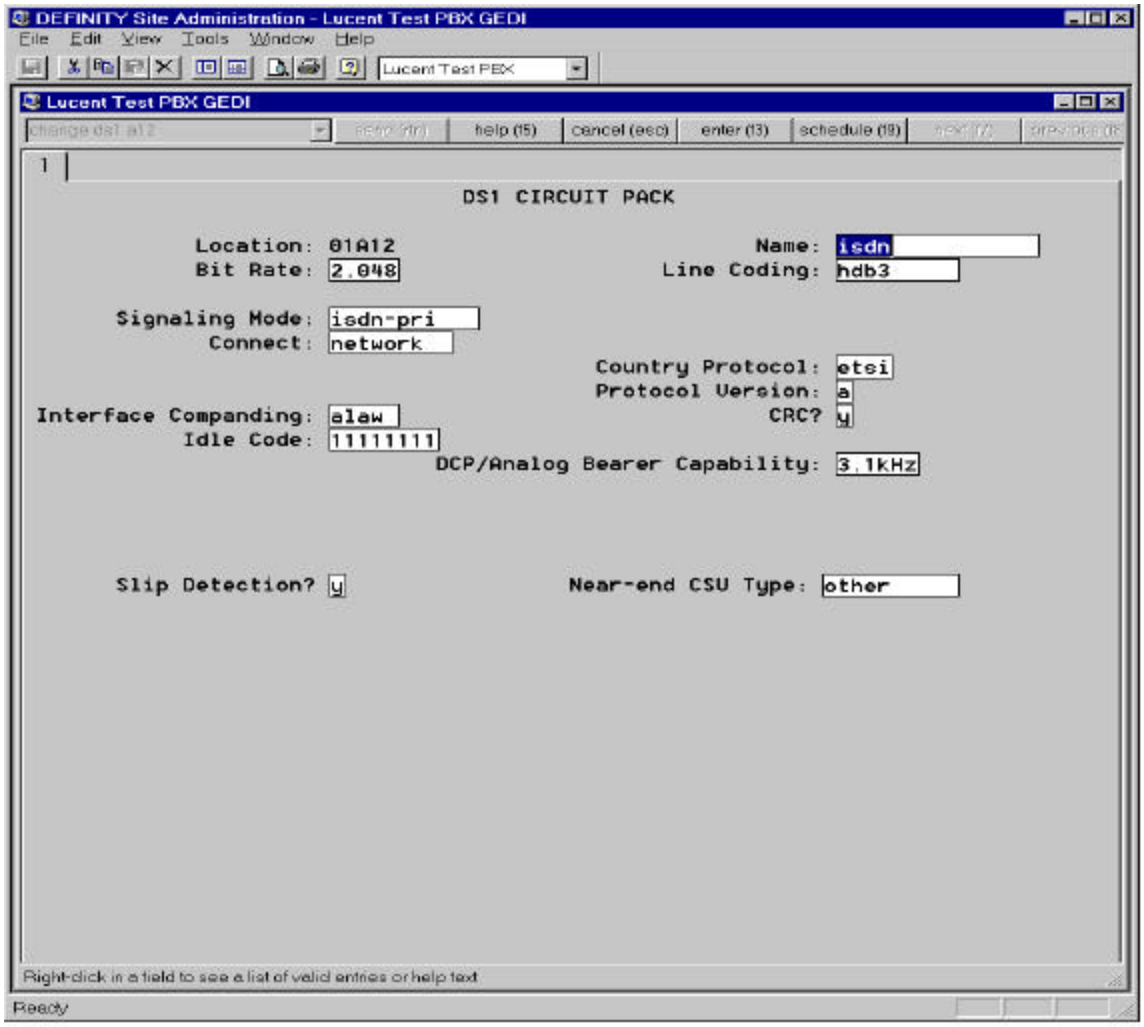


Figure 5: Signaling Group

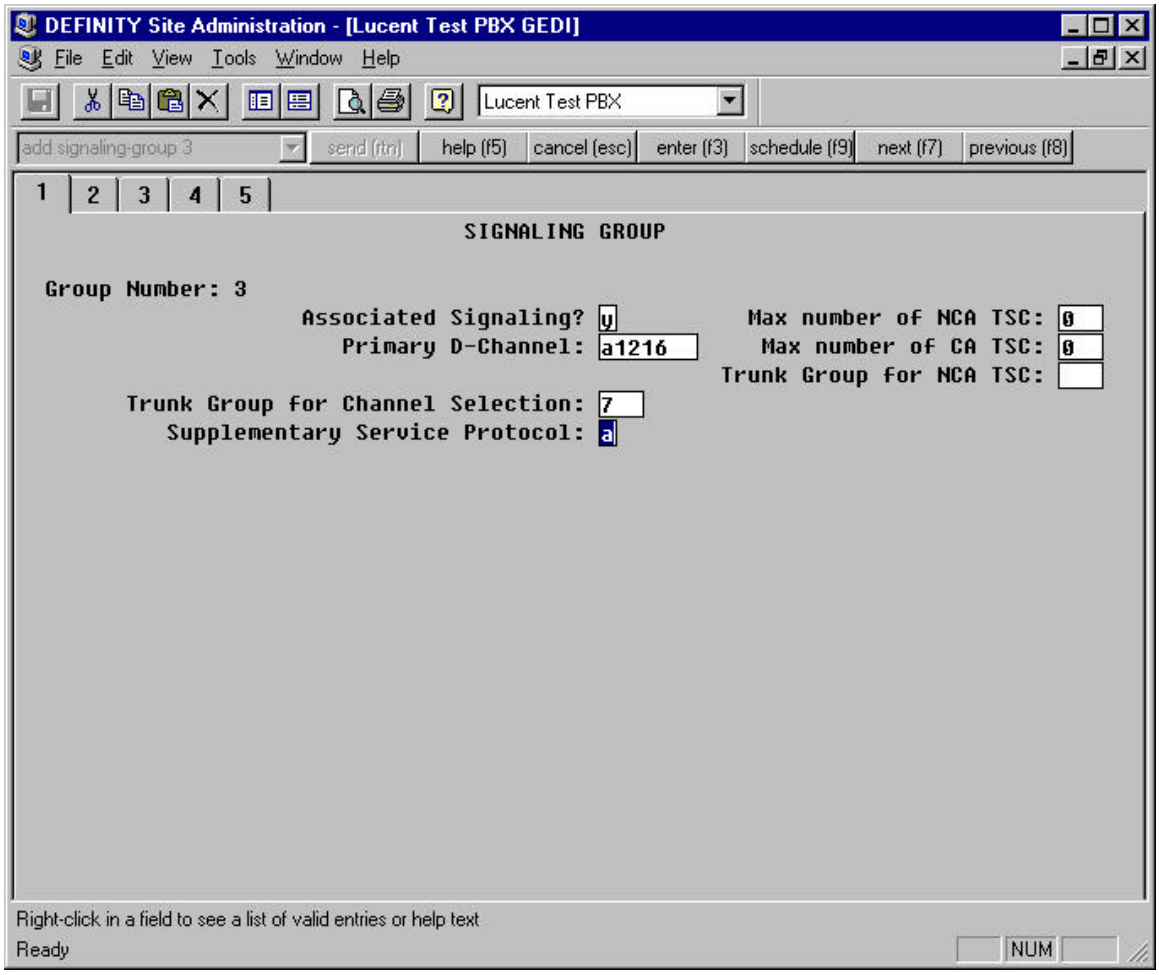


Figure 6: Trunk Group

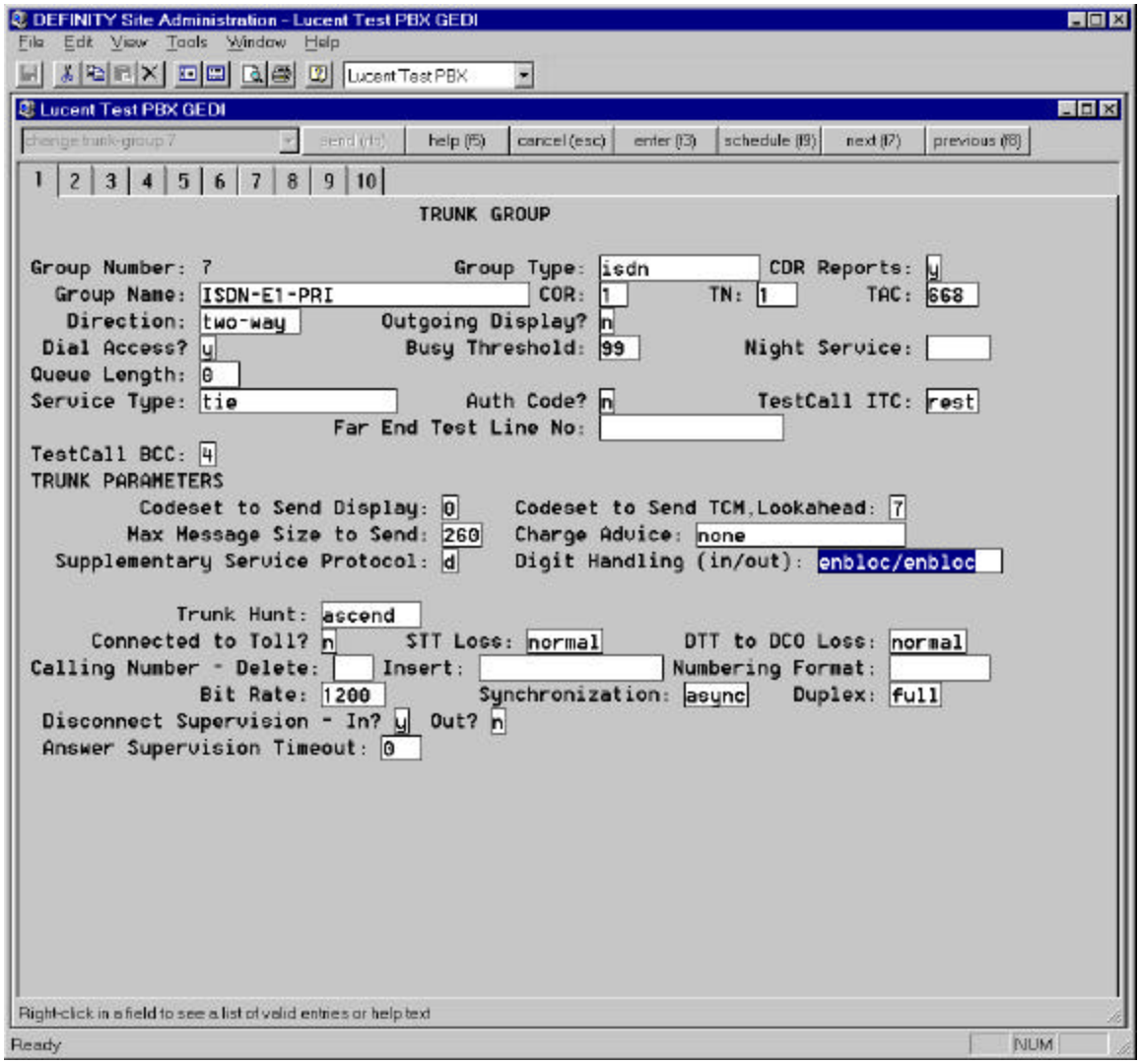


Figure 7: Trunk Features

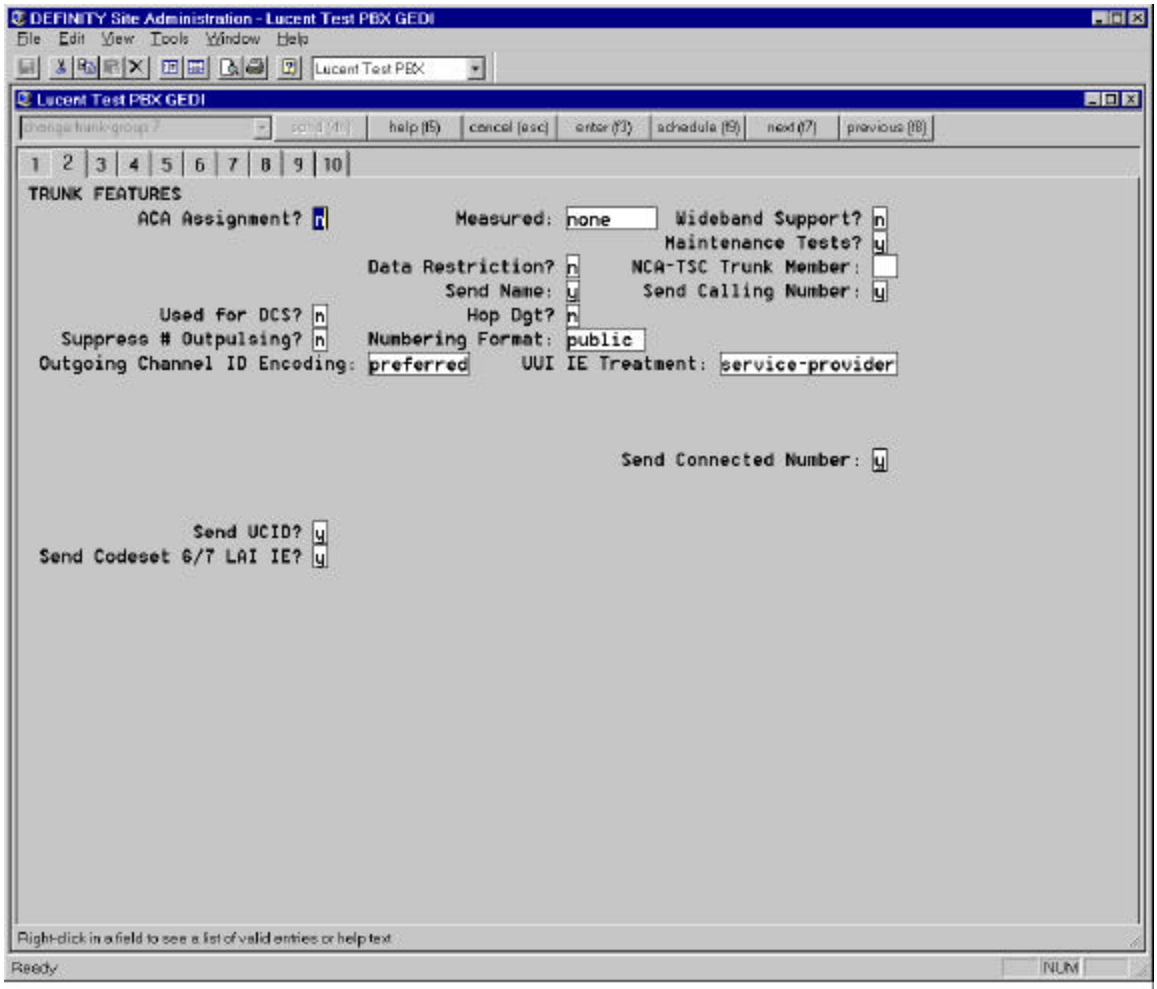


Figure 8: Group Member Assignments Tab 4

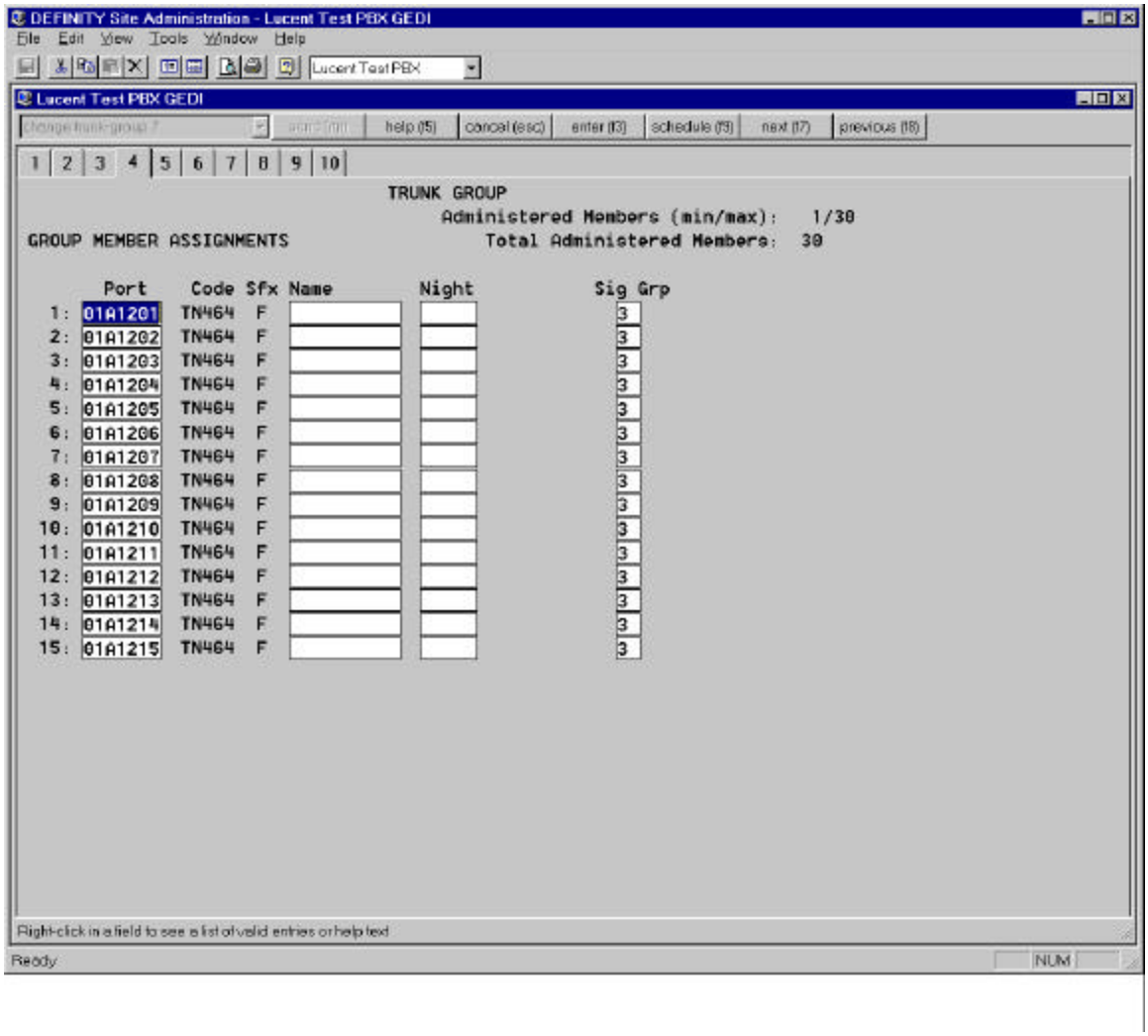


Figure 9: Group Member Assignments Tab 5

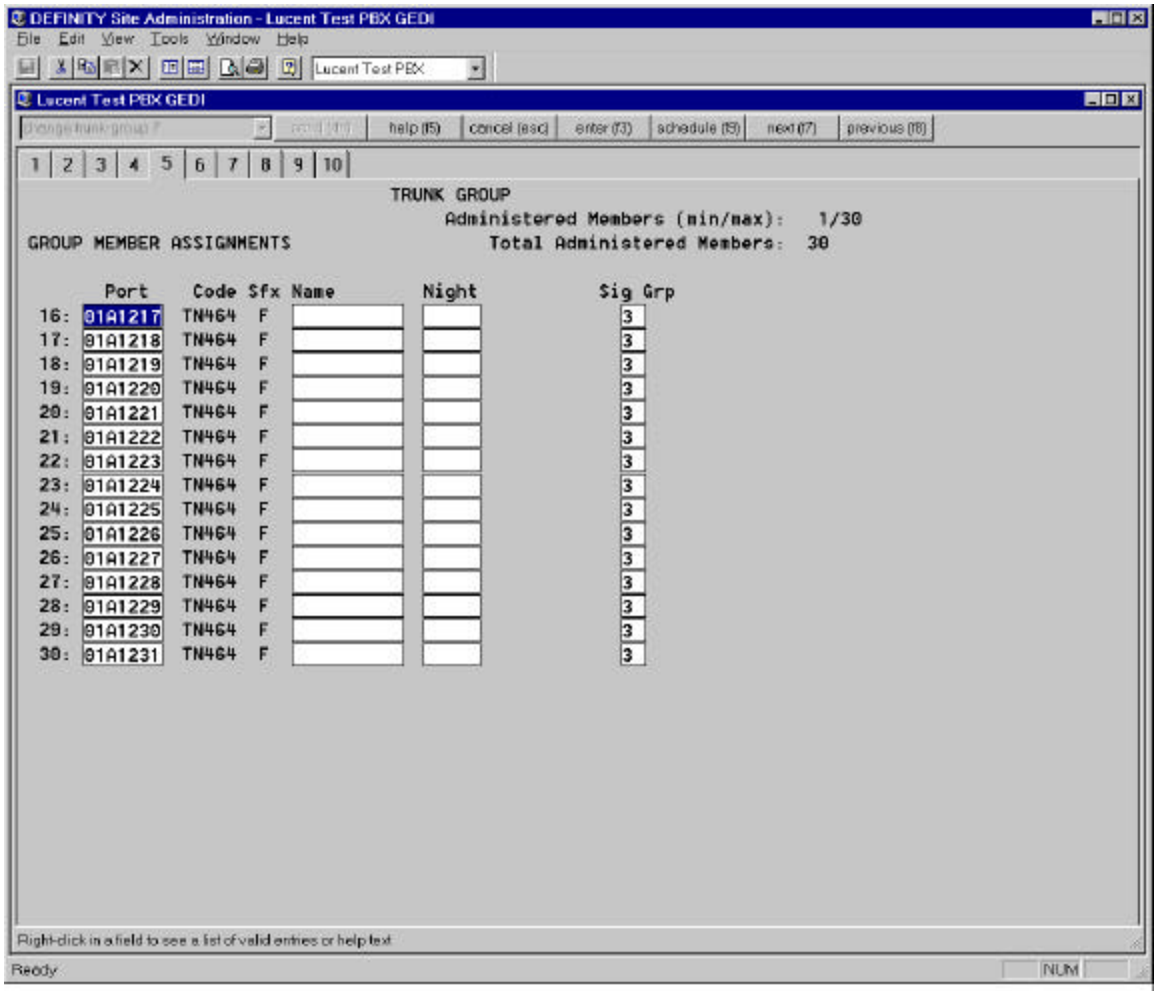


Figure 10: Optional Features Tab 1

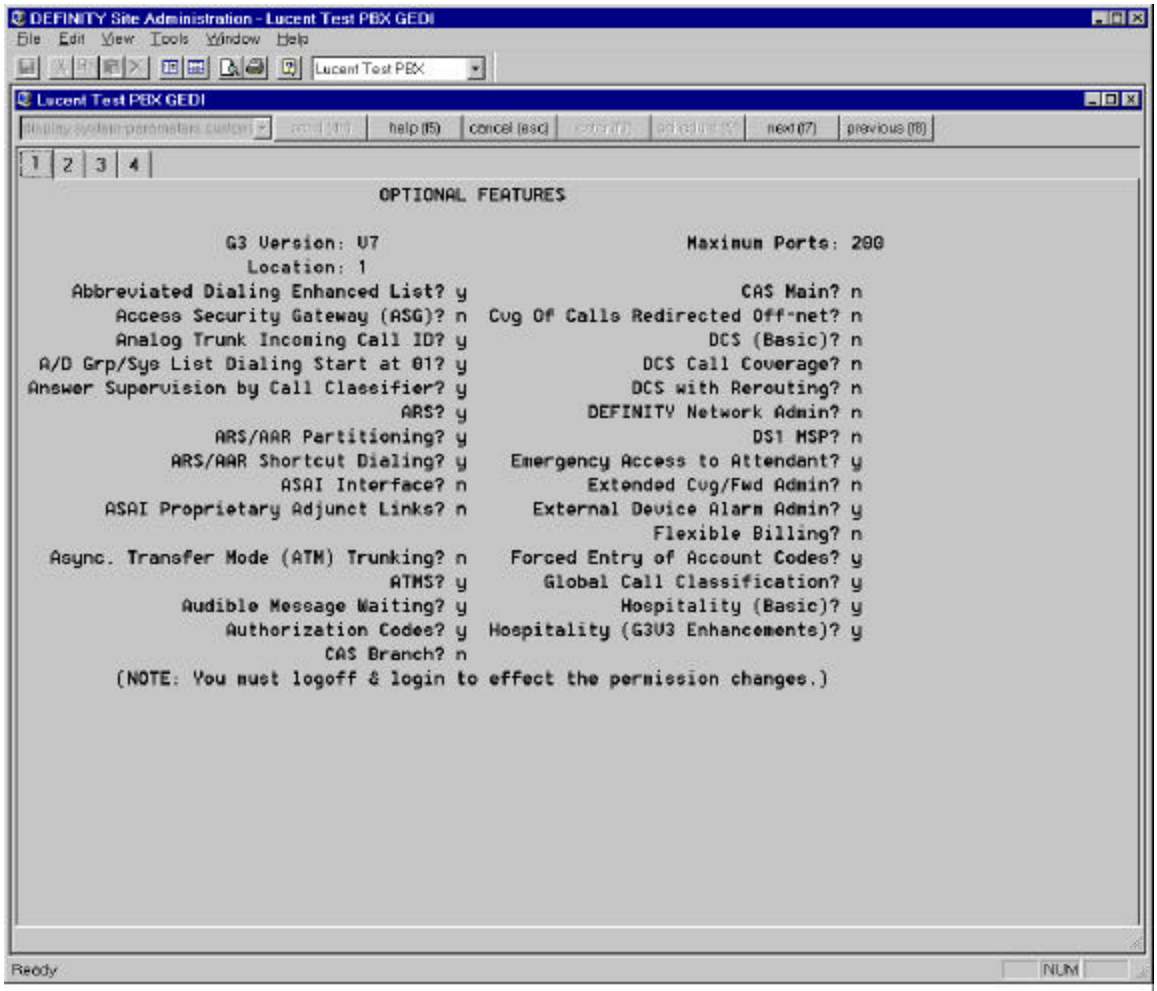
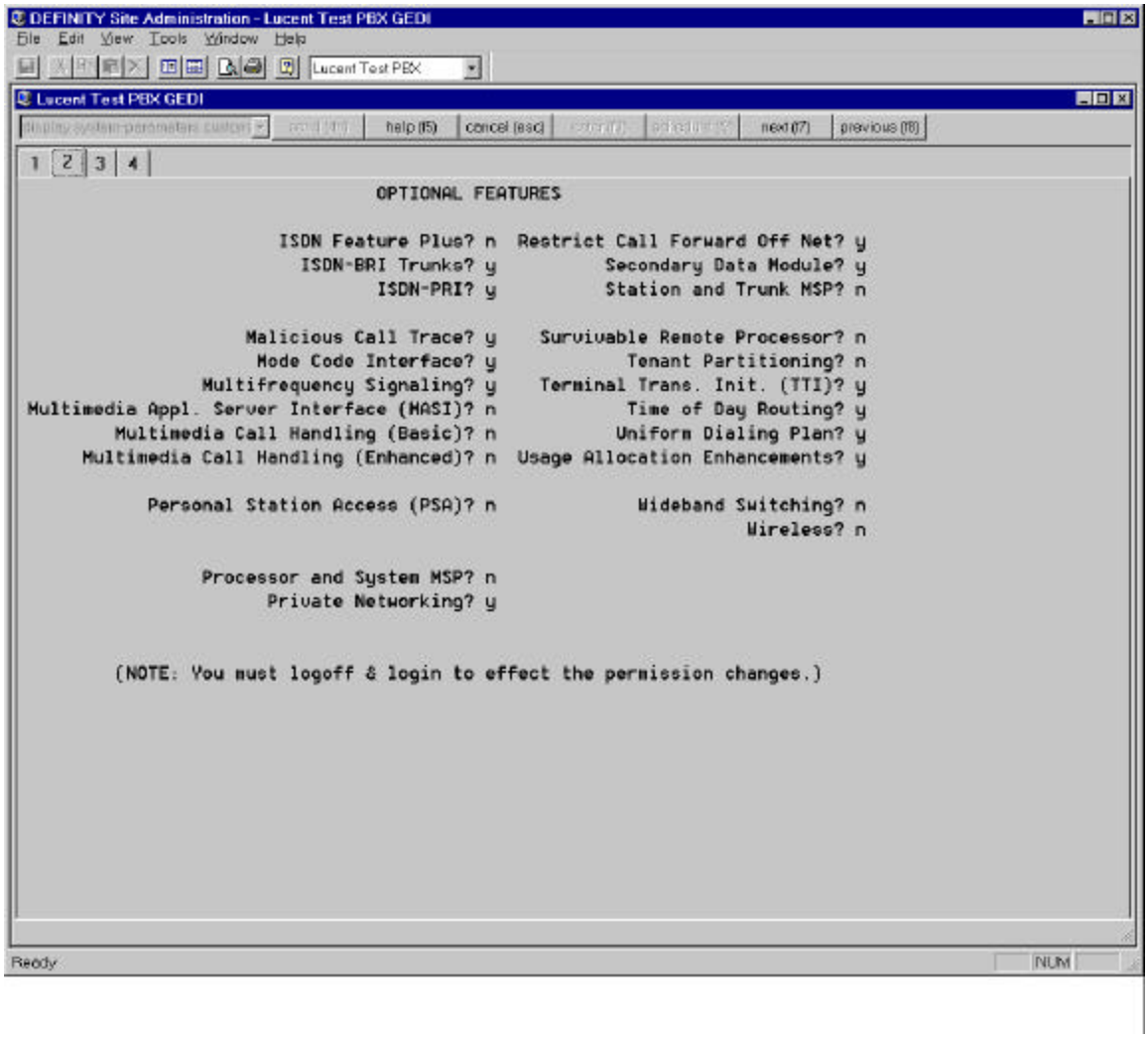


Figure 11: Optional Features Tab 2



Cisco 7206 Series Router Configuration

The following is the configuration of the Cisco 7206 series router connected to the Lucent Definity G3r PBX E1 ISDN PRI interface.

Cisco 7206 Series Router Version Information

- Cisco IOS™ (C7200-JS-M), Version 12.2(1).
- Cisco 7206VXR (NPE300) processor (revision D) with 122880K/40960K bytes of memory.

Cisco 7206 Series Router Sample Configuration

The following is the configuration of the Cisco 7206 series router directly connected to Lucent Definity G3r PBX ISDN PRI interface.

```
7206VXR#sh ver
Cisco Internetwork Operating System Software
IOS (tm) 7200 Software (C7200-JS-M), Version 12.2(1), RELEASE SOFTWARE
Copyright (c) 1986-2001 by Cisco Systems, Inc.
Compiled Thu 26-Apr-01 22:10 by cmong
Image text-base: 0x60008960, data-base: 0x616B0000

ROM: System Bootstrap, Version 12.0(19990210:195103) [12.0XE 105], DEVELOPMENT SOFTWARE

7206VXR uptime is 5 hours, 4 minutes
System returned to ROM by power-on
System image file is "slot0:c7200-js-mz.122-1"

Cisco 7206VXR (NPE300) processor (revision D) with 122880K/40960K bytes of memory.
Processor board ID 18282879
R7000 CPU at 262Mhz, Implementation 39, Rev 1.0, 256KB L2, 2048KB L3 Cache
6 slot VXR midplane, Version 2.0

Last reset from power-on
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.
Channelized E1, Version 1.0.
1 FastEthernet/IEEE 802.3 interface(s)
31 Serial network interface(s)
2 Channelized E1/PRI port(s)
1 Voice resource(s)
125K bytes of non-volatile configuration memory.
16384K bytes of Flash PCMCIA card at slot 0 (Sector size 128K).
4096K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x0

7206VXR#
```

```
7206VXR#sh diag
Slot 0:
        Fast-ethernet on C7200 I/O card with MII or RJ45 Port adapter, 1 port
        Port adapter is analyzed
        Port adapter insertion time 05:04:06 ago
        EEPROM contents at hardware discovery:
        Hardware revision 2.1           Board revision B0
        Serial number     18517759      Part number    73-4092-03
        Test history      0x0           RMA number     00-00-00
        EEPROM format version 1
        EEPROM contents (hex):
          0x20: 01 83 02 01 01 1A 8E FF 49 0F FC 03 00 00 00 00
          0x30: 58 00 00 00 00 04 16 00 00 00 FF FF FF FF FF FF

Slot 1:
        VXC-2TE1+ Port adapter, 2 ports
        Port adapter is analyzed
        Port adapter insertion time 05:04:05 ago
        EEPROM contents at hardware discovery:
        Hardware Revision        : 0.2
        PCB Serial Number        : MIC05022QA2
        Part Number              : 73-5340-03
        Board Revision           : A0
        RMA Test History         : 00
        RMA Number               : 0-0-0-0
        RMA History              : 00
        Deviation Number         : 0-0
        Product Number           : PA-VXC-2T1E1+
        Top Assy. Part Number    : 8034-08469-01
```

```
        EEPROM format version 4
        EEPROM contents (hex):
          0x00: 04 FF 40 02 11 41 00 02 C1 8B 4D 49 43 30 35 30
          0x10: 32 32 51 41 32 82 49 14 DC 03 42 41 30 03 00 81
          0x20: 00 00 00 00 04 00 80 00 00 00 00 CB 94 50 41 2D
          0x30: 56 58 43 2D 32 54 31 45 31 2B 20 20 20 20 20 20
          0x40: 20 C0 46 1F 62 00 21 15 01 FF FF FF FF FF FF FF
          0x50: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0x60: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0x70: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

7206VXR#
```

```
7206VXR#sh controllers e1 1/0
E1 1/0 is up.
  Applique type is Channelized E1 - balanced
  No alarms detected.
  alarm-trigger is not set
  Framing is CRC4, Line Code is HDB3, Clock Source is Line.
  International Bit: 1, National Bits: 11111
  Active xconns: 0
  Data in current interval (32 seconds elapsed):
     0 Line Code Violations, 0 Path Code Violations
     0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
     0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
7206VXR#
```

```
7206VXR#sh conf
Using 1266 out of 129016 bytes
!
version 12.2
no service single-slot-reload-enable
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname 7206VXR
!
card type e1 1
logging rate-limit console 10 except errors
!
frame-clock-select 1 E1 1/0
dspint DSPfarm1/0
!
ip subnet-zero
!
!
no ip finger
!
no ip dhcp-client network-discovery
isdn switch-type primary-net5
call rsvp-sync
!
!
!
!
!
!
!
controller E1 1/0
 pri-group timeslots 1-31
!
controller E1 1/1
 shutdown
!
!
interface FastEthernet0/0
 ip address 18.0.0.2 255.255.255.0
 no ip mroute-cache
```

```
 duplex full
 fair-queue
!
interface Serial1/0:15
 no ip address
 no logging event link-status
 isdn switch-type primary-net5
 isdn overlap-receiving
 isdn protocol-emulate network
 isdn incoming-voice modem
 isdn guard-timer 3000
 isdn T203 30000
 isdn T310 60000
 isdn bchan-number-order ascending
 no cdp enable
!
ip kerberos source-interface any
ip classless
no ip http server
!
!
!
voice-port 1/0:15
!
dial-peer voice 1 pots
 destination-pattern 2...
 direct-inward-dial
 port 1/0:15
 prefix 2
!
dial-peer voice 2 voip
 destination-pattern 5...
 session target ipv4:18.0.0.1
!
!
gatekeeper
 shutdown
!
!
line con 0
 transport input none
line aux 0
line vty 0 4
 login
line vty 5 15
 login
!
end

7206VXR#
```

Caveats

- None.