Application Note

Cisco 2651-PBX Interoperability: Lucent Definity G3r with E1 ISDN PRI Signaling

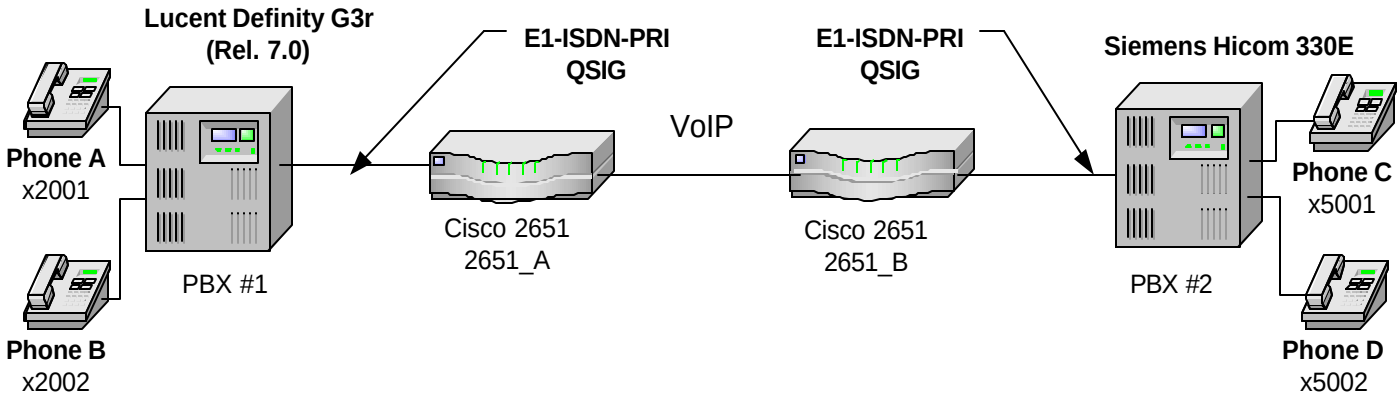
Introduction

This document describes the interoperability and configuration of a Cisco 2651 voice gateway with a Lucent Definity G3r using E1 ISDN PRI signaling.

Network Topology

This diagram represents the various configurations used for testing.

Basic Call Setup
End-to-End Configuration



Limitations

- Lucent Definity G3 has no provision for the E1 interface to "line clock" – it **always** wants to provide clock on the interface, so the Cisco 2651 2MFT E1 interface must be set to "line clock" to work with it.
- Lucent Definity G3 uses the same TN464F "DS1 INTFC 24/32" card for both T1 and E1 trunking – To select E1 functionality, some database entries are made in the Lucent trunk configuration screen (see Lucent configuration appendix for details) and there are two DIP switches on the card itself:
  - 24CH/30CH – Set to 24CH for T1, 30CH for E1
  - 120Ω/75Ω -- Set to 120Ω to use with a twisted pair E1 circuit; if set to 75Ω to use with a coaxial wire E1 circuit, must use an external adapter provided by Lucent. Not applicable for the T1 setting – leave at 120Ω.

- The Lucent PBX sends back a Progress Indicator message indicating inband information may be available. The “progress_ind setup enable 1” command is necessary under the voip dial-peer to open the voicepath to ensure the caller hears a ringback tone.
- To assure that calling name is delivered and presented on both sides, both PBXs must be configured for the same type of supplementary services.

System Components

Hardware Requirements

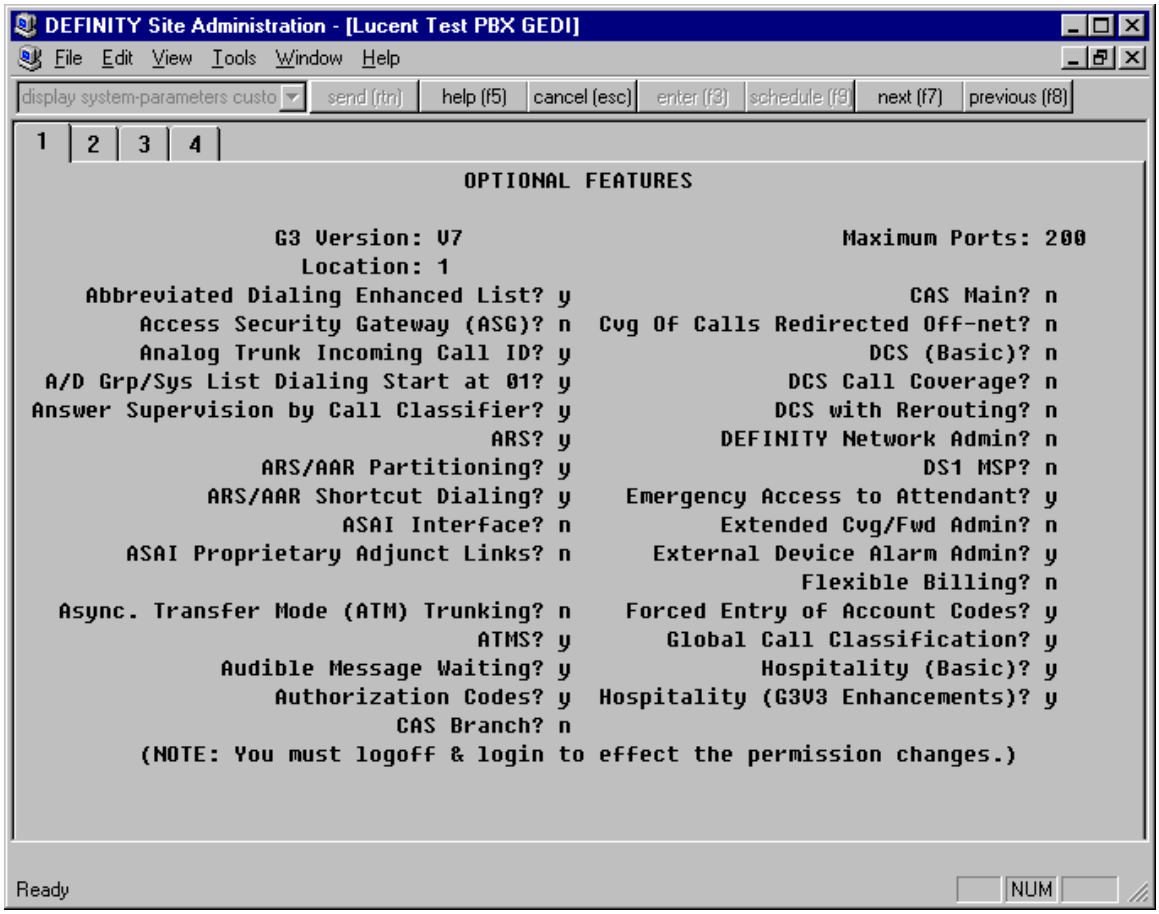
- Cisco hardware—Cisco 2651 with 2MFT-E1
- PBX hardware—G3siV7

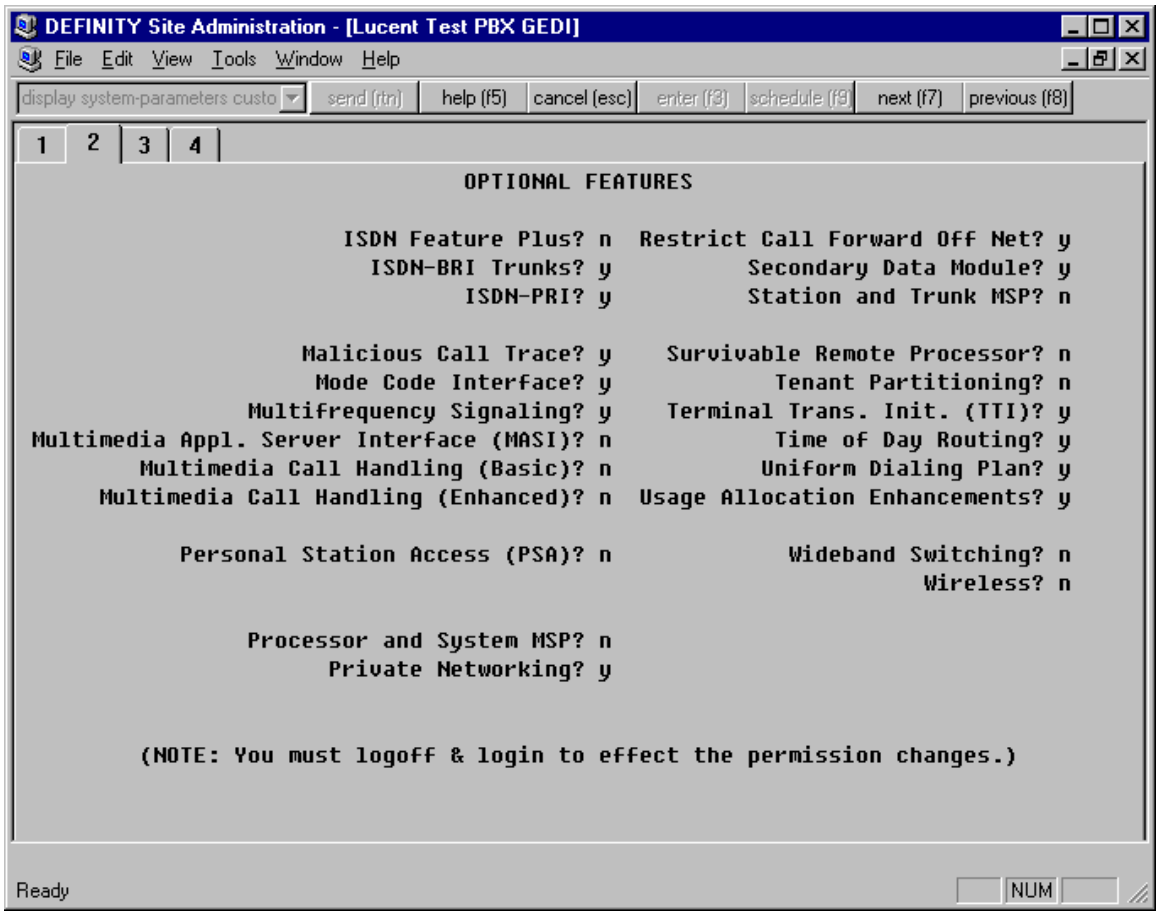
Software Requirements

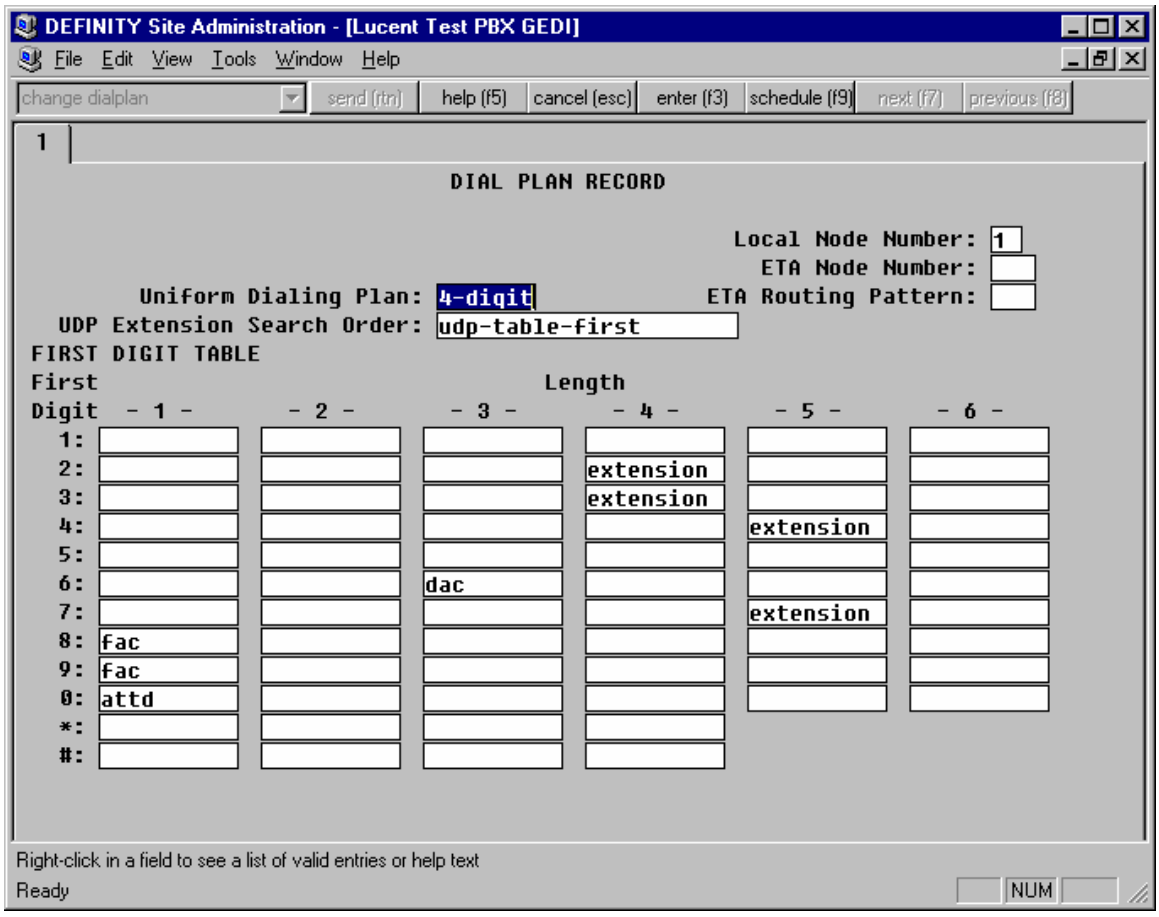
- Cisco software release— IOS™ Version 12.2
- PBX software release—version G3V7i.01.0.343.7

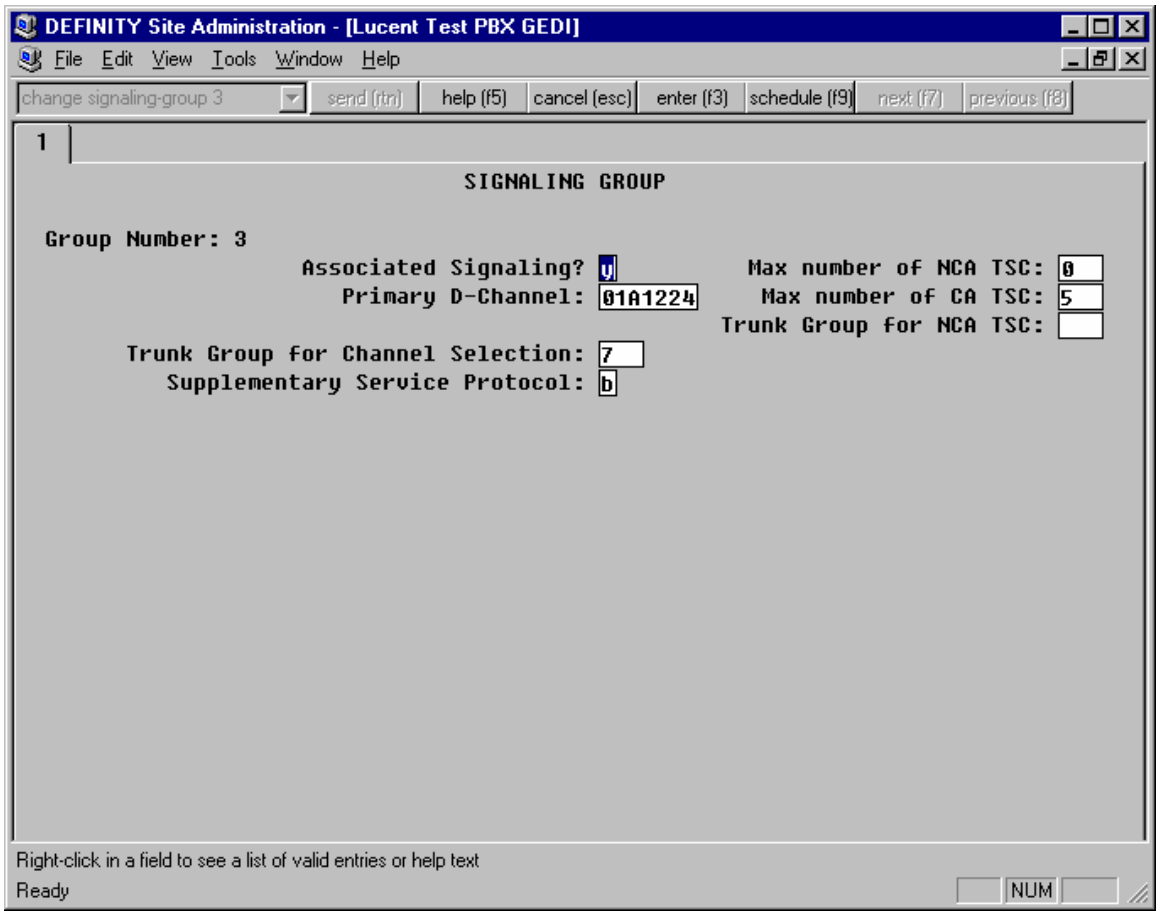
Configuration

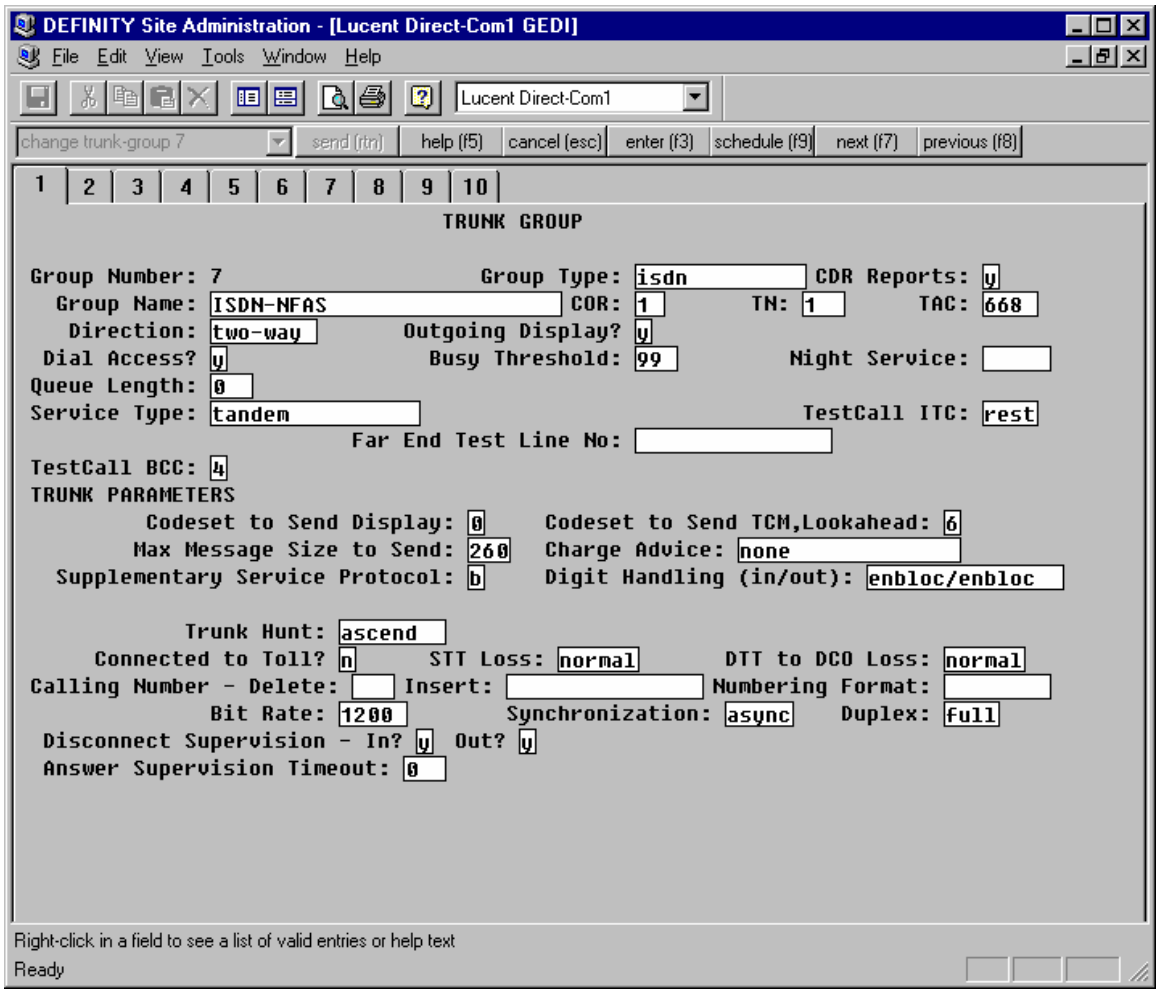
Configuring the Lucent G3r

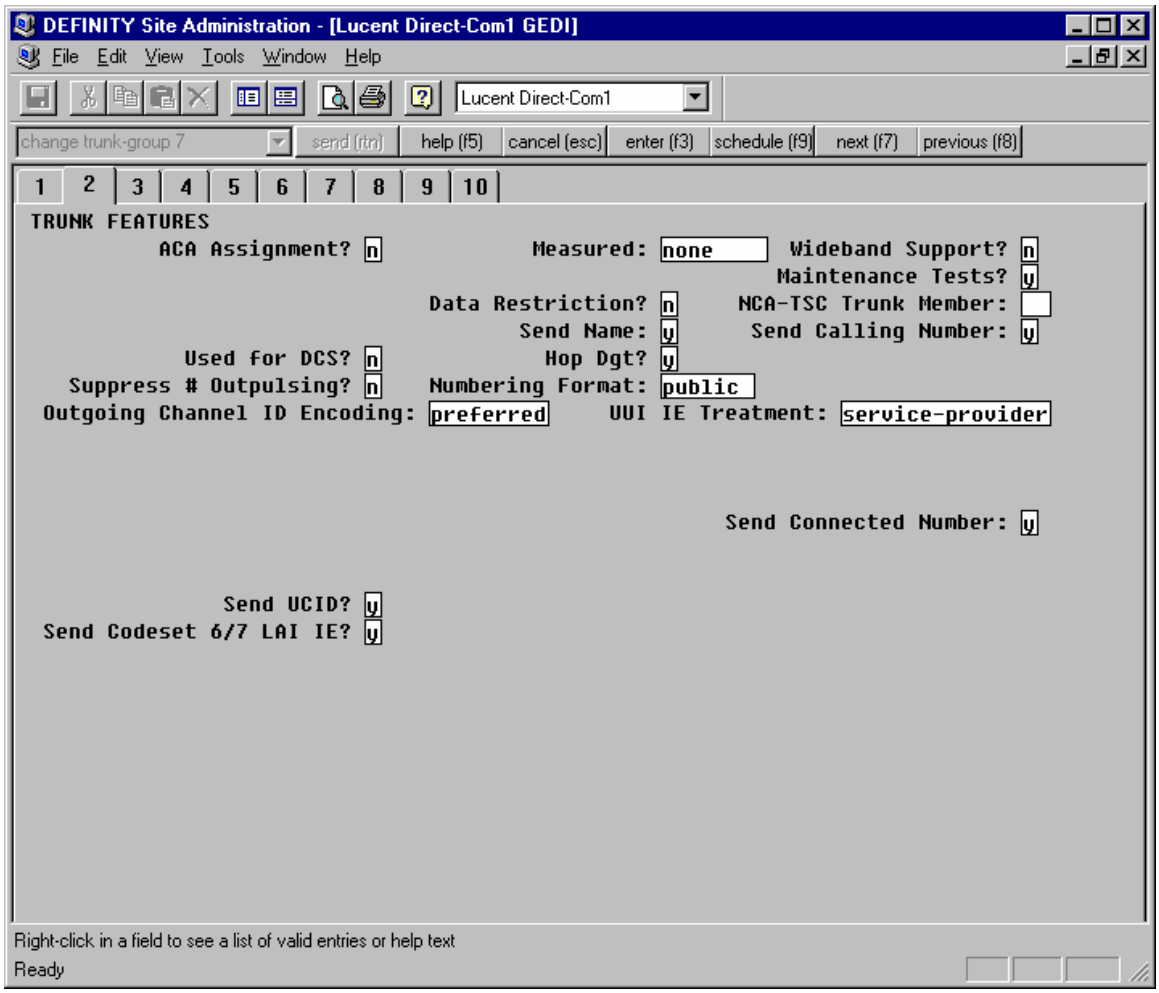


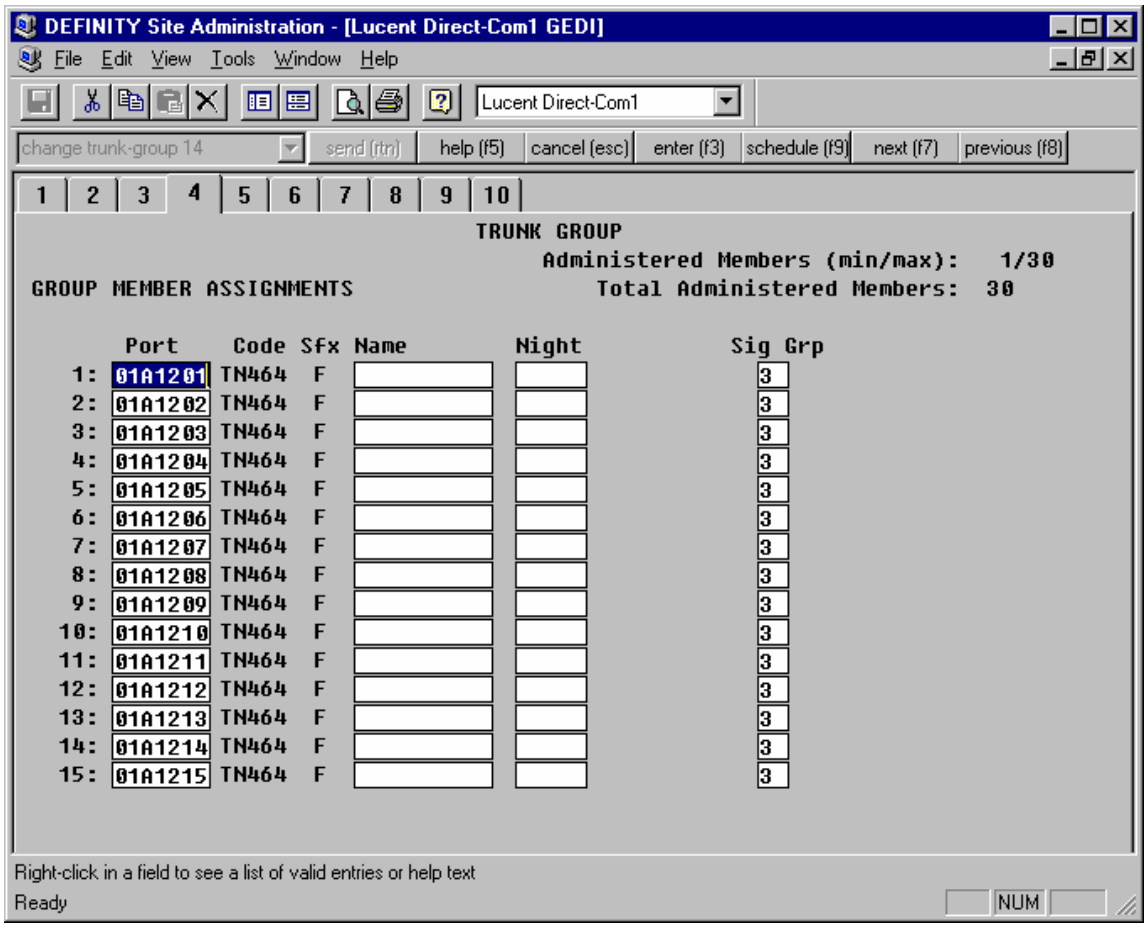


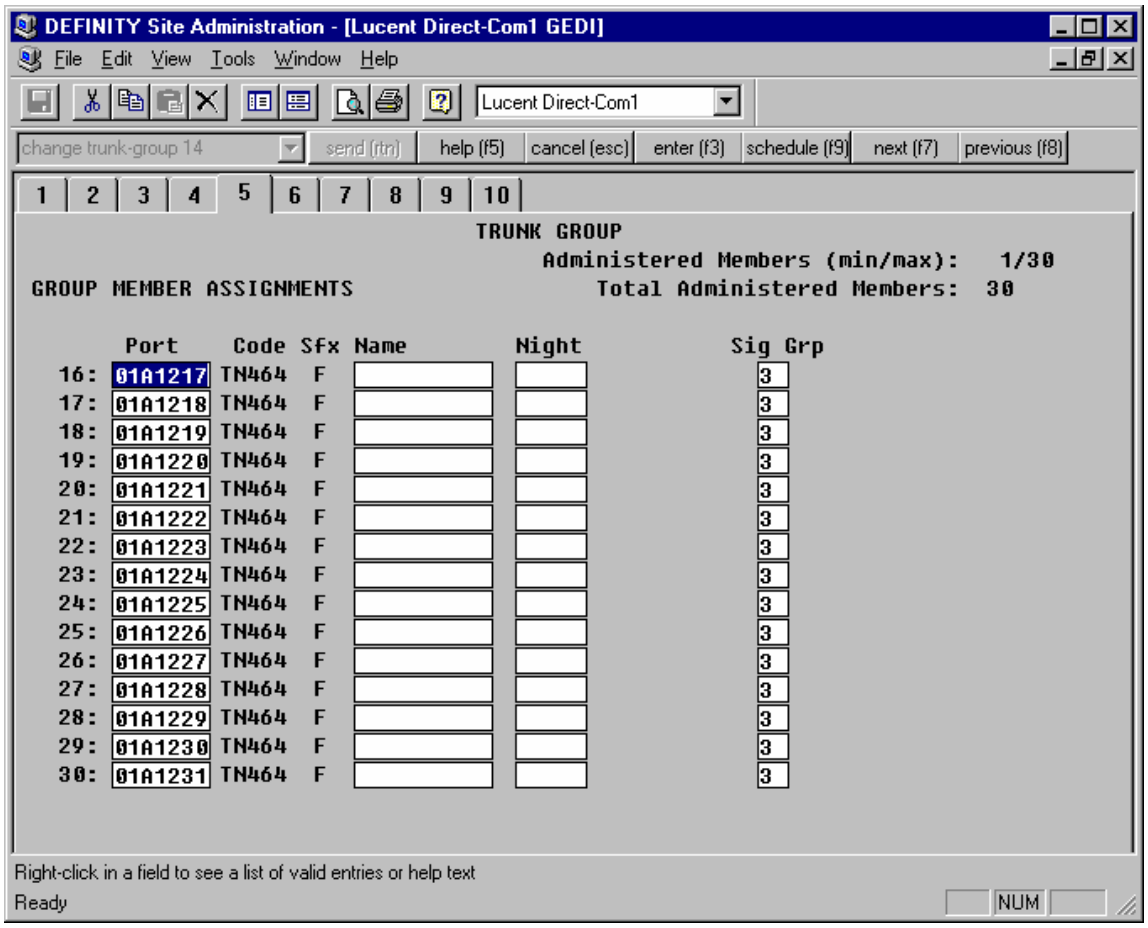












Configuring the Cisco 2651

```
2651_A#show running-configuration
Using 1553 out of 29688 bytes
!
version 12.2
no service single-slot-reload-enable
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname 2651_A
!
no logging buffered
logging rate-limit console 10 except errors
!
memory-size iomem 15
voice-card 1
!
```

```
ip subnet-zero
!
!
no ip finger
no ip domain-lookup
!
no ip dhcp-client network-discovery
isdn switch-type primary-qsig
call rsvp-sync
!
!
!
!
!
!
!
controller E1 1/0
 pri-group timeslots 1-31
!
controller E1 1/1
!
!
interface FastEthernet0/0
 mac-address 000c.000c.0001
 ip address 101.1.1.1 255.255.0.0
 load-interval 30
 no keepalive
 shutdown
 speed 100
 full-duplex
!
interface FastEthernet0/1
 ip address 10.1.1.2 255.255.255.0
 duplex auto
 speed auto
!
interface Serial1/0:15
 no ip address
 no logging event link-status
 isdn switch-type primary-qsig
 isdn overlap-receiving
 isdn incoming-voice voice
 isdn T203 30000
 isdn T310 60000
 isdn bchan-number-order ascending
 no cdp enable
!
ip kerberos source-interface any
ip classless
ip http server
```

```
!
!
snmp-server engineID local 80000009030000024B135580
snmp-server packetsize 4096
snmp-server manager
!
voice-port 1/0:15
!
dial-peer cor custom
!
!
!
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...
 progress_ind setup enable 1
 session target ipv4:10.1.1.1
!
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
 exec-timeout 0 0
line vty 0 4
 exec-timeout 0 0
 login
line vty 5 15
 exec-timeout 0 0
 login
!
scheduler allocate 3996 1000
end
```

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
Capital Tower
168 Robinson Road
#22-01 to #29-01
Singapore 068912
www.cisco.com
Tel: +65 317 7777
Fax: +65 317 7799

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