



# Alcatel 4400 Release 6.0 using E1 ISO QSIG to Cisco Unified Communications Manager Release 5.0

October 25, 2007 Revision 2

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## Introduction

This is an Application Note for connectivity between an Alcatel 4400 Release 6.0 PBX and Cisco Unified CallManager Release 5.0 using a Cisco 3745 voice gateway with MGCP and ISO QSIG protocol.

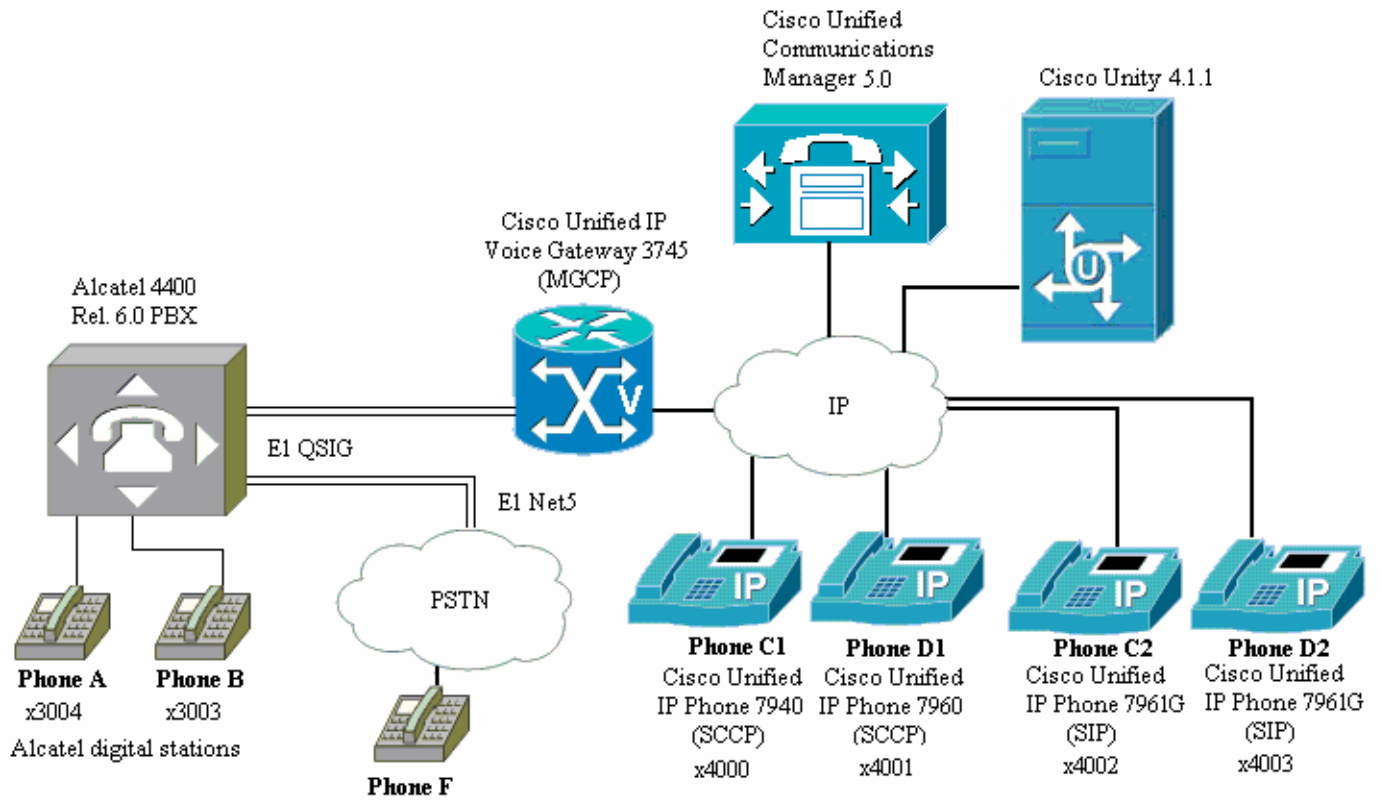
The network topology diagrams (Figures 1 and 2) show the test setup for end-to-end interoperability with Cisco Unified CallManager Release 5.0 connected to the PBX via the 3745 E1 QSIG link as MGCP gateway. A NM-HDV and VWIC-2MFT-E1 were used for the E1 QSIG interfaces. Calls were made to test basic call, caller ID, conference, transfer, forward, call back, reroute, MWI, and path replacement features.

Connectivity is achieved by using the QSIG ISDN switch type on the MGCP gateway with the Cisco Unified CallManager services parameter "QSIG variant" set to ISO, and ISO switch type on the Alcatel 4400 PBX.

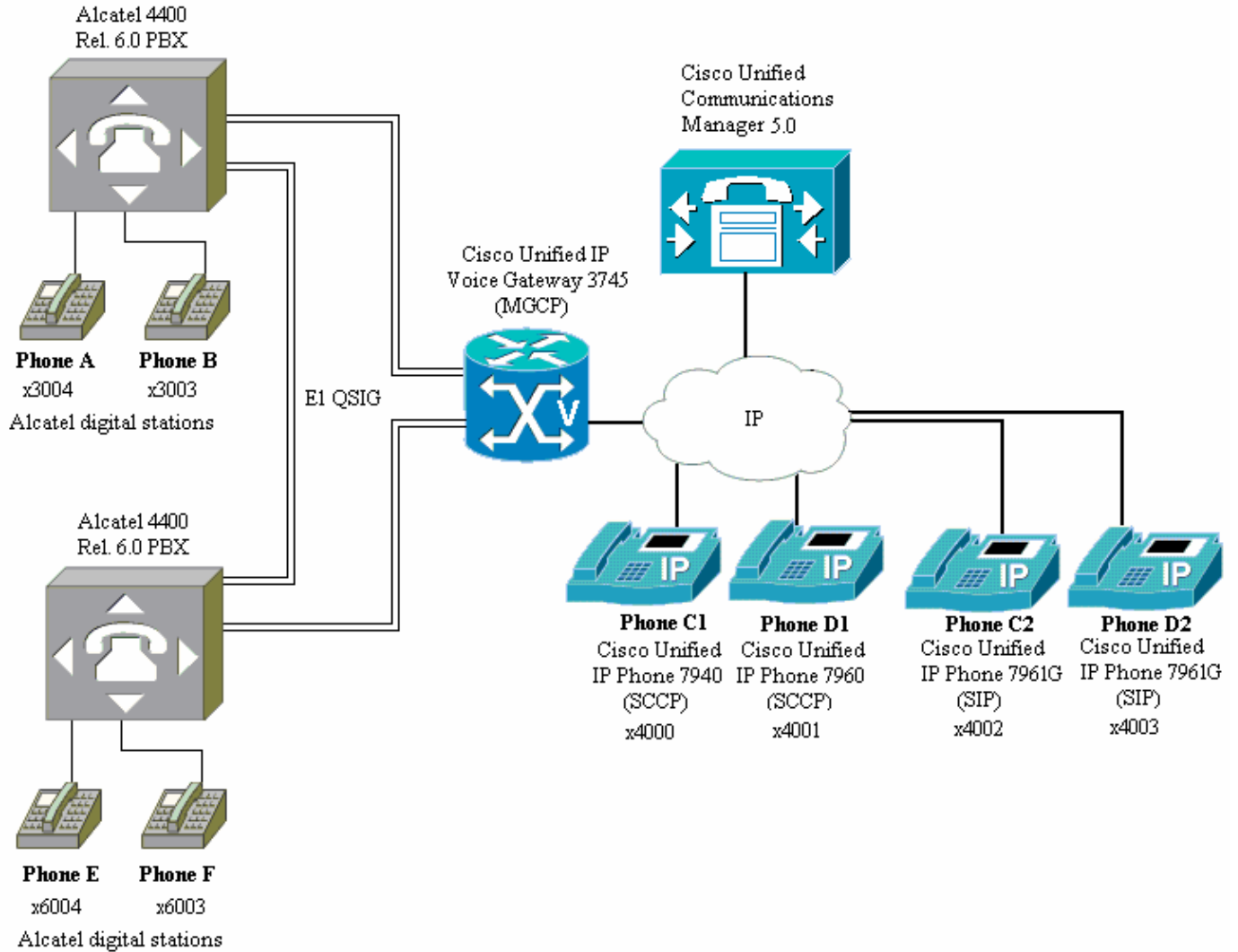
This Application Note uses the 3745 voice gateway. However, the use of other Cisco voice gateways is also an option since CCM QSIG implementation does not depend on the physical interface.

## Network Topology

Figure 1. Network Topology or Test Setup – basic calls configuration.



**Figure 2.** Network Topology or Test Setup – path replacement configuration.







## Limitations

### Basic Calls – Overlap

Connected number is sent from Cisco Unified CallManager, but not displayed on Alcatel phone when call is placed from PBX to IP phone.

### Blind Network/External Transfers

For "trombone" calls originating on Cisco Unified CallManager and ending with a blind transfer from the PBX back to an IP phone on the Cisco Unified CallManager, the transfer is not implemented immediately. Therefore, all caller ID info is updated about 20 seconds after the transfer is completed by the PBX phone, or immediately after the final destination answers, whichever comes first. Also, the originating phone hears a "hold" tone instead of ring-back during this time. This is a result of the Alcatel 6.0 PBX sending a "CallTransferIdentify" Facility IE after the middle party (PBX phone) instigates the blind transfer. The Cisco Unified CallManager does not respond to this Facility IE, and a PBX timer must expire before the transfer is completed. At that point, the PBX issues a "CallTransferAbandon" Facility IE and "CallTransferComplete" Facility IEs, whereupon the transfer is completed, the originating phone hears ringback, and Caller ID information is updated. This phenomenon was not seen in Alcatel Release 5.0/5.1. It is not observed on a 3-node scenario involving a Cisco Unified CallManager and 2 PBXs, as the PBX responds to the "call transfer Identify" message and thus avoids the timeout. It was confirmed that a Cisco Unified CallManager should reply to this "call transfer Identify" message, but is not doing so. A defect (CSCse80285) was opened.

### Call Forwards

For most call forwards, the forwarding called number is not displayed on the final destination.

### Network/External Call Forward by Join

The Alcatel PBX does not support call forward by join. Instead, the Alcatel PBX performs a reroute.

### MWI

Unfortunately, Cisco has not been able to validate MWI function in our labs because we do not have an internal voicemail system on our Alcatel PBX.

Cisco Unified CallManager can not be the message center PINX for stations on the Alcatel 4400 Release 6.0 PBX. This is because MWI across QSIG is not supported by the Alcatel 4400 Release 6.0 PBX.



## System Components

### Hardware Requirements

Cisco MCS 7800 Unified CallManager Appliance

Cisco 3745 voice gateway

NM-HDV

VWIC-2MFT-E1

Cisco Unified IP phone 7940

Cisco Unified IP phone 7960

(2) Cisco Unified IP phone 7961G

(2) Alcatel 4400 PBXs

(4) PRA2 trunk cards

(4) 4035 *Advanced Reflexes* digital phones

### Software Requirements

Cisco Unified CallManager Release 5.0

Alcatel 4400 software release 6.0

Cisco IOS Release 12.4(3)



## Features Supported

Basic Call, ENBLOC

Basic Call, Overlap

CLIP-Calling Line (Number) Identification Presentation

CLIR-Calling Line (Number) Identification Restriction

CNIP-Calling Name Identification Presentation

CNIR-Calling Name Identification Restriction

COLP-Connected Line (Number) Identification Presentation

COLR- Connected Line (Number) Identification Restriction

CONP-Connected Name Identification Presentation

CONR- Connected Name Identification Restriction

Tandem PSTN call

Consultation Transfer – Local

Consultation Transfer – Network/External

Blind Transfer – Local

Blind Transfer – Network/External

Call Forward Unconditional by Join – Local

Call Forward Unconditional by Join – Network/External (See Limitations section for details.)

Call Forward Busy by Join – Local

Call Forward Busy by Join – Network/External (See Limitations section for details.)

Call Forward No Reply by Join – Local

Call Forward No Reply by Join – Network/External (See Limitations section for details.)

Call Forward Unconditional by Reroute – Network/External

Call Forward Busy by Reroute – Network/External

Call Forward No Reply by Reroute – Network/External

Call Completion to Busy Subscriber (Call Back when Free)

Call Completion on No Reply (Call Back Next Used)

Path Replacement for Call Transfer by Join

Path Replacement for Trombone Connection (accomplished by consultation transfer)



## Features Not Supported

List any features that are required, supported, not required or not supported.

Any Call Forward (CFU, CFB, CFNR) by join from PBX. PBX always performs a reroute.

Path Replacement for Call Diversion by Forward Switch

MWI (see Limitations section for details.)

## Configuration

### Configuration Sequence for the Alcatel 4400 PBX

1. Configure Board.
2. Configure Digital Access
3. Configure "ECMA Function" System Parameter.
4. Configure PRI-ABC\_F Trunk Group
5. Configure PSTN Trunk Group
6. Configure Network Routing
7. Configure Network Routing "Own Node".
8. Configure Routing Prefix.
9. Configure Digital Station
10. Configure Digital Station Phone Facilities



## Configuring the Alcatel 4400 PBX

### Circuit Board

Figure 3. Circuit board configuration – 1 of 2.

The screenshot displays the Cisco Configuration Manager interface for configuring a nextiraone circuit board. The left-hand navigation pane shows a tree structure under 'nextiraone', with 'Board' selected. The main configuration area shows a table for 'nextiraone:0' with the following parameters:

nextiraone:0	
Board Address	9
Interface Type	BPRA2
Usage State	Busy
Operational State	Enabled
Main/Standby State	Main (Master)
Number Of Sets Connected	4
Country Protocol Type	Default
Incidents Teleservice	YES
ISDN Board Layer 2 Parameters	
Retransmission Timer	100
TEI Identity Check Timer	100
Polling Timer	1000
No. Of Retransmissions	3
Max Frame Size (Bytes)	260

At the bottom of the window, a command line shows the following messages:

```
[9:17:01 AM] > Request 5 sent to nextiraone.  
[9:17:02 AM] > Request 5 completed on nextiraone: 10 instance(s) received.
```



Figure 4. Circuit board configuration – 2 of 2.

The screenshot displays the Cisco Configuration Manager interface for configuring a circuit board on a device named 'nextiraone'. The left sidebar contains navigation icons for Log on to 4760, Directory, Configuration, Reports, Alarms, Scheduler, and Maintenance. The main window is titled 'Configuration: nextiraone' and shows a tree view of the configuration hierarchy. The 'Board' configuration is selected, showing a list of boards (0-9) with their respective statuses. The 'Configuration' pane displays the parameters for the selected board (nextiraone:0).

nextiraone:0	
Board Address	9
ISDN Board Layer 2 Parameters	
Retransmission Timer	100
TEI Identity Check Timer	100
Polling Timer	1000
No. Of Retransmissions	3
Max Frame Size (Bytes)	260
T0 ISDN Board Layer 2 Parameters	
Window Size In Frames SAPI S T0	1
Window Size In Frames SAPI P T0	3
T2 ISDN Board Layer 2 Parameters	
Window Size In Frames SAPI S T2	7
Window Size In Frames SAPI P T2	7
Virtual board	NO

At the bottom of the window, a command line shows the following messages:

```
[9:17:01 AM] > Request 5 sent to nextiraone.
[9:17:02 AM] > Request 5 completed on nextiraone: 10 instance(s) received.
```



## Digital Access

Figure 5. Digital access configuration – 1 of 1.

The screenshot shows a configuration window for 'nextiraone'. The left pane shows a tree view with 'Digital Access' expanded to show four entries: '0 T2 BPRA2 255 NO 30 0', '1 T0 BPRA2 255 YES 2 0', '2 T0 BPRA2 0 NO 2 0', and '3 T0 BPRA2 9 YES 2 0'. The right pane shows the configuration for 'nextiraone:0:9' with the following parameters:

Parameter	Value
T0/T2 Access No.	0
Access Type	T2
Access Board Type	BPRA2
Synchronization Priority	255
Network Mode	NO
Max No Of Used B Channels	30
Max No. Of Compressed B Channels	0
Tieline Mode	YES
With Alarm	NO
Reserved1	NO
Reserved2	NO
Network Date Time Update	NO
CRC4	YES

At the bottom of the window, a status bar displays: [3:11:04 PM] > Request 6 sent to nextiraone.





**“ISO Function” System Parameter**

Figure 6. ISO function system parameter configuration – 1 of 3.

The screenshot shows a configuration window for 'nextiraone'. The left pane shows a tree view with 'System' parameters expanded. The right pane shows a table of configuration parameters for instance 'nextiraone:1'. The 'ISO Function' parameter is checked.

nextiraone:1	
<b>Instance (reserved)</b>	1
Trunk seizure via attendant	<input checked="" type="checkbox"/>
No detect of On-hook tone	<input checked="" type="checkbox"/>
TrkGrp in ticket for trans.call	<input checked="" type="checkbox"/>
VPN service	<input type="checkbox"/>
ISVPN Node No.	1
No. Digits displayed on sets	16
Melody Ringing Type	1
Int.Call Ringing Cadence No.	1
Ext.Call Ringing Cadence No.	1
Executive Type Ringing Cadence No.	1
Priority Call Cadence No.	1
ISO Function	<input checked="" type="checkbox"/>
Reserve B Channel	<input checked="" type="checkbox"/>
No control: Business Account Code	<input type="checkbox"/>
Business Pref.With Business No.	<input checked="" type="checkbox"/>
Business prefix with code	<input type="checkbox"/>
Follow-Me on Remote forwarding	<input type="checkbox"/>





Figure 7. ISO function system parameter configuration – 2 of 3.

The screenshot shows a configuration window titled "Configuration: nextiraone". The left pane shows a tree view of configuration objects under "PCX". The right pane shows a configuration table for "nextiraone:1".

nextiraone:1	
<b>Instance (reserved)</b>	1
Follow-Me on Remote forwarding	<input type="checkbox"/>
BC HLC Fax	1
VG Recording Gain from a UA set	3
Calling ID length	7
No. Of Secret Code Errors	0
Transfer All Business Call Types	<input checked="" type="checkbox"/>
Attendt Stay PCX on cancel consult	<input type="checkbox"/>
Compatibility GF	<input checked="" type="checkbox"/>
Alphanum.Char.Entry - mode2	<input checked="" type="checkbox"/>
Spain version 2	<input type="checkbox"/>
QSIG1 (reserved)	0
QSIG2 (reserved)	0
Stop Tie Line Supervision	<input type="checkbox"/>
Tie Line Germany	0
Entity For Virtual Set	0
No. Of Business Code Errors	0
Period for Disabled Code	0



Figure 8. ISO function system parameter configuration – 3 of 3.

The screenshot shows a configuration window titled "Configuration: nextiraone". The left pane displays a tree view of configuration objects under "PCX", with "nextiraone" selected. The right pane shows a search filter for "Users" with "Directory Number" set to "Equal". Below the search, a "Configuration" table is displayed for "nextiraone:1".

nextiraone:1	
<b>Instance (reserved)</b>	1
Stop Tie Line Supervision	<input type="checkbox"/>
Tie Line Germany	0
Entity For Virtual Set	0
No. Of Business Code Errors	0
Period for Disabled Code	0
Poor ARS Rerouting memo. Period.	20
Poor ARS Route Inhibit Period	180
Charging by No. Text Messages	<input checked="" type="checkbox"/>
Remote Numeric Gain For 4630	<input checked="" type="checkbox"/>
Business code in redial key	<input checked="" type="checkbox"/>
Cn on Progress message	<input type="checkbox"/>
Deferred transm- Swiss work-around	<input type="checkbox"/>
Send NDS NDI	<input type="checkbox"/>
Calls Distributed to Att.In Order	<input type="checkbox"/>
No. int. messages not answ. by set	16
NS Read before ACK	<input type="checkbox"/>
SNCM	0



### PRI ABC\_F Trunk Group

Figure 9. PRI ABC\_F Trunk configuration – 1 of 7.

The screenshot shows the Cisco configuration interface for a PRI ABC\_F Trunk Group. The left pane displays a tree view of the configuration hierarchy, with 'Trunk Groups' expanded to show a list of configurations. The right pane shows the configuration details for the selected trunk group.

nextiraone	
Trunk Group ID	4
Trunk Group Type	72
Trunk Group Name	PRI-ABCF
Node number	1
Transcom Trunk Group	<input type="checkbox"/>
Auto.reserv.by Attendant	<input type="checkbox"/>
Overflow trunk group No.	-1
Tone on seizure	<input checked="" type="checkbox"/>
Private Trunk Group	<input type="checkbox"/>
Q931 Signal variant	ABC-F
SS7 Signal variant	No variant
Number Compatible With	-1
Number Of Digits To Send	4
Channel selection type	Quantified
Remote Network	2
Shared Trunk Group	<input type="checkbox"/>
Auto.DTMF dialing on outgoing call	YES
T2 Specification	None



Figure 10. PRI ABC\_F Trunk configuration – 2 of 7.

The screenshot shows the Cisco configuration interface for a PRI ABC\_F Trunk configuration. The left pane displays a tree view of the configuration hierarchy, with 'Trunk Groups' expanded to show a list of configurations. The right pane shows the configuration details for 'nextiraone'.

nextiraone	
Trunk Group ID	4
Channel selection type	Quantified
Remote Network	2
Shared Trunk Group	<input type="checkbox"/>
Auto.DTMF dialing on outgoing call	YES
T2 Specification	None
Public Network COS	0
DID transcoding	<input type="checkbox"/>
Special Services	Nothing
Can support UUS in SETUP	<input checked="" type="checkbox"/>
Implicit Priority	
Activation mode	0
Priority Level	0
Preempter	NO
Incoming calls Restriction COS	10
Outgoing calls Restriction COS	10
Callee number mpt1343	NO
Overlap dialing	YES





Figure 11. PRI ABC\_F Trunk configuration – 3 of 7.

The screenshot displays the Cisco Unified Communications Manager configuration interface. The left pane shows a tree view of the configuration hierarchy, with 'nextiraone' selected. The right pane shows the configuration for 'nextiraone:4'. The configuration table is as follows:

nextiraone:4	
Instance (reserved)	1
Trunk Group Type	T2
Public Network Ref.	
End-to-end dialing	NO
DTMF end-to-end signal.	NO
Trunk group used in DISA	NO
DISA Secret Code	
VG for non-existent No.	YES
Routing To Manager	NO
Trunk COS	18
Sending of Progress message	YES
No. of digits unused (ISDN)	0
B Channel Choice	YES
Channels: Attendant Control (Rsvd)	0
Redirection For ACD (Dissuasion)	NO
DTO joining	NO
Consultation Call On B Channel	NO
Automated Attendant	NO



Figure 12. PRI ABC\_F Trunk configuration – 4 of 7.

The screenshot displays the Cisco Unified Communications Manager configuration interface. The left pane shows a tree view of the configuration hierarchy, with 'nextiraone' selected. The right pane shows the configuration for 'nextiraone:4'. The configuration table is as follows:

nextiraone:4	
<b>Instance (reserved)</b>	1
Automated Attendant	NO
Calling party Rights COS	0
Entity Number	1
TS Overflow	YES
Number To Be Added	
Supervised by Routing	NO
VPN Cost Limit for Incom.Calls	0
Immediate Trk Listening if VPNCall	YES
VPN TS %	50
CSTA-Monitored	NO
Max.% of trunks out CCD	0
Charge Calling And ADN Creation	NO
Ratio analog.to ISDN cost	
Logical Channel	1__15 & 17__31
TS Distribution on Accesses	YES
Use Split Access	NO
Heterogeneous Remote Network	NO



Figure 13. PRI ABC\_F Trunk configuration – 5 of 7.

The screenshot shows the Cisco configuration interface for a PRI ABC\_F Trunk configuration. The left pane displays a tree view of the configuration hierarchy, with 'nextiraone' selected. The right pane shows the configuration details for 'nextiraone:4'.

nextiraone:4	
Instance (reserved)	1
Max. % of trunks out CCD	U
Charge Calling And ADN Creation	NO
Ratio analog.to ISDN cost	
Logical Channel	1__15 & 17__31
TS Distribution on Accesses	YES
Use Split Access	NO
Heterogeneous Remote Network	NO
COS Restrictions - Barring mode	Not Restricted / Not barred
ARS Class of service	31
Quality profile for voice over IP	Profile #1
IP Compression Type	Default
Use of volume in system	YES
External Access Server	NO
CSTA Tracking MCDU Trk	
Announcement for dial tone	NO
Announcement for Ring tone	NO
Private to Public Overflow	YES



Figure 14. PRI ABC\_F Trunk configuration – 6 of 7.

The screenshot displays the Cisco Unified Communications Manager configuration interface for a device named 'nextiraone'. The interface is divided into several sections:

- Left Navigation Panel:** Contains icons for 'Log on to 4760', 'Directory', 'Configuration', 'Reports', 'Alarms', 'Scheduler', and 'Maintenance'.
- Networks Tree:** A hierarchical tree view under 'PCX' showing the configuration structure for 'nextiraone', including 'Shelf', 'Media Gateway', 'PWT/DECT System', 'System', 'Translator', 'Classes of Service', 'Attendant', 'Users', 'Users by profile', 'Set Profile', 'Groups', 'Speed Dialing', 'Phone Book', 'Entities', 'Trunk Groups', and 'Trunk Group'. The 'Trunk Group' section is expanded to show '1 T2 NO NO' and 'T2/T1/T0 Access'.
- Search and Filter:** A search bar with 'Users' selected and a filter set to 'Directory Number' with the operator 'Equal'.
- Configuration Table:** A table with columns for 'Physical Address', 'Access Type', 'Access Cluster ID', 'Time Slots T2', and 'Time Slots T0'. The table is currently empty.
- Bottom Console:** A command-line interface showing the following messages:

```
[10:02:13 AM] > Request 20 sent to nextiraone.  
[10:02:14 AM] > Request 20 completed on nextiraone: 1 instance(s) received.
```





Figure 15. PRI ABC\_F Trunk configuration – 7 of 7.

The screenshot displays the Cisco Configuration Manager interface for configuring a PRI ABC\_F Trunk on a device named 'nextiraone'. The left-hand navigation pane shows a tree structure under 'PCX' with various services like 'Trunk Group', 'T2/T1/T0 Access', and 'Trunk'. The main configuration area shows a table for 'nextiraone:4:1' with the following details:

nextiraone:4:1	
Physical Address	0-9-0
Access Type	T2
Access Cluster ID	-1
Time Slots T2	01111111111111111011111111111111

At the bottom of the window, a command-line interface shows the following messages:

```
[10:02:13 AM] > Request 20 sent to nextiraone.
[10:02:14 AM] > Request 20 completed on nextiraone: 1 instance(s) received.
```



## PSTN Trunk Group

Figure 16. PSTN Trunk configuration – 1 of 7.

The screenshot shows the Cisco AdminMmc configuration window for 'alcatel51'. The left pane shows a tree view under 'Trunk Groups' with '0 T2 PRI-ABCF 1 No No -1' selected. The right pane shows the configuration details for this trunk group.

alcatel51	
Trunk Group ID	0
Trunk Group Type	T2
Trunk Group Name	PRI-ABCF
Node number	1
Transcom Trunk Group	<input type="checkbox"/>
Auto.reserv.by Attendant	<input type="checkbox"/>
Overflow trunk group No.	-1
Tone on seizure	<input checked="" type="checkbox"/>
Private Trunk Group	<input type="checkbox"/>
Q931 Signal variant	ISDN all countries
SS7 Signal variant	No variant
Number Compatible With	-1
Number Of Digits To Send	10
Channel selection type	Quantified



Figure 17. PSTN Trunk configuration – 2 of 7.

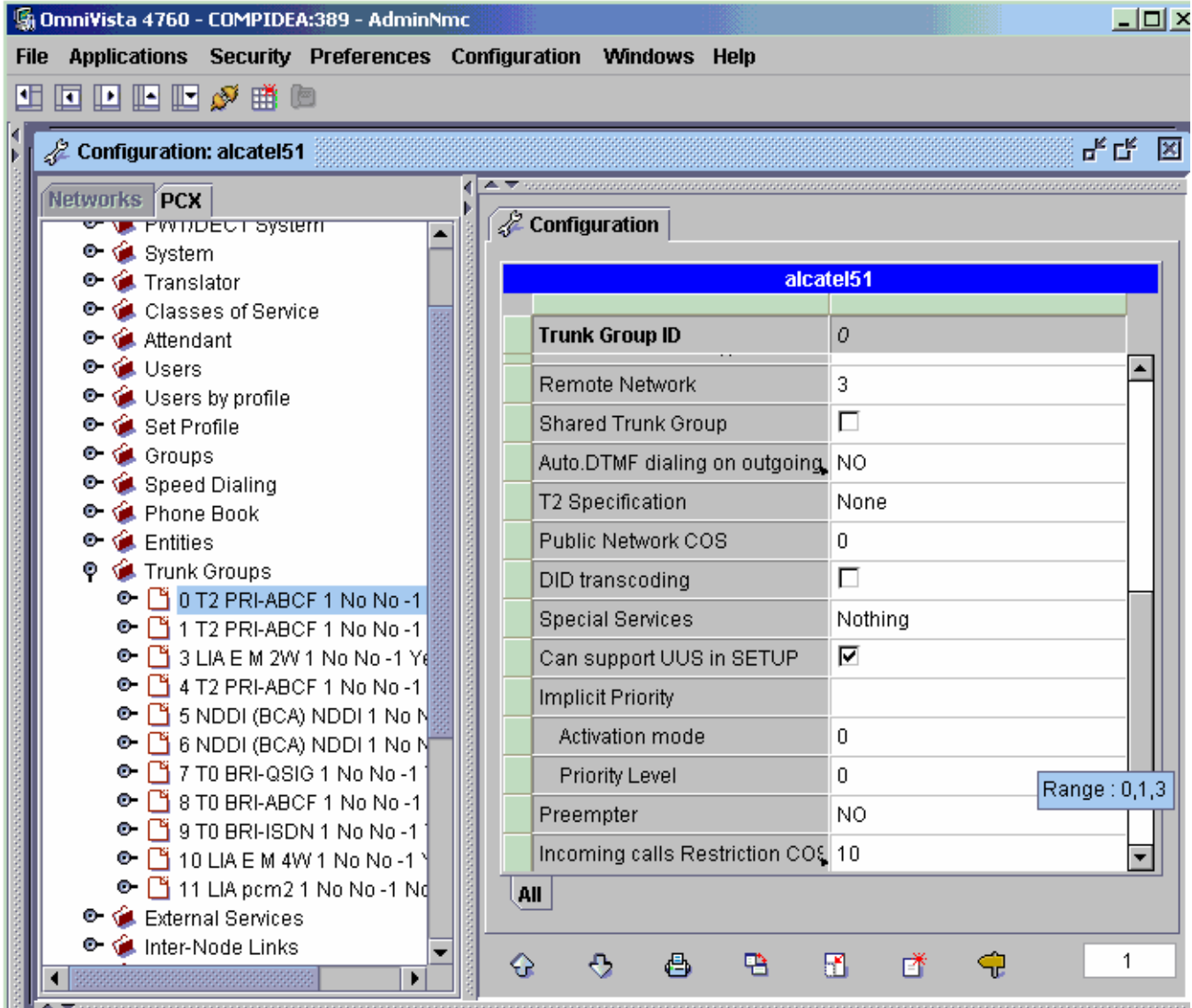




Figure 18. PSTN Trunk configuration – 3 of 7.

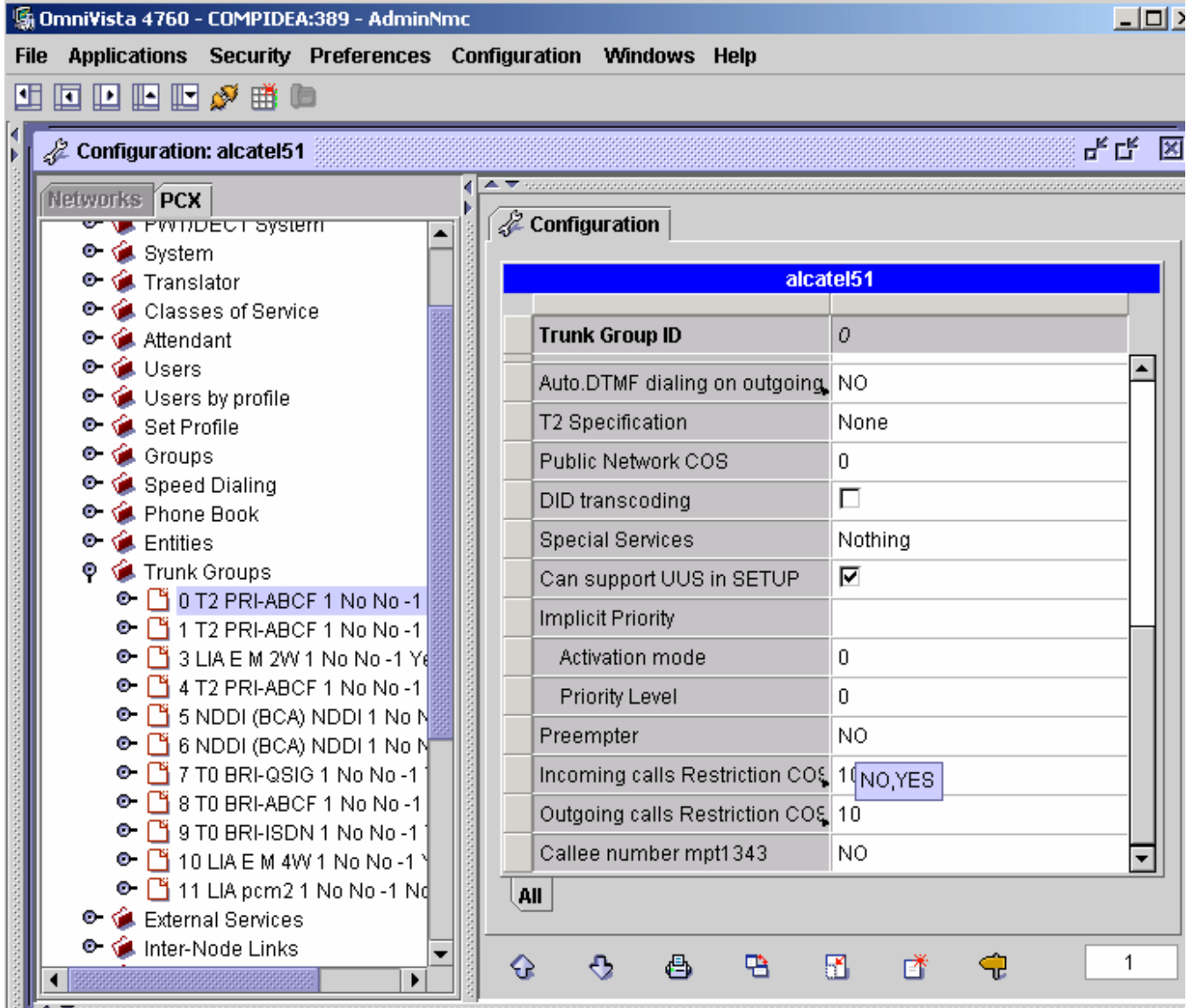




Figure 19. PSTN Trunk configuration – 4 of 7.

The screenshot shows the Cisco AdminMmc interface for configuring a PSTN Trunk. The window title is "OmniVista 4760 - COMPIDEA:389 - AdminMmc". The main configuration area is titled "Configuration: alcatel51".

**Configuration Table:**

alcatel51:0	
Instance (reserved)	1
Trunk Group Type	T2
Public Network Ref.	
End-to-end dialing	NO
DTMF end-to-end signal.	NO
Trunk group used in DISA	NO
DISA Secret Code	
VG for non-existent No.	YES
Routing To Manager	NO
Trunk COS ID	19
No. of digits unused (ISDN)	0
B Channel Choice	YES
Channels: Attendant Control (F	0
Redirection For ACD (Dissuas	NO

At the bottom of the configuration area, there are buttons for "All" and "Action".

**Navigation Tree (Left Panel):**

- Networks
  - PCX
    - PWIDECT System
      - System
      - Translator
      - Classes of Service
      - Attendant
      - Users
      - Users by profile
      - Set Profile
      - Groups
      - Speed Dialing
      - Phone Book
      - Entities
      - Trunk Groups
        - 0 T2 PRI-ABCF 1 No No -1
          - Trunk Group
            - 1 T2 NO NO
              - T2/T1/T0 Access
              - Trunk
              - Virtual access fo
            - Trunk group NPD selec
          - 1 T2 PRI-ABCF 1 No No -1
          - 3 LIA E M 2W 1 No No -1 Ye
          - 4 T2 PRI-ABCF 1 No No -1
          - 5 NDDI (BCA) NDDI 1 No N
          - 6 NDDI (BCA) NDDI 1 No N
          - 7 T0 BRI-QSIG 1 No No -1



Figure 20. PSTN Trunk configuration – 5 of 7.

The screenshot shows the Cisco AdminMmc configuration window for 'alcatel51'. The left pane shows a tree view under 'PCX' with 'Trunk Groups' expanded to show a list of trunks. The right pane shows the configuration for 'alcatel51:0'.

alcatel51:0	
Instance (reserved)	1
DTO joining	NO
Consultation Call On B Chann	NO
Automated Attendant	NO
Calling party Rights COS	0
Entity Number	1
TS Overflow	YES
Number To Be Added	
Supervised by Routing	NO
VPN Cost Limit for Incom.Calls	0
Immediate Trk Listening if VPN	YES
VPN TS %	50
CSTA-Monitored	NO
Max.% of trunks out CCD	0

Buttons: All Action



Figure 21. PSTN Trunk configuration – 6 of 7.

The screenshot shows the Cisco AdminNmc interface for configuring a PSTN Trunk. The window title is "OmniVista 4760 - COMPIDEA:389 - AdminNmc". The main configuration area is titled "Configuration: alcatel51".

**Navigation Tree (Left):**

- Networks
  - PCX
    - PWT/DECT System
      - System
      - Translator
      - Classes of Service
      - Attendant
      - Users
      - Users by profile
      - Set Profile
      - Groups
      - Speed Dialing
      - Phone Book
      - Entities
      - Trunk Groups
        - 0 T2 PRI-ABCF 1 No No -1
          - Trunk Group
            - 1 T2 NO NO
              - T2/T1/T0 Access
              - Trunk
              - Virtual access fo
            - Trunk group NPD sele
          - 1 T2 PRI-ABCF 1 No No -1
          - 3 LIA E M 2W 1 No No -1 Ye
          - 4 T2 PRI-ABCF 1 No No -1
          - 5 NDDI (BCA) NDDI 1 No N
          - 6 NDDI (BCA) NDDI 1 No N
          - 7 T0 BRI-QSIG 1 No No -1

**Configuration Table (Right):**

alcatel51:0	
<b>Instance (reserved)</b>	1
Charge Calling And ADN Creat	NO
Ratio analog.to ISDN cost	
Logical Channel	1__15 & 17__31
TS Distribution on Accesses	YES
Use Split Access	NO
Heterogeneous Remote Netw	NO
COS Restrictions - Barring mo	Not Restricted / Not barred
ARS Class of service	31
Quality profile for voice over IP	Profile #1
IP Compression Type	Default
Use of volume in system	YES
External Access Server	NO
CSTA Tracking MCDU Trk	

At the bottom right of the configuration table, there is a tooltip that says "Default,G 711".

**Bottom Bar:** Includes "All Action" buttons and a page number "1".









## Network Routing

Figure 23. Network routing configuration – 1 of 1.

The screenshot displays the Cisco Configuration Manager interface for configuring network routing on a device named 'nextiraone'. The left-hand navigation pane shows a tree structure under 'Networks' > 'PCX', with 'Network Routing Table' selected. The main configuration area shows a table of routing entries, with entry '21 QSIG-GF 11 0 -' highlighted. The right-hand pane shows the configuration details for this entry.

nextiraone:1	
Network Number	2
Rank of First Digit to be Sent	1
Incoming identification prefix	
Protocol Type	QSIG-GF
Numbering Plan Descriptor ID	11
ARS Route list	0
Schedule number	-1
ATM Address ID	-1
Network call prefix	
City/Town Name	
Send City/Town Name	<input type="checkbox"/>
Associated Ext SIP gateway	-1

At the bottom of the window, a command line shows the following messages:

```
[11:05:27 AM] > Request 25 sent to nextiraone.
[11:05:28 AM] > Request 25 completed on nextiraone: 16 instance(s) received.
```



## Network Routing Own Node

Figure 24. Network Routing Node configuration – 1 of 1.

The screenshot displays the Cisco Configuration Manager interface for configuring a Network Routing Node. The main window is titled "Configuration: nextiraone". On the left, a tree view shows the configuration hierarchy under "Networks" and "PCX". The "PCX" folder is expanded, showing various routing and feature configurations. The "Configuration" pane on the right shows the configuration for "nextiraone:1".

nextiraone:1	
Number	3100
Prefix Meaning	Local Features
Local Features	PCX address in DPNSS

The status bar at the bottom shows the following messages:

```
[11:06:35 AM] > Request 26 sent to nextiraone.  
[11:06:37 AM] > Request 26 completed on nextiraone: 101 instance(s) received.
```



## Routing Prefix

Figure 25. Routing prefix configuration – 1 of 1.

The screenshot displays the Cisco Configuration Manager interface for configuring a routing prefix. The main window is titled "Configuration: nextiraone". On the left, a tree view shows the configuration hierarchy under "PCX", including various routing numbers and plans. The right pane shows the configuration details for "nextiraone:1".

nextiraone:1	
Number	4
Prefix Meaning	Routing No.
Network Number	0
Node Number/ABC-F Trunk Group	4
Number of Digits	4
Number With Subaddress (ISDN)	NO
Default X25 ID.pref.	NO

At the bottom of the window, a command-line interface shows the following messages:

```
[11:06:35 AM] > Request 26 sent to nextiraone.
[11:06:37 AM] > Request 26 completed on nextiraone: 101 instance(s) received.
```



## Digital Station

Figure 26. Digital station configuration – 1 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Directory name	Big Doe
Directory First Name	
Location Node	1
Shelf Address	0
Board Address	2
Equipment Address	4
Set Type	4035T
Entity Number	1
Set Function	Default
Domain Identifier	0
Language ID	1
Secret Code	****

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 27. Digital station configuration – 2 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Board Address	2
Equipment Address	4
Set Type	4035T
Entity Number	1
Set Function	Default
Domain Identifier	0
Language ID	1
Secret Code	****
Can be Called/Dialed By Name	YES
Phone book Name (Dial by name)	Big Doe
Phone book First Name	
Displayed Name	Big Doe

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone





Figure 28. Digital station configuration – 3 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Hunt Group Dir No.	
ACD Group Directory No.	
Pickup Group Name	
Paging Trunk Group	255
Paging Beeper	
ISDN User	
External	<input checked="" type="checkbox"/>
Internal	<input checked="" type="checkbox"/>
Display ext. calling number	<input checked="" type="checkbox"/>
ISDN Teleservice	Phone
Dial by name and text msg.	NO
Multi-Line Properties	

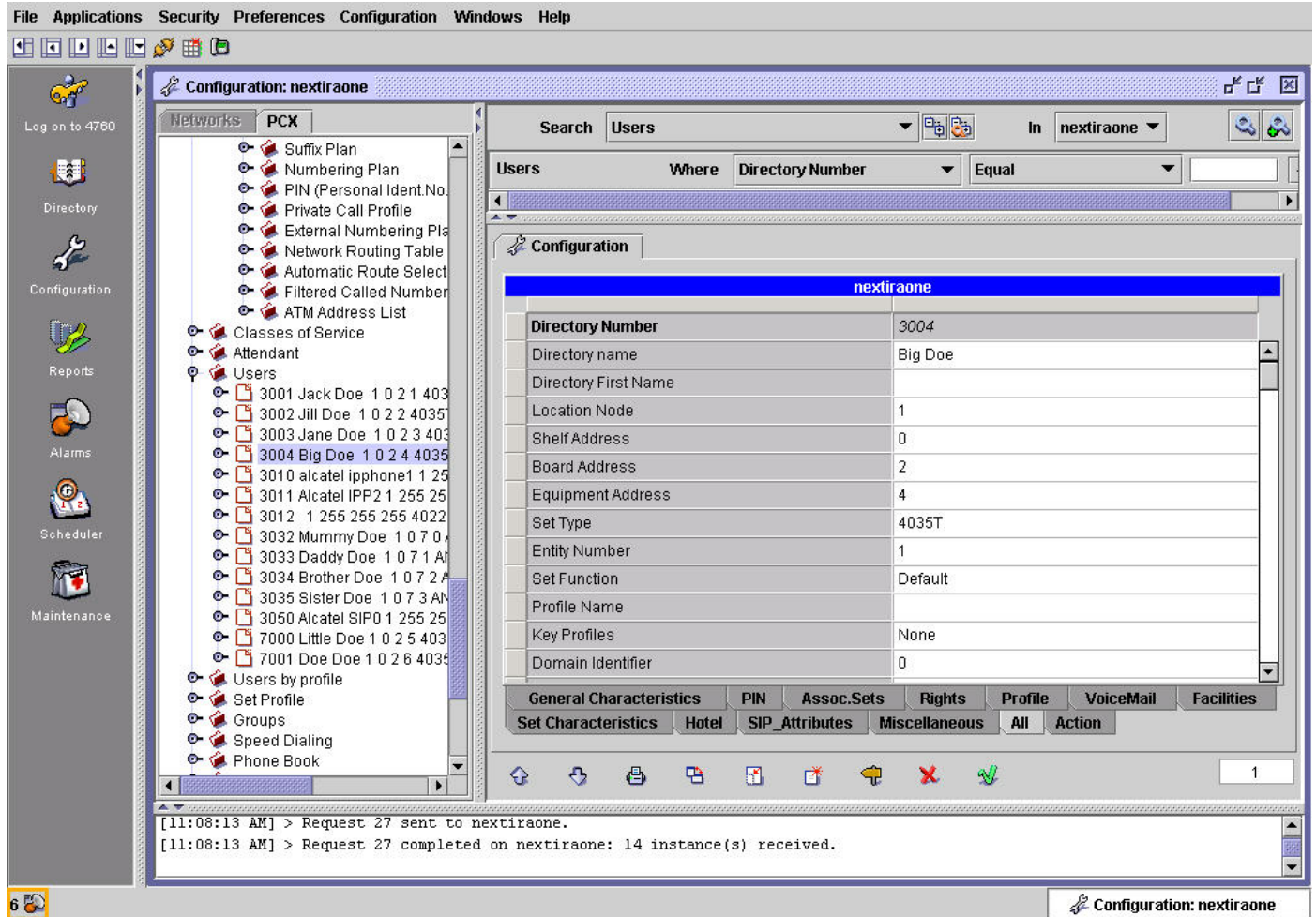
General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone

Figure 29. Digital station configuration – 4 of 13.



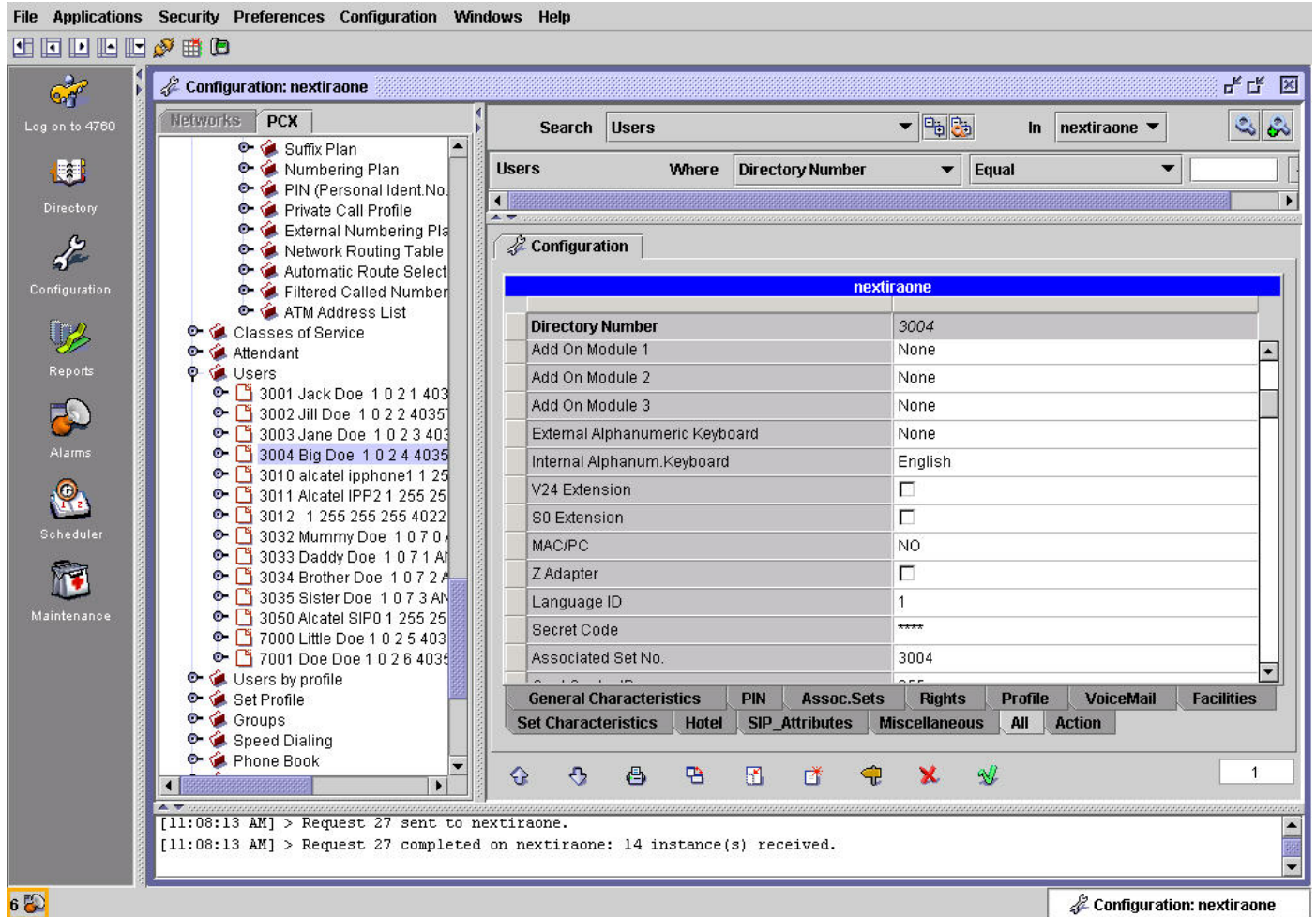
The screenshot displays the Cisco Configuration Manager interface for configuring a digital station named 'nextiraone'. The interface is divided into several sections:

- Left Navigation Panel:** Contains icons for Log on to 4760, Directory, Configuration, Reports, Alarms, Scheduler, and Maintenance.
- Networks/PCX Tree:** A hierarchical tree view showing various configuration objects. The 'Users' folder is expanded, and the user '3004 Big Doe 1 0 2 4 4035' is selected.
- Search/Filter:** A search bar with 'Users' selected and 'In nextiraone' as the location. The filter is set to 'Where Directory Number Equal'.
- Configuration Table:** A table showing the configuration details for the selected user.
 

nextiraone	
Directory Number	3004
Directory name	Big Doe
Directory First Name	
Location Node	1
Shelf Address	0
Board Address	2
Equipment Address	4
Set Type	4035T
Entity Number	1
Set Function	Default
Profile Name	
Key Profiles	None
Domain Identifier	0
- Configuration Tabs:** A row of tabs including General Characteristics, PIN, Assoc.Sets, Rights, Profile, VoiceMail, Facilities, Set Characteristics, Hotel, SIP\_Attributes, Miscellaneous, All, and Action.
- Status Bar:** Shows the number '1'.
- Command Line:** A terminal window at the bottom displays the following messages:
 

```
[11:08:13 AM] > Request 27 sent to nextiraone.
[11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.
```

Figure 30. Digital station configuration – 5 of 13.



The screenshot displays the Cisco Configuration Manager interface for configuring a digital station named 'nextiraone'. The interface includes a menu bar (File, Applications, Security, Preferences, Configuration, Windows, Help), a toolbar, and a left-hand navigation pane with icons for Log on to 4760, Directory, Configuration, Reports, Alarms, Scheduler, and Maintenance.

The main window is titled 'Configuration: nextiraone' and is divided into several sections:

- Search:** Set to 'Users' in 'nextiraone' with a search criteria of 'Where Directory Number Equal'.
- Configuration Table:** A table showing configuration parameters for the 'nextiraone' device.
 

nextiraone	
Directory Number	3004
Add On Module 1	None
Add On Module 2	None
Add On Module 3	None
External Alphanumeric Keyboard	None
Internal Alphanum.Keyboard	English
V24 Extension	<input type="checkbox"/>
S0 Extension	<input type="checkbox"/>
MAC/PC	NO
Z Adapter	<input type="checkbox"/>
Language ID	1
Secret Code	****
Associated Set No.	3004
- Navigation Tabs:** General Characteristics, PIN, Assoc.Sets, Rights, Profile, VoiceMail, Facilities, Set Characteristics, Hotel, SIP\_Attributes, Miscellaneous, All, Action.
- Command Line:** Shows the following messages:
 

```
[11:08:13 AM] > Request 27 sent to nextiraone.
[11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.
```

The bottom status bar shows '6' on the left and 'Configuration: nextiraone' on the right.





Figure 31. Digital station configuration – 6 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Add On Module 1	None
Add On Module 2	None
Add On Module 3	None
External Alphanumeric Keyboard	None
Internal Alphanum.Keyboard	English
V24 Extension	<input type="checkbox"/>
S0 Extension	<input type="checkbox"/>
MAC/PC	NO
Z Adapter	<input type="checkbox"/>
Language ID	1
Secret Code	****
Associated Set No.	3004

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 32. Digital station configuration – 7 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Paging Trunk Group	255
Paging Beeper	
Called Associated DECT set	
Tele-Marketing Agent	<input type="checkbox"/>
ISDN User	
External	<input checked="" type="checkbox"/>
Internal	<input checked="" type="checkbox"/>
Display ext. calling number	<input checked="" type="checkbox"/>
ISDN Teleservice	Phone
Hotel-Set Operation	Administrative
Use Type Of Dir. No.	Normal
Number Of Set Users	1

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 33. Digital station configuration – 8 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Paging Trunk Group	255
Paging Beeper	
Called Associated DECT set	
Tele-Marketing Agent	<input type="checkbox"/>
ISDN User	
External	<input checked="" type="checkbox"/>
Internal	<input checked="" type="checkbox"/>
Display ext. calling number	<input checked="" type="checkbox"/>
ISDN Teleservice	Phone
Hotel-Set Operation	Administrative
Use Type Of Dir. No.	Normal
Number Of Set Users	1

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 34. Digital station configuration – 9 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Routing Table	0
Associated Videophone	<input type="checkbox"/>
VIP (Very Important Pers.)	<input type="checkbox"/>
Assistant Directory Number	3004
Calls Priority	0
PCBT Associated	NO
Urgent Call	NO
PIN (Personal Ident.No.)	
PIN No.	
PIN With Secret Code	<input checked="" type="checkbox"/>
Type of control	By COS
PIN group number	1

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone





Figure 35. Digital station configuration – 10 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Can be Called/Dialed By Name	YES
Phone book Name (Dial by name)	Big Doe
Phone book First Name	
Displayed Name	Big Doe
Remote UA	<input type="checkbox"/>
Errors on Secret Code Counter	0
ACD station	NO
NS Right (Notification server)	NO
Incidents Teleservice	NO
CSTA routing	<input type="checkbox"/>
Voice Guide listening Class	7
Caller COS	4

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 36. Digital station configuration – 11 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
4035 Features	UA 3G
Navigator	UA 3G
Group PIN control	No group
CCA Operations	<input type="checkbox"/>
A4980	No 4980
Z IVR	<input type="checkbox"/>
NOMADIC	<input type="checkbox"/>
TAPI premium server	NO
Conference group	-1
Announcement group	-1
Call Restriction COS	0
Applicable Restriction COS	0

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 37. Digital station configuration – 12 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
NOMADIC	<input type="checkbox"/>
TAPI premium server	NO
Conference group	-1
Announcement group	-1
Call Restriction COS	0
Applicable Restriction COS	0
Implicit Priority	
Activation mode	0
Priority Level	0
Explicit Priority	
Activation mode	0
Priority Level	0

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone



Figure 38. Digital station configuration – 13 of 13.

File Applications Security Preferences Configuration Windows Help

Log on to 4760

Directory

Configuration

Reports

Alarms

Scheduler

Maintenance

Configuration: nextiraone

Search Users In nextiraone

Users Where Directory Number Equal

Configuration

nextiraone	
Directory Number	3004
Pre-emptable Primary Inc. Line	NO
Pre-emptable Secondary Inc. Line	NO
Priority Presentation	NO
lth Service type	Not Valid
CUG List Number	-1
Preferential CUG	-1
CUG Outgoing Access	<input type="checkbox"/>
CUG Incoming Access	<input type="checkbox"/>
Automatic reconfiguration	CTQ Forbidden - Connection TO
URL UserName	
URL Domain	
Advanced configuration	<input type="checkbox"/>

General Characteristics PIN Assoc.Sets Rights Profile VoiceMail Facilities

Set Characteristics Hotel SIP\_Attributes Miscellaneous All Action

[11:08:13 AM] > Request 27 sent to nextiraone.  
 [11:08:13 AM] > Request 27 completed on nextiraone: 14 instance(s) received.

6 Configuration: nextiraone





Digital Station Phone Facilities

Figure 39. Digital station facilities configuration – 1 of 17.

The screenshot shows the Cisco AdminMmc configuration interface for a device named 'alcatel51'. The left-hand navigation pane shows a tree structure under 'PCX' with 'Phone Features Class' selected, displaying a list of 13 classes with their respective binary feature bitmaps. The main configuration area shows the 'alcatel51:1' configuration page with a table of phone facilities settings.

alcatel51:1	
Tel. Features COS ID	Value
Rights Prot.against dir.call pick	0
Rights Protected against all ba	0
Rights Protected against set b	0
Rights Outgoing calls only	0
Rights Forward to external No.	1
Rights Prot.against multi-l ring	0
Rights Protected against forwa	0
Rights Protected (against barg	0
Rights Prot.against call annou	0
Rights Remote user un/annou	0



Figure 40. Digital station facilities configuration – 2 of 17.

The screenshot shows the Cisco AdminNmc interface for configuring digital station facilities. The window title is "OmniVista 4760 - COMPIDEA:389 - AdminNmc". The main menu includes File, Applications, Security, Preferences, Configuration, Windows, and Help. The configuration is for "alcatel51".

**Left Panel (Networks):**

- Shelf
- Media Gateway
- PWT/DECT System
- System
- Translator
- Classes of Service
  - 1
    - Access COS
    - Connection COS
    - Transfer COS
    - Private Calls Connect. C
    - Phone Features Class
      - 0 00001000001100
      - 1 00001100000000
      - 2 00001100000000
      - 3 00000000000000
      - 4 00000000000000
      - 5 00000000000000
      - 6 00000000000000
      - 7 00000000000000
      - 8 00000000000000
      - 9 00000000000000
      - 10 0000100001111
      - 11 0000100001111
      - 12 0110010111111
      - 13 0000100001111

**Right Panel (Configuration):**

Configuration for **alcatel51:1**

Configuration Item	Value
Tel. Features COS ID	0
Rights Remote wake-up/appoi	0
Rights Auto.call back satell.trk	1
Rights Transfer on no answer	1
Rights ISDN remote charge se	0
Rights Bypass on forwarding	0
Rights Prot.against bypass on	0
Rights Interphony	0
Rights Secret Code, Repertory	1
Rights Night Serv.Answ.Pick up	0
Rights Night Serv Direct call ni	0

At the bottom of the configuration panel, there is an "All" button and a status bar showing "1".



Figure 41. Digital station facilities configuration – 3 of 17.

The screenshot shows the Cisco AdminMmc configuration interface for a digital station. The left pane displays a tree view of configuration elements, with 'Phone Features Class' expanded to show a list of 13 classes. The right pane shows the configuration for 'alcatel51:1', which includes a table of 'Tel. Features COS ID' settings.

Tel. Features COS ID	Value
Tel. Features COS ID	0
Rights PCX Calls Follow Ext. fc	1
Rights Mask ID.name Only for	0
Rights Ringing tone In Handse	1
Rights No Text Msg reception	0
Rights No Callback On Free S	0
Rights No Callback On Busy S	0
Rights Override Att Control of T	0
Rights No Substitution	0
Rights Reserved or Att Control	0



Figure 42. Digital station facilities configuration – 4 of 17.

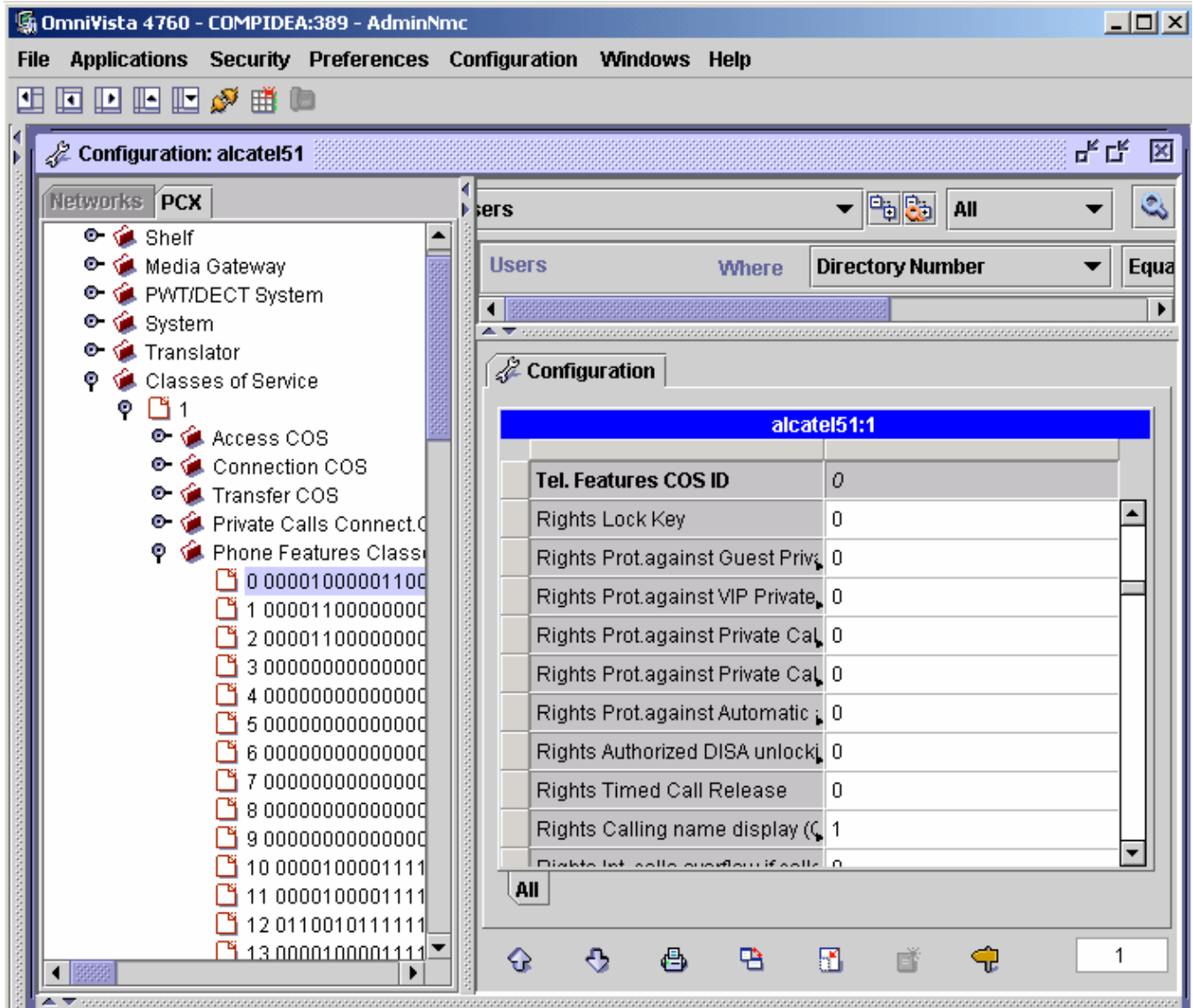




Figure 43. Digital station facilities configuration – 5 of 17.

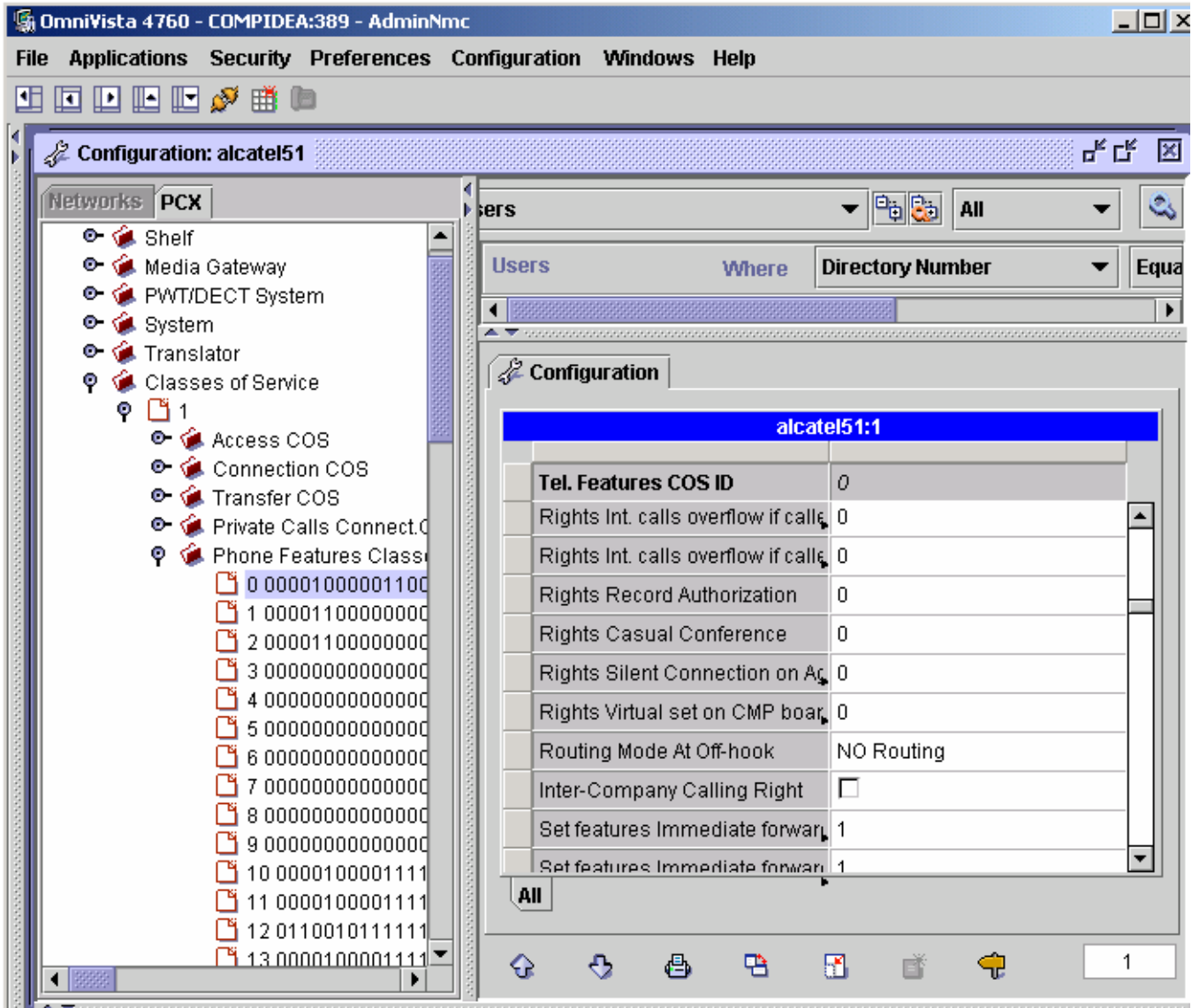




Figure 44. Digital station facilities configuration – 6 of 17.

The screenshot shows the Cisco OmniVista 4760 configuration interface. The window title is "OmniVista 4760 - COMPIDEA:389 - AdminNmc". The menu bar includes "File", "Applications", "Security", "Preferences", "Configuration", "Windows", and "Help". The main window is titled "Configuration: alcatel51".

On the left, a tree view shows the configuration hierarchy under "PCX":

- Shelf
- Media Gateway
- PWT/DECT System
- System
- Translator
- Classes of Service
  - 1
    - Access COS
    - Connection COS
    - Transfer COS
    - Private Calls Connect.C
    - Phone Features Class
      - 0 00001000001100
      - 1 00001100000000
      - 2 00001100000000
      - 3 00000000000000
      - 4 00000000000000
      - 5 00000000000000
      - 6 00000000000000
      - 7 00000000000000
      - 8 00000000000000
      - 9 00000000000000
      - 10 0000100001111
      - 11 0000100001111
      - 12 0110010111111
      - 13 0000100001111

The main configuration area is titled "Configuration" and shows a table for "alcatel51:1". The table has two columns: "Tel. Features COS ID" and a value column. The table contains the following data:

Tel. Features COS ID	Value
0	0
Set features Forward on no an	1
Set features Forward on busy c	1
Set features Forward cancellat	1
Set features Forward cancel.by	0
Set features Overfl.on no answ	0
Set features Cancel Overfl.to a	0
Set features Sta. group exit	0
Set features Sta. group entry	0
Set features Protect. against b	0

At the bottom of the configuration area, there is an "All" button and a status bar with navigation icons and the number "1".





Figure 45. Digital station facilities configuration – 7 of 17.

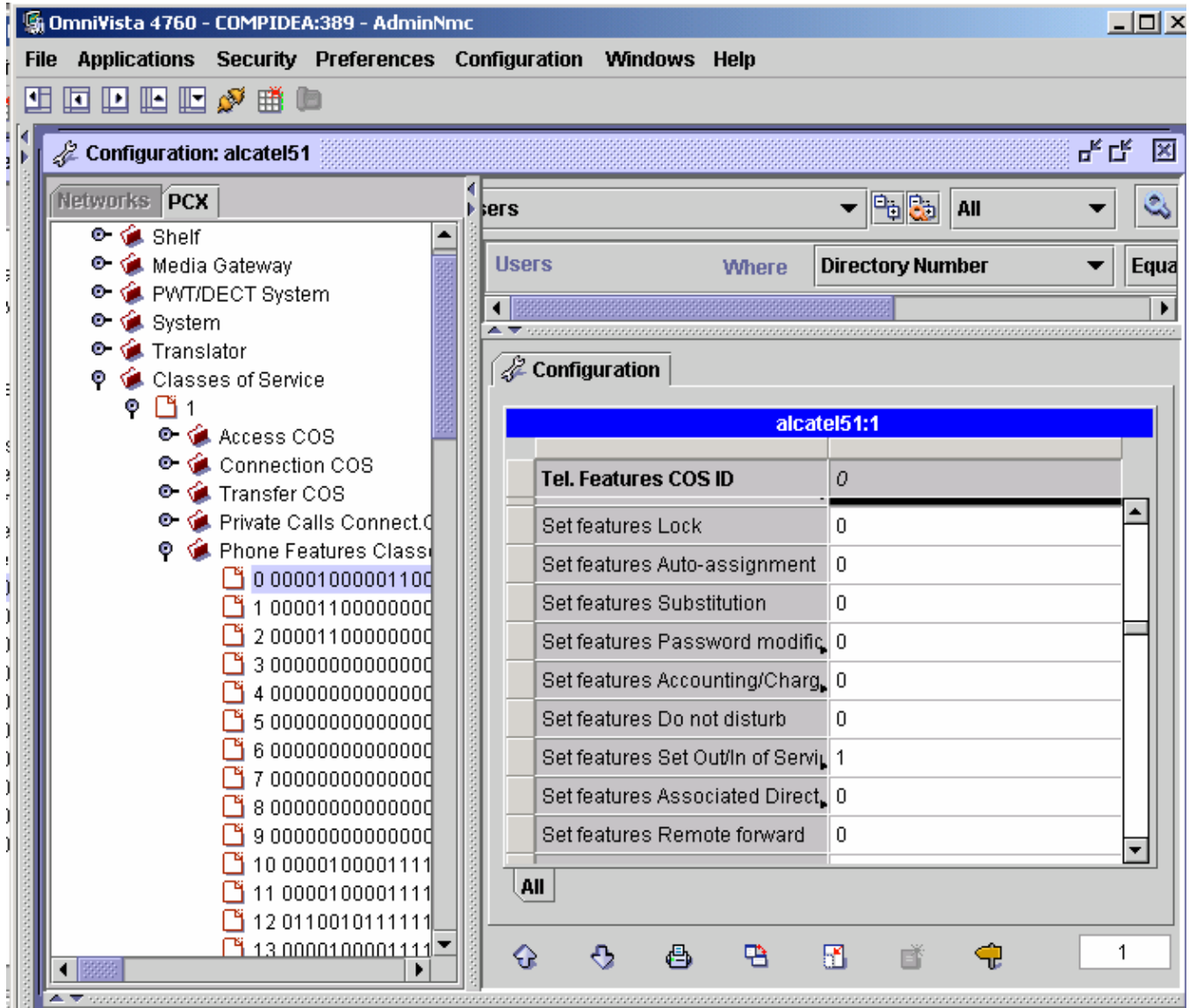




Figure 46. Digital station facilities configuration – 8 of 17.

The screenshot shows the Cisco AdminMmc configuration interface for a device named 'alcatel51'. The left pane displays a tree view under 'PCX' with the following structure:

- Shelf
- Media Gateway
- PWT/DECT System
- System
- Translator
- Classes of Service
  - 1
    - Access COS
    - Connection COS
    - Transfer COS
    - Private Calls Connect.0
    - Phone Features Class
      - 0 00001000001100
      - 1 00001100000000
      - 2 00001100000000
      - 3 00000000000000
      - 4 00000000000000
      - 5 00000000000000
      - 6 00000000000000
      - 7 00000000000000
      - 8 00000000000000
      - 9 00000000000000
      - 10 0000100001111
      - 11 0000100001111
      - 12 0110010111111
      - 13 0000100001111

The right pane shows the configuration for 'alcatel51:1' with the following table:

alcatel51:1	
Tel. Features COS ID	0
Set features Cancel Remote fq	0
Set features Unused	0
Set features Cancel auto. callb	1
Set features Personal director	0
Set features Personal Director	0
Set features Language	0
Set features Adjust Display Vis	1
Set features Access and Revie	0
Set features Camp-on Control	0



Figure 47. Digital station facilities configuration – 9 of 17.

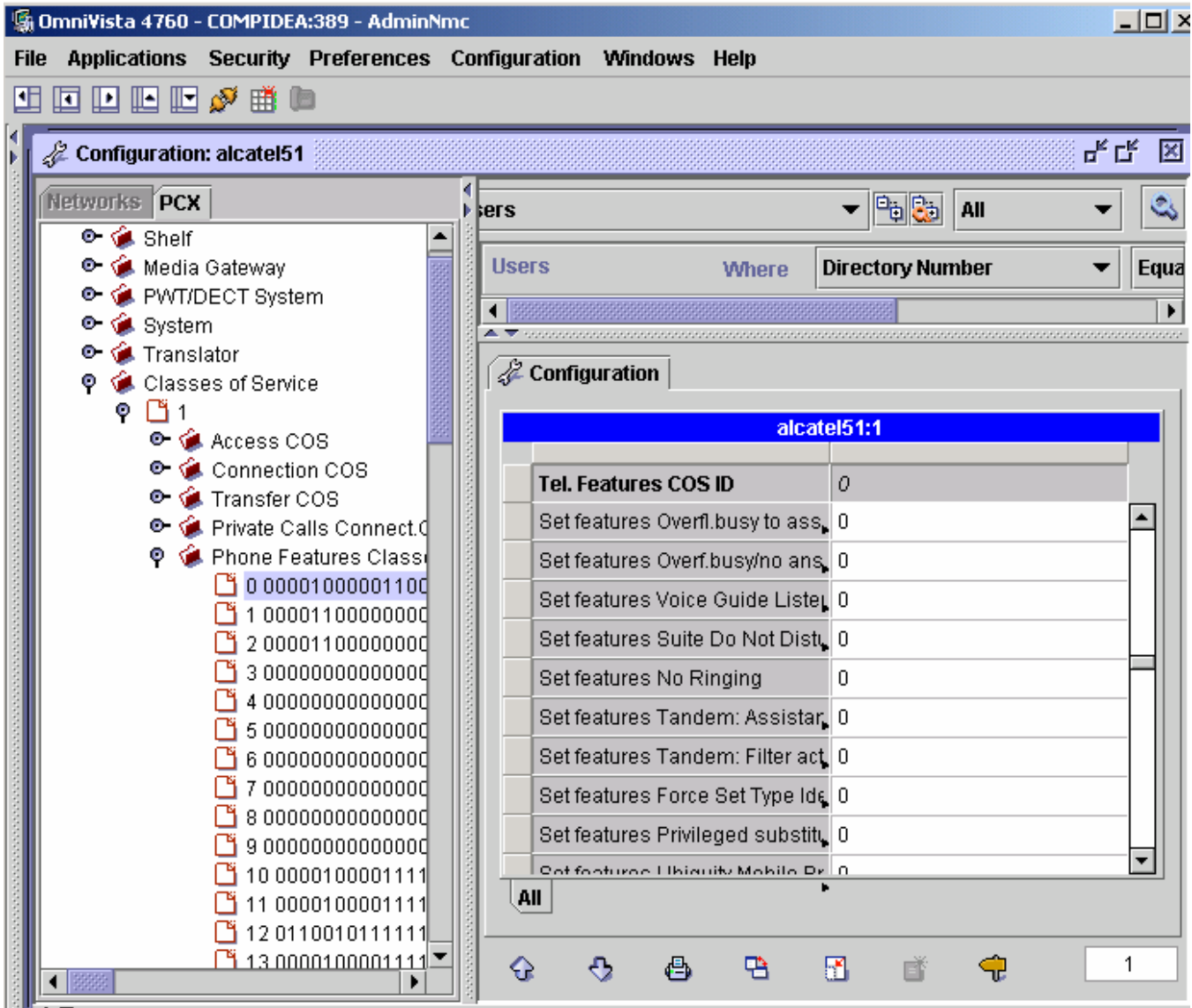




Figure 48. Digital station facilities configuration – 10 of 17.

The screenshot shows the Cisco AdminMmc configuration interface for a device named 'alcatel51'. The left pane displays a tree view under 'PCX' with 'Phone Features Class' expanded to show a list of 13 classes, each with a unique 13-digit binary ID. The right pane shows the configuration for 'alcatel51:1' with a table of features and their values.

alcatel51:1	
Tel. Features COS ID	0
Set features Ubiquity	0
General Services Group call pi	1
General Services Direct call pi	1
General Services Processing g	0
PCX Services Speed call to as	1
PCX Services Access Callback	1
PCX Services Last Caller Call	1
PCX Services Paging call ans	0
PCX Services Voice Mail Acces	0



Figure 49. Digital station facilities configuration – 11 of 17.

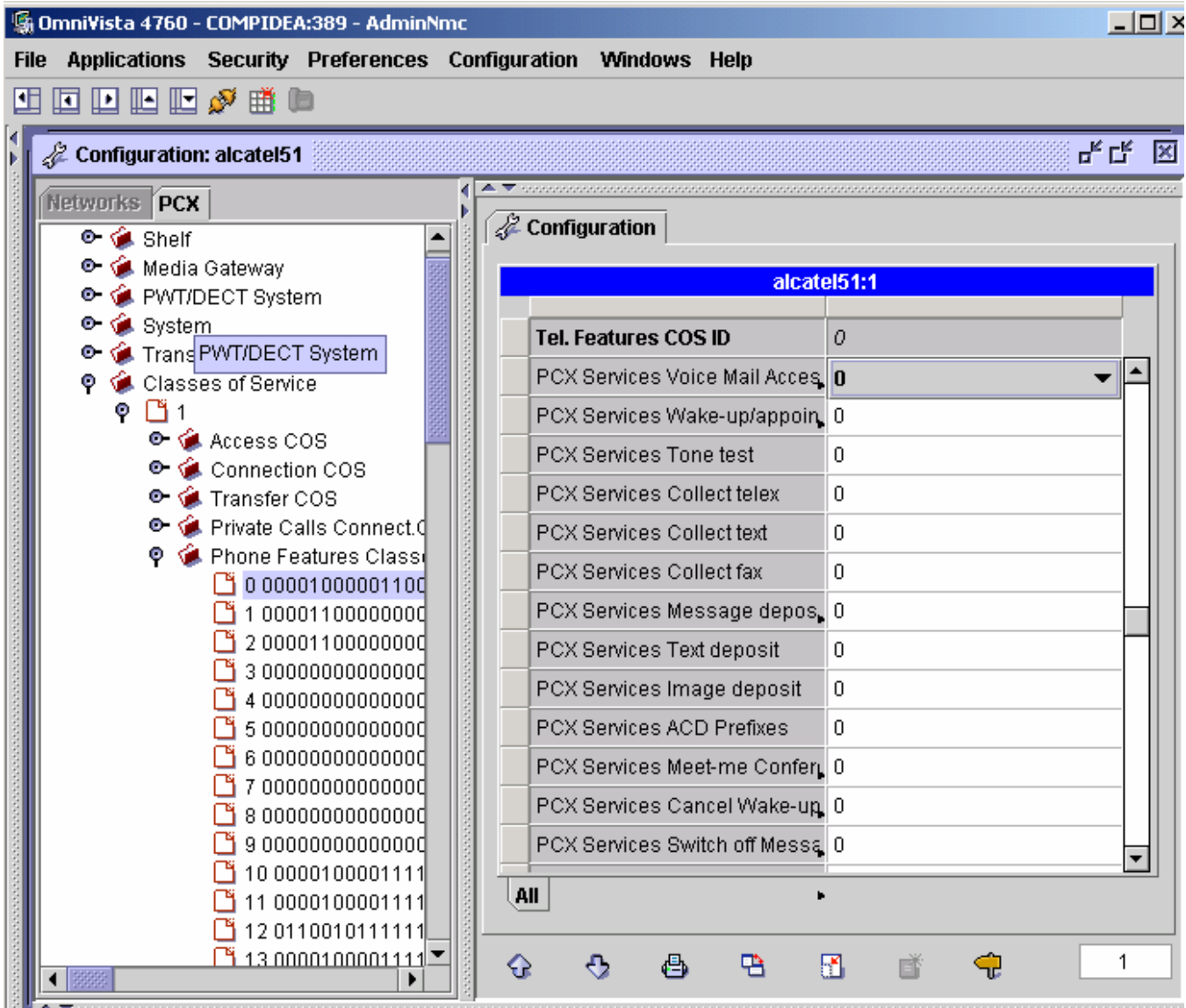




Figure 50. Digital station facilities configuration – 12 of 17.

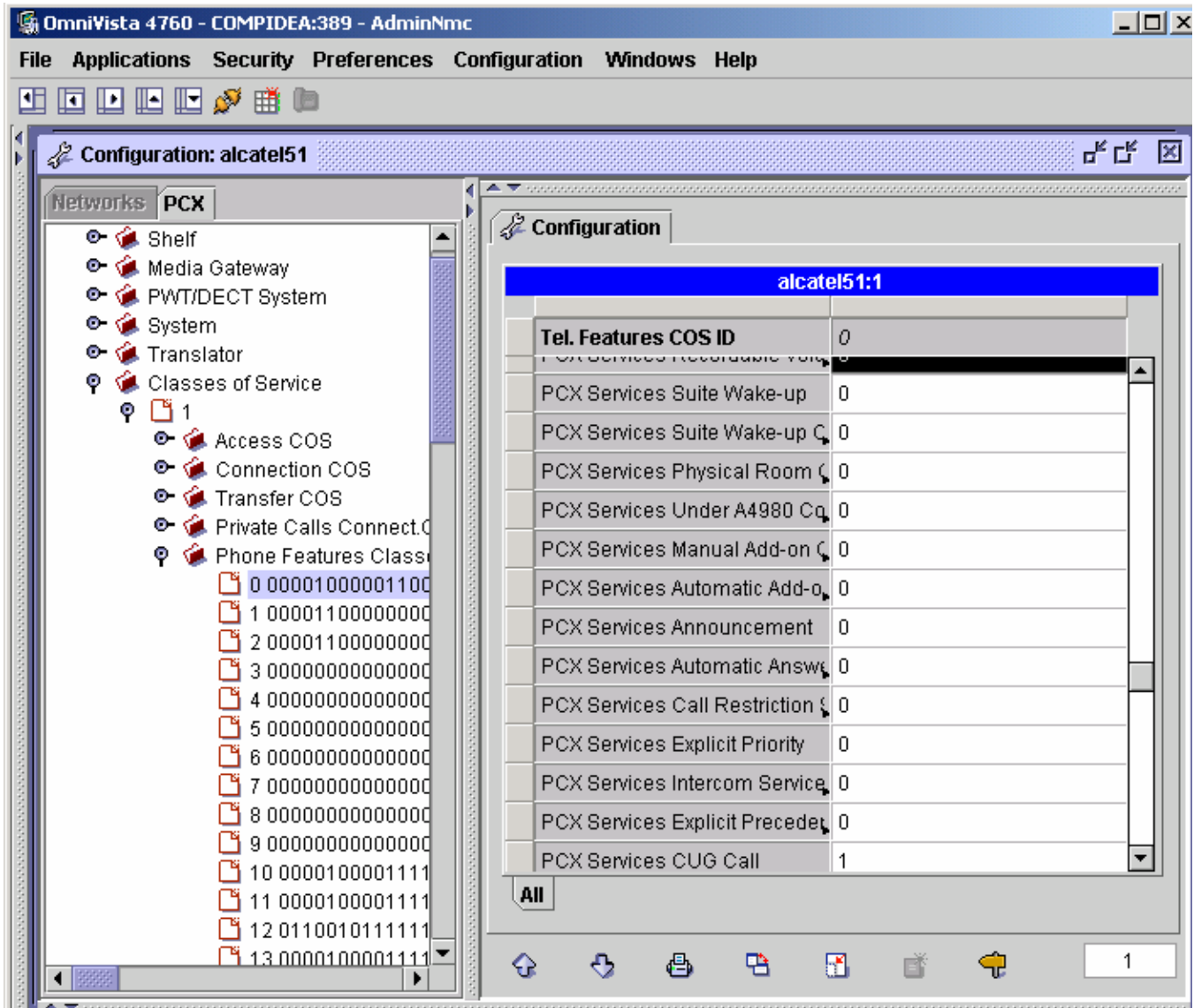






Figure 51. Digital station facilities configuration – 13 of 17.

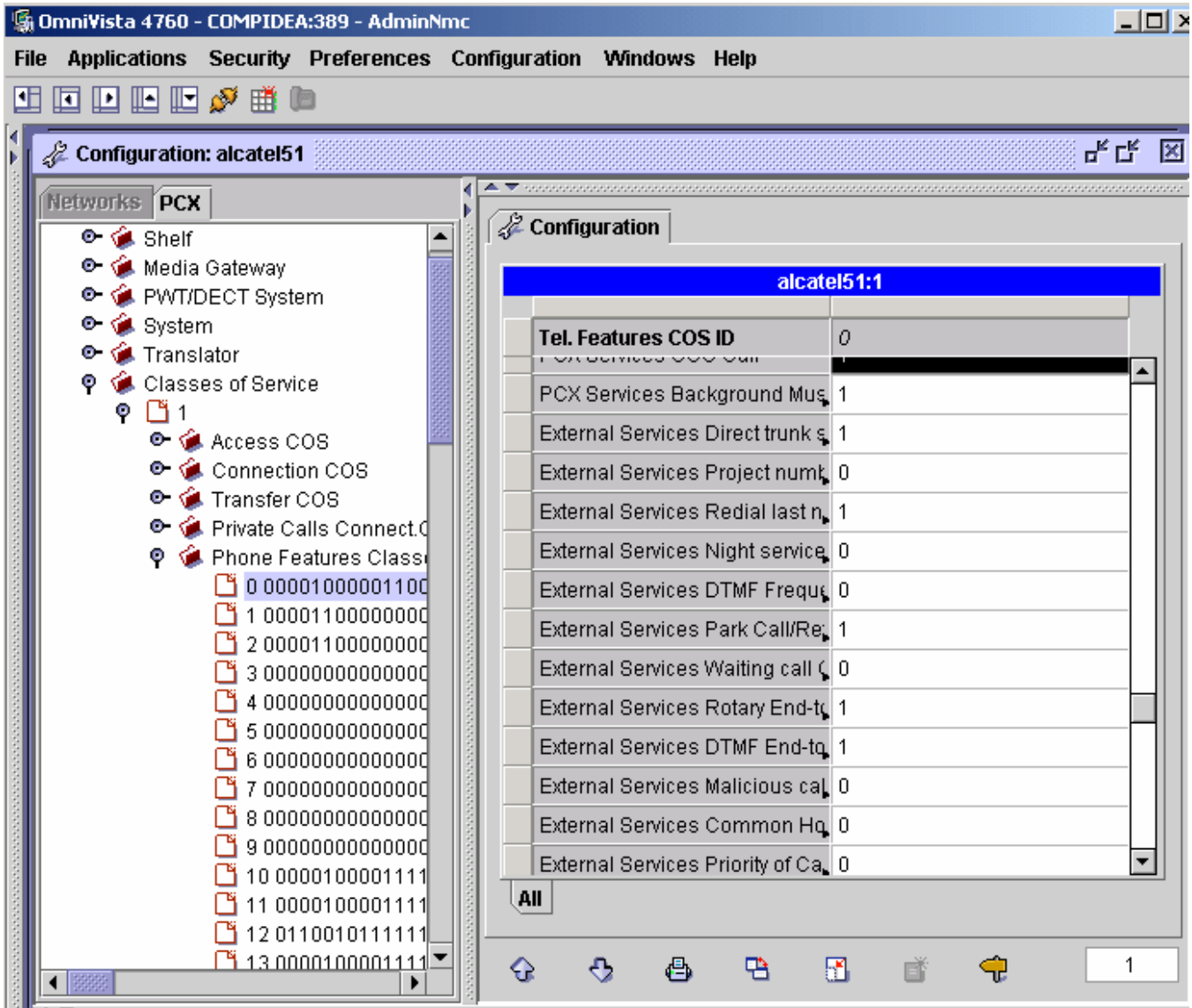




Figure 52. Digital station facilities configuration – 14 of 17.

The screenshot shows the Cisco AdminMmc configuration interface for a device named 'alcatel51'. The interface is divided into two main panes. The left pane, titled 'Networks', shows a tree structure under the 'PCX' tab. The right pane, titled 'Configuration', displays a table of settings for 'alcatel51:1'.

**Networks Tree Structure:**

- Shelf
- Media Gateway
- PWT/DECT System
- System
- Translator
- Classes of Service
  - 1
    - Access COS
    - Connection COS
    - Transfer COS
    - Private Calls Connect...
    - Phone Features Classi...
      - 0 00001000001100
      - 1 00001100000000
      - 2 00001100000000
      - 3 00000000000000
      - 4 00000000000000
      - 5 00000000000000
      - 6 00000000000000
      - 7 00000000000000
      - 8 00000000000000
      - 9 00000000000000
      - 10 0000100001111
      - 11 0000100001111
      - 12 0110010111111
      - 13 0000100001111

**Configuration Table:**

alcatel51:1	
Tel. Features COS ID	0
External Services Priority of Ca...	0
External Services Secret/Identif...	1
External Services Alphanumeric...	0
External Services Manual Hold	1
Suffixes Broker Call	0
Suffixes Three-Party conferenc...	1
Suffixes Barge-in	1
Suffixes Callback on free or bu...	1
Suffixes Camp-on Waiting	0
Suffixes Speaker Paging	0
Suffixes Call announce throug...	0
Suffixes Consultation Call	1
Suffixes Paging request	0
Suffixes Project number	0

At the bottom of the configuration pane, there is an 'All' button and a status bar showing the number '1'.



Figure 53. Digital station facilities configuration – 15 of 17.

The screenshot shows the Cisco AdminMnM configuration interface for a device named 'alcatel51'. The left pane shows a tree view under 'PCX' with 'Classes of Service' expanded to '1'. The right pane shows the configuration for 'alcatel51:1' with a table of digital station facilities.

alcatel51:1	
Tel. Features COS ID	0
Suffixes Rotary End-to-End Dia	1
Suffixes DTMF end-to-end dial	1
Suffixes Malicious Call	0
Suffixes Voice Mail Message D	0
Suffixes Camp-on Control	0
Suffixes Voice Mail Access	0
Suffixes By pass on Do Not Dis	0
Speed Dialing Area Area 0	1
Speed Dialing Area Area 1	1
Speed Dialing Area Area 2	1
Speed Dialing Area Area 3	1
Speed Dialing Area Area 4	1
Speed Dialing Area Area 5	1



Figure 54. Digital station facilities configuration – 16 of 17.

The screenshot shows the Cisco AdminNmc configuration interface for a device named 'alcatel51'. The left pane displays a hierarchical tree view under 'PCX' with 'Phone Features Class' expanded to show 13 entries. The right pane displays a table for 'alcatel51:1' configuration.

Tel. Features COS ID	
0	00001000001100
1	00001100000000
2	00001100000000
3	00000000000000
4	00000000000000
5	00000000000000
6	00000000000000
7	00000000000000
8	00000000000000
9	00000000000000
10	00001000011111
11	00001000011111
12	01100101111111
13	00001000011111

The table in the right pane is titled 'alcatel51:1' and contains the following data:

Tel. Features COS ID	
0	0
Speed Dialing Area Area 6	1
Speed Dialing Area Area 7	1
Speed Dialing Area Area 8	1
Speed Dialing Area Area 9	1
Speed Dialing Area Area 10	1
Speed Dialing Area Area 11	1
Speed Dialing Area Area 12	1
Speed Dialing Area Area 13	1
Speed Dialing Area Area 14	1
Speed Dialing Area Area 15	1
Speed Dialing Area Area 16	1
Speed Dialing Area Area 17	1
Speed Dialing Area Area 18	1



Figure 55. Digital station facilities configuration – 17 of 17.

The screenshot shows the Cisco AdminMmc configuration interface. The window title is "OmniVista 4760 - COMPIDEA:389 - AdminMmc". The menu bar includes "File", "Applications", "Security", "Preferences", "Configuration", "Windows", and "Help". The main area is titled "Configuration: alcatel51".

On the left, a tree view under "Networks" shows the following structure:

- PCX
  - Shelf
  - Media Gateway
  - PWT/DECT System
  - System
  - Translator
  - Classes of Service
    - 1
      - Access COS
      - Connection COS
      - Transfer COS
      - Private Calls Connect.C
      - Phone Features Classi
        - 0 00001000001100
        - 1 00001100000000
        - 2 00001100000000
        - 3 00000000000000
        - 4 00000000000000
        - 5 00000000000000
        - 6 00000000000000
        - 7 00000000000000
        - 8 00000000000000
        - 9 00000000000000
        - 10 0000100001111
        - 11 0000100001111
        - 12 0110010111111
        - 13 0000100001111

alcatel51:1	
Tel. Features COS ID	0
Speed Dialing Area Area 23	1
Speed Dialing Area Area 24	1
Speed Dialing Area Area 25	1
Speed Dialing Area Area 26	1
Speed Dialing Area Area 27	1
Speed Dialing Area Area 28	1
Speed Dialing Area Area 29	1
Speed Dialing Area Area 30	1
Speed Dialing Area Area 31	1
Voice Mail Forwarding	Ring Final Set Mail
Default Overflow Type	No forward
Default Overflow Addressee	Nothing
Quality profile for voice over IP	Profile #2



## Configuring Cisco Unified CallManager 5.0

### Cisco Unified CallManager 5.0 Version

Figure 56. Cisco Unified CallManager 5.0 Version – 1 of 1.







## Protocol Service Parameters

Figure 57. Protocol Service Parameters for ISO QSIG – 1 of 1.

Clusterwide Parameters (Device - PRI and MGCP Gateway)		
<a href="#">ASN.1 ROSE OID Encoding *</a>	Use Local Value	Use Local Value
<a href="#">QSIG Variant *</a>	ISO (Protocol Profile 0x9F)	ISO (Protocol Profile 0x9F)
<a href="#">Caller ID</a>		
<a href="#">Calling Name Not Available Timeout *</a>	2000	2000



## Configuring the Cisco 3745 Voice Gateway

Figure 58. All gateways – 1 of 1.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes "Cisco Unified CallManager Administration" and "Go". Below this, the page title is "Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions" and the user is logged in as "CCMAdministrator". A menu bar contains options like "System", "Call Routing", "Media Resources", "Voice Mail", "Device", "Application", "User Management", "Bulk Administration", and "Help".

The main content area is titled "Find and List Gateway" and includes a search bar with a "+" icon and a "Find" button. Below the search bar, the "Status" section indicates "2 records found". The "Search Options" section allows filtering by "Name" and "begins with", with a "Find" button and a "Search Within Results" checkbox. A dropdown menu shows "Select item or enter search text".

The "Search Results" section displays a table with the following data:

	Device Name	Description	Device Pool	Calling Search Space	Ext.	Partition	Route Group	Priority	Port	Device Type	Status	IP Address
<input type="checkbox"/>	3745 3745B4 E1	MGCP 3745 E1								Cisco 3745	<a href="#">See Endpoints</a>	
<input type="checkbox"/>	3825 3825B4 E1	3825 To Vindaloo								Cisco 3825	<a href="#">See Endpoints</a>	

Below the table, there are buttons for "Add New", "Select All", "Clear All", "Delete Selected", and "Reset Selected". A "Rows per Page" dropdown is set to "50".



Figure 59. Cisco 3745 Voice Gateway configuration – 1 of 2.

The screenshot shows the Cisco Unified CallManager Administration interface for configuring a Cisco 3745 Voice Gateway. The page is titled "Gateway Configuration" and shows the following details:

- Status:** Ready
- Gateway Details:**
  - Product: Cisco 3745
  - Gateway: 3745B4\_E1
  - Protocol: MGCP
  - Domain Name \*: 3745B4\_E1
  - Description: MGCP 3745 E1
  - Cisco Unified CallManager Group\*: Default
- Configured Slots, VICs and Endpoints:**
  - Mainboard Slot: < None >
  - Module in Slot 1: NM-HDV
    - Subunit 0: VWIC-2MFT-E1 (1/0) with 1/1 endpoints
  - Module in Slot 2: NM-HDV
    - Subunit 0: VWIC-2MFT-E1 (2/0) with 2/1 endpoints
  - Module in Slot 3: < None >
  - Module in Slot 4: < None >
- Product Specific Configuration:** (Section with a help icon)



Figure 60. Cisco 3745 Voice Gateway configuration – 2 of 2.

Gateway Details	
Product	Cisco 3745
Gateway	3745B4_E1
Protocol	MGCP
Domain Name *	<input type="text" value="3745B4_E1"/>
Description	<input type="text" value="MGCP 3745 E1"/>
Cisco Unified CallManager Group *	<input type="text" value="Default"/>

Configured Slots, VICs and Endpoints	
Mainboard Slot	< None >
Module in Slot 1	NM-HDV
Subunit 0	<input type="text" value="VVIC-2MFT-E1"/> 1/ 0
Module in Slot 2	NM-HDV
Subunit 0	<input type="text" value="VVIC-2MFT-E1"/> 2/ 0  2/ 1
Module in Slot 3	< None >
Module in Slot 4	< None >

Product Specific Configuration	
Global ISDN Switch Type	<input type="text" value="EURO"/>
Switchback Timing *	<input type="text" value="Graceful"/>
Switchback uptime-delay (min)	<input type="text" value="10"/>
Switchback schedule (hh:mm)	<input type="text" value="12:00"/>

\*. indicates required item.



Figure 61. Cisco 3745 trunk 2/0 configuration – 1 of 4.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Gateway Configuration Related Links: Back to MGCP Configuration Go

Status  
Status: Ready

Device Information

Product	Cisco MGCP E1 Port
Gateway	3745B4_E1
Device Protocol	Digital Access PRI
Registration	Registered with Cisco Unified CallManager CM-Vindaloo
IP Address	172.20.221.200
End-Point Name *	S2/DS1-0@3745B4_E1
Description	S2/DS1-0@3745B4_E1
Device Pool*	Default
Call Classification*	Use System Default
NetworkLocale	< None >
Packet Capture Mode*	None
Packet Capture Duration	60
Media Resource Group List	< None >
Location*	Hub_None
AAR Group	< None >
Load Information	

Transmit UTF-8 for Calling Party Name

V150 (subset)



Figure 62. Cisco 3745 trunk 2/0 configuration – 2 of 4.

<b>Multilevel Precedence and Preemption (MLPP) Information</b>	
MLPP Domain	< None >
MLPP Indication	Not available on this device
MLPP Preemption	Not available on this device
<b>Interface Information</b>	
PRI Protocol Type*	PRI ISO QSIG E1
Protocol Side*	Network
Channel Selection Order*	Top Down
Channel IE Type*	Timeslot Number
PCM Type*	A-law
Delay for first restart (1/8 sec ticks)*	32
Delay between restarts (1/8 sec ticks)*	4
<input checked="" type="checkbox"/> Inhibit restarts at PRI initialization	
<input type="checkbox"/> Enable status poll	
<input type="checkbox"/> Unattended Port	
<b>Call Routing Information - Inbound Calls</b>	
Significant Digits*	All
Calling Search Space	Incoming Trunk
AAR Calling Search Space	< None >
Prefix DN	
<b>Call Routing Information - Outbound Calls</b>	
Calling Party Presentation*	Default
Calling Party Selection*	Originator
Called party IE number type unknown*	Unknown
Calling party IE number type unknown*	Unknown





Figure 63. Cisco 3745 trunk 2/0 configuration – 3 of 4.

Called Numbering Plan*	Unknown
Calling Numbering Plan*	Unknown
Number of digits to strip*	0
Caller ID DN	
SMDI Base Port*	0

**PRI Protocol Type Specific Information**

- Display IE Delivery
- Redirecting Number IE Delivery - Outbound
- Redirecting Number IE Delivery - Inbound
- Send Extra Leading Character in Display IE\*\*\*
- Setup non-ISDN Progress Indicator IE Enable\*\*\*\*
- MCDN Channel Number Extension Bit Set to Zero\*\*
- Send Calling Name In Facility IE
- Interface Identifier Present\*\*

Interface Identifier Value\*\*

Connected Line ID Presentation (QSIG Inbound Call)\*

**UUIE Configuration**

- Passing Precedence Level Through UUIE

Security Access Level\*

**Product Specific Configuration**

Line Coding\*

Framing\*

Clock\*



Figure 64. Cisco 3745 trunk 2/0 configuration – 4 of 4.

Redirecting Number IE Delivery - Inbound

Send Extra Leading Character in Display IE \*\*\*

Setup non-ISDN Progress Indicator IE Enable \*\*\*\*

MCDN Channel Number Extension Bit Set to Zero \*\*

Send Calling Name In Facility IE

Interface Identifier Present\*\*

Interface Identifier Value \*\*

Connected Line ID Presentation (QSIG Inbound Call)\*

**UUIE Configuration**

Passing Precedence Level Through UUIE

Security Access Level\*

**Product Specific Configuration**

Line Coding \*

Framing \*

Clock \*

Save Delete Reset

**i** \*- indicates required item.

**i** \*\* - applies to DMS-100 protocol only.

**i** \*\*\* - applies to DMS-100 protocol and DMS-250 protocol only.

**i** \*\*\*\* - may be required to force ringback from some PBXs.

**i** \*\*\*\*\* - Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.



Figure 65. Cisco 3745 trunk 2/1 configuration – 1 of 4.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Gateway Configuration Related Links: Back to MGCP Configuration Go

Status  
Status: Ready

Device Information

Product	Cisco MGCP E1 Port
Gateway	3745B4_E1
Device Protocol	Digital Access PRI
Registration	Registered with Cisco Unified CallManager CM-Vindaloo
IP Address	172.20.221.200
End-Point Name *	S2/DS1-1@3745B4_E1
Description	S2/DS1-1@3745B4_E1
Device Pool*	Default
Call Classification*	Use System Default
NetworkLocale	< None >
Packet Capture Mode*	None
Packet Capture Duration	60
Media Resource Group List	< None >
Location*	Hub_None
AAR Group	< None >
Load Information	

Transmit UTF-8 for Calling Party Name  
 V150 (subset)



Figure 66. Cisco 3745 trunk 2/1 configuration – 2 of 4.

<b>Multilevel Precedence and Preemption (MLPP) Information</b>	
MLPP Domain	< None >
MLPP Indication	Not available on this device
MLPP Preemption	Not available on this device
<b>Interface Information</b>	
PRI Protocol Type*	PRI ISO QSIG E1
Protocol Side*	Network
Channel Selection Order*	Top Down
Channel IE Type*	Timeslot Number
PCM Type*	A-law
Delay for first restart (1/8 sec ticks)*	32
Delay between restarts (1/8 sec ticks)*	4
<input checked="" type="checkbox"/> Inhibit restarts at PRI initialization	
<input type="checkbox"/> Enable status poll	
<input type="checkbox"/> Unattended Port	
<b>Call Routing Information - Inbound Calls</b>	
Significant Digits*	All
Calling Search Space	Incoming Trunk
AAR Calling Search Space	< None >
Prefix DN	
<b>Call Routing Information - Outbound Calls</b>	
Calling Party Presentation*	Default
Calling Party Selection*	Originator
Called party IE number type unknown*	National
Calling party IE number type unknown*	National



Figure 67. Cisco 3745 trunk 2/1 configuration – 3 of 4.

Called Numbering Plan*	Private
Calling Numbering Plan*	Private
Number of digits to strip*	0
Caller ID DN	
SMDI Base Port*	0

**PRI Protocol Type Specific Information**

- Display IE Delivery
- Redirecting Number IE Delivery - Outbound
- Redirecting Number IE Delivery - Inbound
- Send Extra Leading Character in Display IE\*\*\*
- Setup non-ISDN Progress Indicator IE Enable\*\*\*\*
- MCDN Channel Number Extension Bit Set to Zero\*\*
- Send Calling Name In Facility IE
- Interface Identifier Present\*\*

Interface Identifier Value\*\* 0

Connected Line ID Presentation (QSIG Inbound Call)\* Default

**UUIE Configuration**

- Passing Precedence Level Through UUIE

Security Access Level\* 2

**Product Specific Configuration**

Line Coding\* HDB3

Framing\* CRC4

Clock\* External



Figure 68. Cisco 3745 trunk 2/1 configuration – 4 of 4.

Redirecting Number IE Delivery - Inbound

Send Extra Leading Character in Display IE \*\*\*

Setup non-ISDN Progress Indicator IE Enable \*\*\*\*

MCDN Channel Number Extension Bit Set to Zero \*\*

Send Calling Name In Facility IE

Interface Identifier Present \*\*

Interface Identifier Value \*\*

Connected Line ID Presentation (QSIG Inbound Call) \*

---

**UUIE Configuration**

Passing Precedence Level Through UUIE

Security Access Level \*

---

**Product Specific Configuration** ?

Line Coding \*

Framing \*

Clock \*

---

**i** \*- indicates required item.

**i** \*\* - applies to DMS-100 protocol only.

**i** \*\*\* - applies to DMS-100 protocol and DMS-250 protocol only.

**i** \*\*\*\* - may be required to force ringback from some PBXs.

**i** \*\*\*\*\* - Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.





## Partitions

Figure 69. Partitions configuration – 1 of 3.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes "Navigation" and "Cisco Unified CallManager Administration" with a "Go" button. Below this, the page title is "Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions" and the user is logged in as "CCMAdministrator". A menu bar contains options like "System", "Call Routing", "Media Resources", "Voice Mail", "Device", "Application", "User Management", "Bulk Administration", and "Help", along with a "Log Off" button.

The main content area is titled "Find and List Partitions" and includes a toolbar with icons for adding, deleting, and refreshing. Below this, a "Status" section indicates "2 records found". The "Search Options" section allows filtering by "Partition Name" (beginning with) and includes a "Find" button and a "Search Within Results" checkbox. The "Search Results" section shows a table with two entries:

	Partition Name	Description
<input type="checkbox"/>	<a href="#">Incoming Trunk</a>	Incoming Trunk
<input type="checkbox"/>	<a href="#">Phones</a>	Phones

At the bottom of the results section, there are buttons for "Add New", "Select All", "Clear All", and "Delete Selected", along with a "Rows per Page" dropdown menu set to "50".



Figure 70. Partitions configuration – 2 of 3.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as:CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

**Partition Configuration** Related Links: Back To Find/List Go

**Status**  
Status: Ready

Partition Name\* Incoming Trunk

Description Incoming Trunk

Time Schedule < None >

Time Zone  Originating Device  Specific Time Zone Greenwich Standard Time

Save Delete Reset Add New

\*- indicates required item.



Figure 71. Partitions configuration – 3 of 3.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as:CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

**Partition Configuration** Related Links: Back To Find/List Go

**Status**  
 Status: Ready

Partition Name\*

Description

Time Schedule

Time Zone  Originating Device  Specific Time Zone

Save Delete Reset Add New

\* indicates required item.



## Calling Search Space

Figure 72. Calling Search Space – 1 of 4.

The screenshot shows the Cisco Unified CallManager Administration interface. At the top, there is a navigation bar with the text "Cisco Unified CallManager Administration" and "For Cisco IP Telecommunication Solutions". Below this is a menu bar with options like "System", "Call Routing", "Media Resources", "Voice Mail", "Device", "Application", "User Management", "Bulk Administration", and "Help". The main content area is titled "Find and List Calling Search Spaces". It includes a "Status" section indicating "3 records found". Below that is a "Search Options" section with a "Find" button and a "Search Within Results" checkbox. The "Search Results" section contains a table with three rows of data:

	CSS Name	Description	Copy
<input type="checkbox"/>	<a href="#">Incoming Trunk</a>	3745 E1	
<input type="checkbox"/>	<a href="#">Path ReplacementCCS</a>	Path ReplacementCCS	
<input type="checkbox"/>	<a href="#">Phones</a>	7960 and 7940	

At the bottom of the table, there are buttons for "Add New", "Select All", "Clear All", and "Delete Selected", along with a "Rows per Page" dropdown menu set to "50".



Figure 73. Calling Search Space – 2 of 4.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as:CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Calling Search Space Configuration Related Links: Back To Find/List Go

**Status**  
Status: Ready

**Calling Search Space Information**  
Name\* Incoming Trunk  
Description 3745 E1

**Route Partitions for this Calling Search Space**

Available Partitions  
Phones

Selected Partitions  
(Ordered by highest priority)  
Incoming Trunk

Save Delete Copy Add New

\*- indicates required item.



Figure 74. Calling Search Space – 3 of 4.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes 'Cisco Unified CallManager Administration' and 'For Cisco IP Telecommunication Solutions'. The user is logged in as 'CCMAdministrator'. The main menu contains options like System, Call Routing, Media Resources, Voice Mail, Device, Application, User Management, Bulk Administration, and Help. The current page is 'Calling Search Space Configuration', with a 'Back To Find/List' link. The configuration details for a Calling Search Space named 'Path ReplacementCCS' are shown. The status is 'Ready'. The 'Name' field is 'Path ReplacementCCS' and the 'Description' is 'Path ReplacementCCS'. Under 'Route Partitions for this Calling Search Space', the 'Available Partitions' list is empty, and the 'Selected Partitions (Ordered by highest priority)' list contains 'Incoming Trunk' and 'Phones'. At the bottom, there are buttons for 'Save', 'Delete', 'Copy', and 'Add New'. A note indicates that an asterisk (\*) denotes a required item.





Figure 75. Calling Search Space – 4 of 4.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as:CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Calling Search Space Configuration Related Links: Back To Find/List Go

**Status**  
Status: Ready

**Calling Search Space Information**  
Name\* Phones  
Description 7960 and 7940

**Route Partitions for this Calling Search Space**

Available Partitions  
Incoming Trunk

Selected Partitions  
(Ordered by highest priority)  
Phones

Save Delete Copy Add New

\*- indicates required item.



## Route Patterns

Figure 76. Route Patterns – 1 of 1.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, there is a navigation bar with the text "Cisco Unified CallManager Administration" and "Go". Below this, a secondary bar shows "Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions" and "Logged in as: CCMAdministrator". A menu bar contains various options: System, Call Routing, Media Resources, Voice Mail, Device, Application, User Management, Bulk Administration, and Help. A "Log Off" button is also present.

The main content area is titled "Find and List Route Patterns". It includes a status bar indicating "6 records found". Below this is a "Search Options" section with a search criteria field set to "Pattern" and "begins with", a "Find" button, and a checkbox for "Search Within Results".

The "Search Results" section contains a table with the following data:

Pattern	Description	Partition	Route Filter	Associated Device	Copy
<input type="checkbox"/> <a href="#">3100</a>	CCM-Vindaloo to NextiraOne			<a href="#">S2/DS1-1@3745B4 E1</a>	
<input type="checkbox"/> <a href="#">3XXX</a>	CCM-Vindaloo to NextiraOne			<a href="#">S2/DS1-1@3745B4 E1</a>	
<input type="checkbox"/> <a href="#">6100</a>	CCM-Vindaloo to Compidea			<a href="#">S2/DS1-0@3745B4 E1</a>	
<input type="checkbox"/> <a href="#">6XXX</a>	CCM-Vindaloo to Compidea			<a href="#">S2/DS1-0@3745B4 E1</a>	
<input type="checkbox"/> <a href="#">9.3</a>	CCM-Vindaloo to NextiraOne			<a href="#">S2/DS1-1@3745B4 E1</a>	
<input type="checkbox"/> <a href="#">9.6</a>	CCM-Vindaloo to Compidea			<a href="#">S2/DS1-0@3745B4 E1</a>	

At the bottom of the table, there are buttons for "Add New", "Select All", "Clear All", and "Delete Selected". A "Rows per Page" dropdown menu is set to "50".



Figure 77. 3XXX Route Pattern – 1 of 2.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

**Route Pattern Configuration** Related Links: Back To Find/List Go

Status  
Status: Ready

Pattern Definition

Route Pattern\* 3XXX

Route Partition < None >

Description CCM-Vindaloo to NextiraOne

Numbering Plan -- Not Selected --

Route Filter < None >

MLPP Precedence\* Default

Gateway/Route List\* S2/DS1-1@3745B4\_E1 (Edit) Find

Route Option  
 Route this pattern  
 Block this pattern No Error

Call Classification\* OffNet

Allow Device Override  Provide Outside Dial Tone  Allow Overlap Sending  Urgent Priority

Require Forced Authorization Code

Authorization Level\* 0

Require Client Matter Code

Calling Party Transformations



Figure 78. 3XXX Route Pattern – 2 of 2.

Require Client Matter Code

**Calling Party Transformations**

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Calling Line ID Presentation\*

Calling Name Presentation\*

**Connected Party Transformations**

Connected Line ID Presentation\*

Connected Name Presentation\*

**Called Party Transformations**

Discard Digits

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

**ISDN Network-Specific Facilities Information Element**

Network Service Protocol

Carrier Identification Code

Network Service	Service Parameter Name	Service Parameter Value
<input type="text" value="-- Not Selected --"/>	<input type="text" value="&lt; Not Exist &gt;"/>	<input type="text"/>

Save Delete Copy Add New

\* indicates required item.



Figure 79. 3XXX Route Pattern configured for Calling Name and Number Restriction (compare with Figure 78. ) – 1 of 1.

Require Client Matter Code

**Calling Party Transformations**

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Calling Line ID Presentation\* **Restricted**

Calling Name Presentation\* **Restricted**

**Connected Party Transformations**

Connected Line ID Presentation\* **Default**

Connected Name Presentation\* **Default**

**Called Party Transformations**

Discard Digits **< None >**

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

**ISDN Network-Specific Facilities Information Element**

Network Service Protocol **-- Not Selected --**

Carrier Identification Code

Network Service	Service Parameter Name	Service Parameter Value
<b>-- Not Selected --</b>	<b>&lt; Not Exist &gt;</b>	<input type="text"/>

Save Delete Copy Add New

\* indicates required item.



Figure 80. 6XXX Route Pattern – 1 of 2.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Application User Management Bulk Administration Help Log Off

Route Pattern Configuration Related Links: Back To Find/List Go

Status  
Status: Ready

Pattern Definition

Route Pattern\* 6XXX

Route Partition < None >

Description CCM-Vindaloo to Compidea

Numbering Plan -- Not Selected --

Route Filter < None >

MLPP Precedence\* Default

Gateway/Route List\* S2/DS1-0@3745B4\_E1 (Edit) Find

Route Option  
 Route this pattern  
 Block this pattern No Error

Call Classification\* OffNet

Allow Device Override  Provide Outside Dial Tone  Allow Overlap Sending  Urgent Priority

Require Forced Authorization Code

Authorization Level\* 0

Require Client Matter Code

Calling Party Transformations





Figure 81. 6XXX Route Pattern – 2 of 2.

<input type="checkbox"/> Require Client Matter Code		
<b>Calling Party Transformations</b>		
<input type="checkbox"/> Use Calling Party's External Phone Number Mask		
Calling Party Transform Mask	<input type="text"/>	
Prefix Digits (Outgoing Calls)	<input type="text"/>	
Calling Line ID Presentation*	Default	
Calling Name Presentation*	Default	
<b>Connected Party Transformations</b>		
Connected Line ID Presentation*	Default	
Connected Name Presentation*	Default	
<b>Called Party Transformations</b>		
Discard Digits	< None >	
Called Party Transform Mask	<input type="text"/>	
Prefix Digits (Outgoing Calls)	<input type="text"/>	
<b>ISDN Network-Specific Facilities Information Element</b>		
Network Service Protocol	-- Not Selected --	
Carrier Identification Code	<input type="text"/>	
Network Service	Service Parameter Name	Service Parameter Value
-- Not Selected --	< Not Exist >	<input type="text"/>
Save Delete Copy Add New		
* indicates required item.		



Figure 82. 9.3 Route Pattern – 1 of 2.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

**Route Pattern Configuration** Related Links: Back To Find/List Go

Status  
Status: Ready

Pattern Definition

Route Pattern\* 9.3

Route Partition < None >

Description CCM-Vindaloo to NextiraOne

Numbering Plan -- Not Selected --

Route Filter < None >

MLPP Precedence\* Default

Gateway/Route List\* S2/DS1-1@3745B4\_E1 (Edit) Find

Route Option  
 Route this pattern  
 Block this pattern No Error

Call Classification\* OffNet

Allow Device Override  Provide Outside Dial Tone  Allow Overlap Sending  Urgent Priority

Require Forced Authorization Code

Authorization Level\* 0

Require Client Matter Code

Calling Party Transformations



Figure 83. 9.3 Route Pattern – 2 of 2.

Require Client Matter Code

**Calling Party Transformations**

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Calling Line ID Presentation\*

Calling Name Presentation\*

**Connected Party Transformations**

Connected Line ID Presentation\*

Connected Name Presentation\*

**Called Party Transformations**

Discard Digits

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

**ISDN Network-Specific Facilities Information Element**

Network Service Protocol

Carrier Identification Code

Network Service	Service Parameter Name	Service Parameter Value
<input type="text" value="-- Not Selected --"/>	<input type="text" value="&lt; Not Exist &gt;"/>	<input type="text"/>

Save Delete Copy Add New

\* indicates required item.



## Translation Pattern for Incoming Calls

Figure 84. Translation Patterns – 1 of 1.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes "Cisco Unified CallManager Administration" and "Go". Below this, a secondary navigation bar lists various system functions like "System", "Call Routing", "Media Resources", etc. The main content area is titled "Find and List Translation Patterns". It features a "Status" section indicating "1 records found". The "Search Options" section allows filtering by "Pattern" and "begins with", with a "Find" button and a "Search Within Results" checkbox. The "Search Results" section contains a table with the following data:

Translation Pattern	Partition	Description	Route Filter	Copy
<input type="checkbox"/> 4XXXX	Incoming Trunk			

Below the table are buttons for "Add New", "Select All", "Clear All", and "Delete Selected", along with a "Rows per page" dropdown set to 50.



Figure 85. 4XXX Translation Pattern – 1 of 2.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

**Translation Pattern Configuration** Related Links: Back To Find/List Go

**Status**  
Status: Ready

**Pattern Definition**

Translation Pattern: 4XXX

Partition: Incoming Trunk

Description:

Numbering Plan: < None >

Route Filter: < None >

MLPP Precedence\*: Default

Calling Search Space: Phones

Route Option:  
 Route this pattern  
 Block this pattern No Error

Provide Outside Dial Tone  Urgent Priority

**Calling Party Transformations**

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask:

Prefix Digits (Outgoing Calls):

Calling Line ID Presentation\*: Default



Figure 86. 4XXX Translation Pattern – 2 of 2.

Route Filter	< None >
MLPP Precedence*	Default
Calling Search Space	Phones
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern No Error
<input checked="" type="checkbox"/> Provide Outside Dial Tone <input checked="" type="checkbox"/> Urgent Priority	
<b>Calling Party Transformations</b>	
<input type="checkbox"/> Use Calling Party's External Phone Number Mask	
Calling Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation*	Default
Calling Name Presentation*	Default
<b>Connected Party Transformations</b>	
Connected Line ID Presentation*	Default
Connected Name Presentation*	Default
<b>Called Party Transformations</b>	
Discard Digits	< None >
Called Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Save Delete Copy Add New	
* - indicates required item.	





Figure 87. 4XXX Translation Pattern configured for Connected Name and Number Restriction (compare with Figure 86. ) – 1 of 1.

Route Filter	< None >
MLPP Precedence*	Default
Calling Search Space	Phones
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern No Error
<input checked="" type="checkbox"/> Provide Outside Dial Tone <input checked="" type="checkbox"/> Urgent Priority	
<b>Calling Party Transformations</b>	
<input type="checkbox"/> Use Calling Party's External Phone Number Mask	
Calling Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation*	Default
Calling Name Presentation*	Default
<b>Connected Party Transformations</b>	
Connected Line ID Presentation*	Restricted
Connected Name Presentation*	Restricted
<b>Called Party Transformations</b>	
Discard Digits	< None >
Called Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Save Delete Copy Add New	
*- indicates required item.	



## Call Back Softkey

Figure 88. Softkey layout – 1 of 2.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes "Cisco Unified CallManager Administration" and "For Cisco IP Telecommunication Solutions". The user is logged in as "CCMAdministrator". The main menu includes "System", "Call Routing", "Media Resources", "Voice Mail", "Device", "Application", "User Management", "Bulk Administration", and "Help". The current page is "Softkey Template Configuration", with a "Related Links" section containing "Softkey Template Configuration".

The "Status" section shows "Status: Ready". The "Softkey Layout Configuration" section is active, showing "Softkey Template: Standard Feature-CB". A dropdown menu for "Select a call state to configure" is set to "On Hook".

Two columns of softkeys are visible:

- Unselected Softkeys:** Conference List (ConfList), Direct Transfer (DirTrfr), Group Pick Up (GPickUp), Immediate Divert (iDivert), Join (Join), Meet Me (MeetMe), Other Pickup (oPickup), Pick Up (PickUp), Quality Report Tool (QRT), Remove Last Conference Party (RmLstC), Select (Select), Undefined (Undefined), Video Mode Command (VidMode).
- Selected Softkeys (ordered by position)\*\*:** Redial (Redial), \*\*NewCall (NewCall), Forward All (CfwdAll), Call Back (CallBack).

Navigation arrows between the columns allow for moving softkeys between the unselected and selected lists. At the bottom, there are "Save" and "Reset" buttons.



Figure 89. Softkey layout – 2 of 2.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes "Cisco Unified CallManager Administration" and "Go". Below this, a secondary navigation bar lists various system functions like "System", "Call Routing", "Media Resources", "Voice Mail", "Device", "Application", "User Management", "Bulk Administration", and "Help". The main content area is titled "Softkey Template Configuration" and shows the "Status" as "Ready". Under "Softkey Layout Configuration", the "Softkey Template" is set to "Standard Feature-CB". A dropdown menu is set to "Ring Out". The interface is divided into two panes: "Unselected Softkeys" containing "Undefined (Undefined)" and "Selected Softkeys (ordered by position)\*\*" containing "\*\*End Call (EndCall)", "Direct Transfer (DirTrfr)", and "Call Back (CallBack)". Navigation arrows are present between the panes. At the bottom, "Save" and "Reset" buttons are visible.



Figure 90. Call Back Softkey – 1 of 1.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

**Softkey Template Configuration** Related Link: Configure Softkey Layout Go

**Status**  
Status: Ready

**Softkey Template Information**

Name*	Standard Feature-CB
Description	Standard Softkey Template for CM Combined Feature
Applications*	Cisco CallManager

**Add Application**  
**Remove Application**

Save Delete Copy Add New Reset

\* indicates required item.



## Service Parameters

Figure 91. Feature - Forward Service Parameters (showing Reroute enabled) – 1 of 1.

Clusterwide Parameters (Feature - Forward)		
Forward Maximum Hop Count *	12	12
Forward No Answer Timer *	12	12
Max Forward Hops to DN *	12	12
Retain Forward Information *	True	False
Forward By Reroute Enabled *	True	False
Transform Forward by Reroute Destination *	True	True
Always Forward Switch Voice Mail Calls *	True	True
Forward By Reroute T1 Timer *	10	10
Include Original Called Info for Q.SIG Call Diversions *	Only after the first diversion	Only after the first diversion

There are hidden parameters in this group. Click on Advanced button to see hidden parameters.

Figure 92. Path Replacement Service Parameters (showing Path Replacement enabled) – 1 of 1.

Clusterwide Parameters (Feature - Path Replacement)		
Path Replacement Enabled *	True	False
Path Replacement on Tromboned Calls *	True	True
Start Path Replacement Minimum Delay Time *	2	0
Start Path Replacement Maximum Delay Time *	10	0
Path Replacement T1 Timer *	30	30
Path Replacement T2 Timer *	15	15
Path Replacement PINK ID	4100	
Path Replacement Calling Search Space	< None >	

Figure 93. Call Back Service Parameters – 1 of 1.

Clusterwide Parameters (Feature - Call Back)		
Call Back Enabled Flag *	True	True
Call Back Notification Audio File Name *	CallBack.raw	CallBack.raw
Connection Proposal Type *	Connection Retention	Connection Retention
Connection Response Type *	Default to Connection Retention	Default to Connection Retention
Call Back Request Protection T1 Timer *	10	10
Call Back Recall T3 Timer *	20	20
Call Back Calling Search Space	< None >	
No Path Reservation *	True	True
Set Private Numbering Plan for Call Back *	False	False



## IP phones

Figure 94. IP phones – 1 of 1.

The screenshot displays the Cisco Unified CallManager Administration web interface. At the top, the navigation bar includes 'Cisco Unified CallManager Administration' and 'Go'. Below this, the page title is 'Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions' and the user is logged in as 'CCMAdministrator'. A menu bar contains options like 'System', 'Call Routing', 'Media Resources', 'Voice Mail', 'Device', 'Application', 'User Management', 'Bulk Administration', and 'Help'. A 'Log Off' button is also present.

The main content area is titled 'Find and List Phones' and includes a 'Related Links' section with a dropdown menu set to 'CAPF Report in File' and a 'Go' button. Below this, there are icons for adding, deleting, and refreshing the list.

The 'Status' section indicates that 4 records were found. The 'Search Options' section allows searching by 'Device Name' (beginning with) and includes a 'Find' button and a 'Search Within Results' checkbox. A dropdown menu below the search options is set to 'Select item or enter search text'.

The 'Search Results' section contains a table with the following data:

	Device Name(Line)	Description	Device Pool	Device Protocol	Status	IP Address	Copy	Copy w/Lines
<input type="checkbox"/>	<a href="#">SEP000248CCE045</a>	Auto 4001	<a href="#">Default</a>	SCCP	Registered with CM-Vindaloo	<a href="#">172.20.221.100</a>		
<input type="checkbox"/>	<a href="#">SEP000427D3FFF7</a>	Auto 4000	<a href="#">Default</a>	SCCP	Registered with CM-Vindaloo	<a href="#">172.20.221.101</a>		
<input type="checkbox"/>	<a href="#">SEP00170EEE2F9E</a>	Auto 4002	<a href="#">Default</a>	SIP	Registered with CM-Vindaloo	<a href="#">172.20.221.103</a>		
<input type="checkbox"/>	<a href="#">SEP00170EEE2FA0</a>	Auto 4003	<a href="#">Default</a>	SIP	Registered with CM-Vindaloo	<a href="#">172.20.221.102</a>		

At the bottom of the search results, there are buttons for 'Add New', 'Select All', 'Clear All', 'Delete Selected', and 'Reset Selected'. A 'Rows per Page' dropdown menu is set to 50.





Figure 95. IP extension 4000 – 1 of 7.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Phone Configuration Related Links: Back To Find/List Go

Status  
Status: Ready

**Association Information**  
Modify Button Items

- Line [1] - 4000 in Phones
- Add a new SD
- Line [2] - Add a new DN
- Add a new SD
- Add a new SURF
- Add a new BLF SD
- Privacy
- None

----- Unassigned Associated Items -----

**Phone Type**  
Product Type: Cisco 7940  
Device Protocol: SCCP

**Device Information**

Registration	Registered with Cisco Unified CallManager CM-Vindaloo
IP Address	172.20.221.101
MAC Address*	000427D3FFF7
Description	Auto 4000
Device Pool*	Default
Phone Button Template*	Standard 7940 SCCP
Softkey Template	Standard Feature-CB
Common Phone Profile*	Standard Common Phone Profile
Calling Search Space	< None >
AAR Calling Search Space	< None >
Media Resource Group List	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Location*	



Figure 96. IP extension 4000 – 2 of 7.

Location *	Hub_None
User Locale	English United States
Network Locale	< None >
Built In Bridge *	Default
Privacy *	Default
Owner User ID	< None >
Phone Load Name	
<input checked="" type="checkbox"/> Retry Video Call as Audio	
<input type="checkbox"/> Ignore Presentation Indicators (internal calls only)	
<input checked="" type="checkbox"/> Allow Control of Device from CTI	
<b>Protocol Specific Information</b>	
Packet Capture Mode *	None
Packet Capture Duration	0
Presence Group *	Standard Presence group
SCCP Phone Security Profile *	Standard SCCP Profile for Auto Registration
SUBSCRIBE Calling Search Space	< None >
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> Require DTMF Reception	
<input type="checkbox"/> RFC2833 Disabled	
<b>External Data Locations Information (Leave blank to use default)</b>	
Information	
Directory	
Messages	
Services	



Figure 97. IP extension 4000 – 3 of 7.

Authentication Server	<input type="text"/>
Proxy Server	<input type="text"/>
Idle	<input type="text"/>
Idle Timer (seconds)	<input type="text"/>

**Extension Information**

Enable Extension Mobility

Log Out Profile

Login in User ID < None >

Log in Time < None >

Log out Time < None >

**Certification Authority Proxy Function (CAPF) Information**

Certificate Operation\*

Authentication String

Operation Completes By  :  :  :  (YYYY:MM:DD:HH)

Certificate Operation Status: None

**MLPP Information**

MLPP Domain

MLPP Indication\*

MLPP Preemption\*

**Secure Shell Information**

Secure Shell User

Secure Shell Password

**Product Specific Configuration Layout**



Figure 98. IP extension 4000 – 4 of 7.

<b>MLPP Information</b>	
MLPP Domain	< None >
MLPP Indication*	Default
MLPP Preemption*	Default
<b>Secure Shell Information</b>	
Secure Shell User	
Secure Shell Password	
<b>Product Specific Configuration Layout</b>	
<input type="checkbox"/> Disable Speakerphone	
<input type="checkbox"/> Disable Speakerphone and Headset	
PC Port *	Enabled
Settings Access *	Enabled
Gratuitous ARP *	Enabled
PC Voice VLAN Access*	Enabled
Video Capabilities*	Disabled
Auto Line Select*	Disabled
Web Access*	Enabled

Save Delete Copy Reset Add New

**i** \*. indicates required item.

**i** \*\*. Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.



Figure 99. IP extension 4000 – 5 of 7.

The screenshot shows the Cisco Unified CallManager Administration web interface. At the top, there is a navigation bar with the text "Cisco Unified CallManager Administration" and "For Cisco IP Telecommunication Solutions". The user is logged in as "CCMAdministrator". A menu bar includes "System", "Call Routing", "Media Resources", "Voice Mail", "Device", "Application", "User Management", "Bulk Administration", and "Help". The main content area is titled "Directory Number Configuration" and shows the configuration for IP extension 4000. The status is "Ready". A note indicates that changes require a restart. The "Directory Number Information" section includes fields for Directory Number (4000), Route Partition (Phones), Description, Alerting Name (V-00(Alert)), and ASCII Alerting Name (V-00(Alert)). There is a checkbox for "Allow Control of Device from CTI" which is checked. Below this, there is a list of associated devices with one device, SEP000427D3FFF7, listed. There are buttons for "Edit Device" and "Edit Line Appearance". At the bottom, there is a "Dissociate Devices" section with a downward arrow icon.



Figure 100. IP extension 4000 – 6 of 7.

Directory Number Settings	
Voice Mail Profile	< None > (Choose <None> to use system default)
Calling Search Space	Phones
Presence Group*	Standard Presence group
AAR Group	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Auto Answer*	Auto Answer Off

Call Forward and Call Pickup Settings	
Forward All	<input type="checkbox"/> or <input type="text"/> Calling Search Space: Phones
Secondary Calling Search Space for Forward All	< None > <b>Find</b>
Forward Busy Internal	<input type="checkbox"/> or <input type="text"/> Phones
Forward Busy External	<input type="checkbox"/> or <input type="text"/> Phones
Forward No Answer Internal	<input type="checkbox"/> or <input type="text"/> Phones
Forward No Answer External	<input type="checkbox"/> or <input type="text"/> Phones
Forward No Coverage Internal	<input type="checkbox"/> or <input type="text"/> < None >
Forward No Coverage External	<input type="checkbox"/> or <input type="text"/> < None >
Forward on CTI Failure	<input type="checkbox"/> or <input type="text"/> < None >
No Answer Ring Duration (seconds)	5
Call Pickup Group	< None >

MLPP Alternate Party Settings	
Target (Destination)	<input type="text"/>
MLPP Calling Search Space	Phones





Figure 101. IP extension 4000 – 7 of 7.

MLPP No Answer Ring Duration (seconds)

---

**Line 1 on Device SEP000427D3FFF7**

Display (Internal Caller ID)  Display text for a line appearance is intended for displaying text such as a name instead of a directory number for internal calls. If you specify a number, the person receiving a call may not see the proper identity of the caller.

ASCII Display (Internal Caller ID)

Line Text Label

ASCII Line Text Label

External Phone Number Mask

Message Waiting Lamp Policy\*

Ring Setting (Phone Idle)\*

Ring Setting (Phone Active)  Applies to this line when any line on the phone has a call in progress.

---

**Multiple Call/Call Waiting Settings on Device SEP000427D3FFF7**

Note: The range to select the Max Number of calls is: 1-200

Maximum Number of Calls\*

Busy Trigger\*  (Less than or equal to Max. Calls)

---

**Forwarded Call Information Display on Device SEP000427D3FFF7**

Caller Name

Caller Number

Redirected Number

Dialed Number

---

\*- indicates required item.



Figure 102. IP extension 4000 configured for call forwarding (CFB and CFNR) to PBX extension 3004 (Compare to Figure 100).

Voice Mail Profile	< None >	(Choose <None> to use system default)
Calling Search Space	Phones	
Presence Group*	Standard Presence group	
AAR Group	< None >	
User Hold Audio Source	< None >	
Network Hold Audio Source	< None >	
Auto Answer*	Auto Answer Off	

Call Forward and Call Pickup Settings		
	Voice Mail Destination	Calling Search Space
Forward All	<input type="checkbox"/> or	Phones
Secondary Calling Search Space for Forward All		< None >
Forward Busy Internal	<input type="checkbox"/> or	3004 Phones
Forward Busy External	<input type="checkbox"/> or	3004 Phones
Forward No Answer Internal	<input type="checkbox"/> or	3004 Phones
Forward No Answer External	<input checked="" type="checkbox"/> or	3004 Phones
Forward No Coverage Internal	<input type="checkbox"/> or	< None >
Forward No Coverage External	<input type="checkbox"/> or	< None >
Forward on CTI Failure	<input type="checkbox"/> or	< None >
No Answer Ring Duration (seconds)	5	
Call Pickup Group	< None >	

MLPP Alternate Party Settings	
Target (Destination)	
MLPP Calling Search Space	Phones
MLPP No Answer Ring Duration (seconds)	



Figure 103. IP extension 4002 – 1 of 7.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as: CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Phone Configuration Related Links: Back To Find/List Go

Status  
Status: Ready

**Association Information**  
Modify Button Items

- Line [1] - 4002 in Phones
- Line [2] - Add a new DN
- Add a new SD
- Add a new SD
- Add a new SD
- Add a new SD
- Unassigned Associated Items -----
- Add a new SD
- Add a new SURL
- Add a new BLF SD
- Privacy
- None

**Phone Type**  
Product Type: Cisco 7961  
Device Protocol: SIP

**Device Information**

Registration	Registered with Cisco Unified CallManager CM-Vindaloo
IP Address	172.20.221.103
MAC Address*	00170EEE2F9E
Description	Auto 4002
Device Pool*	Default
Phone Button Template*	Standard 7961 SIP
Softkey Template	Standard Feature-CB
Common Phone Profile*	Standard Common Phone Profile
Calling Search Space	< None >
AAR Calling Search Space	< None >
Media Resource Group List	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Location*	



Figure 104. IP extension 4002 – 2 of 7.

Location*	Hub_None
User Locale	< None >
Network Locale	< None >
Built In Bridge*	Default
Privacy*	Default
Owner User ID	< None >
Phone Load Name	
<input type="checkbox"/> Ignore Presentation Indicators (internal calls only)	
<input checked="" type="checkbox"/> Allow Control of Device from CTI	
<b>Protocol Specific Information</b>	
Packet Capture Mode*	None
Packet Capture Duration	0
Presence Group*	Standard Presence group
SIP Dial Rules	< None >
MTP Preferred Originating Codec*	711ulaw
SIP Phone Security Profile*	Standard SIP Profile for Auto Registration
Rerouting Calling Search Space	< None >
SUBSCRIBE Calling Search Space	< None >
SIP Profile*	Standard SIP Profile
Digest User	< None >
<input type="checkbox"/> Media Termination Point Required	
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> Require DTMF Reception	
<b>External Data Locations Information (Leave blank to use default)</b>	




Figure 105. IP extension 4002 – 3 of 7.


<b>External Data Locations Information (Leave blank to use default)</b>	
Information	<input type="text"/>
Directory	<input type="text"/>
Messages	<input type="text"/>
Services	<input type="text"/>
Authentication Server	<input type="text"/>
Proxy Server	<input type="text"/>
Idle	<input type="text"/>
Idle Timer (seconds)	<input type="text"/>
<b>Extension Information</b>	
<input type="checkbox"/> Enable Extension Mobility	
Log Out Profile	-- Not Selected --
Login in User ID	< None >
Log in Time	< None >
Log out Time	< None >
<b>Certification Authority Proxy Function (CAPF) Information</b>	
Certificate Operation*	No Pending Operation
Authentication String	<input type="text"/>
<input type="button" value="Generate String"/>	
Operation Completes By	2006 : 7 : 7 : 12 (YYYY:MM:DD:HH)
Certificate Operation Status:	None
<b>MLPP Information</b>	
MLPP Domain	< None >
<b>Secure Shell Information</b>	
Secure Shell User	<input type="text"/>



Figure 106. IP extension 4002 – 4 of 7.

MLPP Domain < None >	
<b>Secure Shell Information</b>	
Secure Shell User	<input type="text"/>
Secure Shell Password	<input type="password"/>
<b>Product Specific Configuration Layout</b> 	
<input type="checkbox"/> Disable Speakerphone	
<input type="checkbox"/> Disable Speakerphone and Headset	
PC Port *	Enabled
Settings Access*	Enabled
Gratuitous ARP*	Enabled
PC Voice VLAN Access*	Enabled
Video Capabilities*	Disabled
Auto Line Select*	Disabled
Web Access*	Enabled
Span to PC Port*	Disabled
Logging Display*	PC Controlled
Load Server	<input type="text"/>

Save Delete Copy Reset Add New

 \*. indicates required item.


 \*\*. Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.



Figure 107. IP extension 4002 – 5 of 7.

Navigation Cisco Unified CallManager Administration Go

Cisco Unified CallManager Administration For Cisco IP Telecommunication Solutions Logged in as:CCMAdministrator

System Call Routing Media Resources Voice Mail Device Applications User Management Bulk Administration Help Log Off

Directory Number Configuration Related Links: Back To Find/List Go

Status  
Status: Ready

Note: Changes to Line or Directory Number settings require restart.

**Directory Number Information**

Directory Number*	4002
Route Partition	Phones
Description	SIP
Alerting Name	V-SIP-02(Alert)
ASCII Alerting Name	V-SIP-02(Alert)

Allow Control of Device from CTI

Associated Devices

SEP00170EEE2F9E	<b>Edit Device</b>
-----------------	--------------------

**Edit Line Appearance**

▼ ▲

Dissociate Devices





Figure 108. IP extension 4002 – 6 of 7.

Directory Number Settings	
Voice Mail Profile	< None > (Choose <None> to use system default)
Calling Search Space	Phones
Presence Group*	Standard Presence group
AAR Group	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Auto Answer*	Auto Answer Off

Call Forward and Call Pickup Settings	
Forward All	<input type="checkbox"/> or <input type="text"/> Calling Search Space: Phones
Secondary Calling Search Space for Forward All	< None > <b>Find</b>
Forward Busy Internal	<input type="checkbox"/> or <input type="text"/> Phones
Forward Busy External	<input type="checkbox"/> or <input type="text"/> Phones
Forward No Answer Internal	<input type="checkbox"/> or <input type="text"/> Phones
Forward No Answer External	<input type="checkbox"/> or <input type="text"/> Phones
Forward No Coverage Internal	<input type="checkbox"/> or <input type="text"/> < None >
Forward No Coverage External	<input type="checkbox"/> or <input type="text"/> < None >
Forward on CTI Failure	<input type="checkbox"/> or <input type="text"/> < None >
No Answer Ring Duration (seconds)	7
Call Pickup Group	< None >

MLPP Alternate Party Settings	
Target (Destination)	<input type="text"/>
MLPP Calling Search Space	< None >



Figure 109. IP extension 4002 – 7 of 7.

MLPP No Answer Ring Duration (seconds)

---

**Line 1 on Device SEP00170EEE2F9E**

Display (Internal Caller ID)  Display text for a line appearance is intended for displaying text such as a name instead of a directory number for internal calls. If you specify a number, the person receiving a call may not see the proper identity of the caller.

ASCII Display (Internal Caller ID)

Line Text Label

ASCII Line Text Label

External Phone Number Mask

Message Waiting Lamp Policy\*

Ring Setting (Phone Idle)\*

Ring Setting (Phone Active)  Applies to this line when any line on the phone has a call in progress.

---

**Multiple Call/Call Waiting Settings on Device SEP00170EEE2F9E**

Note: The range to select the Max Number of calls is: 1-200

Maximum Number of Calls\*

Busy Trigger\*  (Less than or equal to Max. Calls)

---

**Forwarded Call Information Display on Device SEP00170EEE2F9E**

Caller Name

Caller Number

Redirected Number

Dialed Number

---

\*- indicates required item.



## Configuring the Cisco 3745

3745B4\_E1#sho ver

Cisco IOS Software, 3700 Software (C3745-IPVOICE-M), Version 12.4(3), RELEASE SOFTWARE (fc2)

Technical Support: <http://www.cisco.com/techsupport>

Copyright (c) 1986-2005 by Cisco Systems, Inc.

Compiled Fri 22-Jul-05 03:09 by hqluong

ROM: System Bootstrap, Version 12.2(8r)T2, RELEASE SOFTWARE (fc1)

3745B4\_E1 uptime is 4 weeks, 2 days, 30 minutes

System returned to ROM by power-on

System image file is "flash:c3745-ipvoice-mz.124-3.bin"

Cisco 3745 (R7000) processor (revision 2.0) with 241664K/20480K bytes of memory.

Processor board ID JMX0715L08P

R7000 CPU at 350MHz, Implementation 39, Rev 3.3, 256KB L2,

2 FastEthernet interfaces

124 Serial interfaces

4 Channelized E1/PRI ports

2 Voice FXS interfaces

DRAM configuration is 64 bits wide with parity disabled.

151K bytes of NVRAM.

125184K bytes of ATA System CompactFlash (Read/Write)

62592K bytes of ATA Slot0 CompactFlash (Read/Write)

Configuration register is 0x2102



3745B4\_E1#

3745B4\_E1#sho run

Building configuration...

Current configuration : 3787 bytes

!

version 12.4

service timestamps debug datetime msec

service timestamps log datetime msec

no service password-enc

!

hostname 3745B4\_E1

!

boot-start-marker

boot system flash:c3745-ipvoice-mz.124-3.bin

boot-end-marker

!

logging buffered 1000000 debugging

!

no aaa new-model

!

resource policy

!

no network-clock-participate slot 1

no network-clock-participate slot 2

voice-card 1

dspfarm

!



```
voice-card 2

dspfarm

!

ip subnet-zero

ip cef

ip tcp synwait-time 13

!

!

no ip dhcp use vrf connected

ip dhcp excluded-address 192.168.10.0 192.168.10.60

ip dhcp excluded-address 192.168.11.0 192.168.11.10

!

ip dhcp pool hq-pool-phones

    network 192.168.10.0 255.255.255.0

    option 150 ip 192.168.10.50

    default-router 192.168.10.1

!

ip dhcp pool hq-pool-data

    network 192.168.11.0 255.255.255.0

    default-router 192.168.11.1

!

!

no ip domain lookup

ip host whiz 171.69.1.162

ip host dirt 171.69.1.129

ip host danube 171.69.17.14

ip host CM-VINDALOO 172.20.221.254

ip name-server 172.20.221.254

ip dhcp-server 192.168.10.1
```



```
isdn switch-type primary-net5
!
!
voice call carrier capacity active
!
!
!
controller E1 1/0
pri-group timeslots 1-3
!
controller E1 1/1
pri-group timeslots 1-31 service mgcp
!
controller E1 2/0
pri-group timeslots 1-31 service mgcp
!
controller E1 2/1
pri-group timeslots 1-31 service mgcp
!
!
interface FastEthernet0/0
ip address 172.20.221.200 255.255.255.0
duplex auto
speed auto
!
interface FastEthernet0/0.10
encapsulation dot1Q 10
no snmp trap link-status
!
```



```
interface FastEthernet0/0.11
encapsulation dot1Q 11
ip address 192.168.11.1 255.255.255.0
no snmp trap link-status
!
interface FastEthernet0/1
no ip address
shutdo
duplex auto
speed auto
!
interface Serial1/0:15
no ip address
isdn switch-type primary-net5
isdn incoming-voice voice
isdn bind-13 ccm-manager
no cdp enable
!
interface Serial1/1:15
no ip address
isdn switch-type primary-net5
isdn protocol-emulate network
isdn incoming-voice voice
isdn bind-13 ccm-manager
no cdp enable
!
interface Serial2/0:15
no ip address
isdn switch-type primary-qsig
```





```
isdn protocol-emulate network

isdn incoming-voice voice

isdn T310 120000

isdn bind-13 ccm-manager

no cdp enable

!

interface Serial2/1:15

no ip address

isdn switch-type primary-qsig

isdn protocol-emulate network

isdn incoming-voice voice

isdn T310 120000

isdn bind-13 ccm-manager

no cdp enable

!

ip classless

ip route 0.0.0.0 0.0.0.0 FastEthernet0/0

ip route 0.0.0.0 0.0.0.0 172.20.221.1

!

ip http server

!

dialer-list 1 protocol ip permit

!

!

!

control-plane

!

!

!
```



```
voice-port 1/0:15
!
voice-port 1/1:15
!
voice-port 2/0:15
!
voice-port 2/1:15
!
voice-port 3/0/0
!
voice-port 3/0/1
!
ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server CM-VINDALOO
ccm-manager config
!
mgcp
mgcp call-agent CM-Vindaloo 2427 service-type mgcp version 0.1
mgcp dtmf-relay voip codec all mode out-of-band
mgcp rtp unreachable timeout 1000 action notify
mgcp modem passthrough voip mode nse
mgcp package-capability rtp-package
no mgcp package-capability res-package
mgcp package-capability sst-package
no mgcp package-capability fxr-package
mgcp package-capability pre-package
no mgcp timer receive-rtcp
mgcp sdp simple
```



```
mgcp fax t38 inhibit
mgcp rtp payload-type g726r16 static
!
mgcp profile default
!
!
dial-peer cor custom
!
!
!
dial-peer voice 1 pots
service mgcpapp
port 2/0:15
!
dial-peer voice 2 pots
service mgcpapp
port 2/1:15
!
dial-peer voice 3 pots
service mgcpapp
port 3/0/0
!
dial-peer voice 4 pots
service mgcpapp
port 3/0/1
!
dial-peer voice 999300 pots
service mgcpapp
port 3/0/0
```



```
!  
dial-peer voice 999301 pots  
service mgcpapp  
port 3/0/1  
!  
dial-peer voice 5 pots  
service mgcpapp  
!  
!  
line con 0  
line aux 0  
line vty 0 4  
login  
!  
!  
end
```

3745B4\_E1#



## Acronyms

Acronym	Definitions
BRI	Basic Rate ISDN
CAMA	Centralized Automatic Message Accounting
CAS	Channel Associated Signaling
CFB	Call Forward when Busy
CFNR	Call Forward when No Reply
CFU	Call Forward Unconditional
CO	Central Office
FGD	Feature Group "D"
FXO	Foreign Exchange – Office
FXS	Foreign Exchange – Station
IOS	Internetworking Operating System
MCID	Malicious Caller ID
MGCP	Media Gateway Control Protocol
MoH	Music on Hold
MWI	Message Waiting Indication
PBX	Private Branch Exchange
PRI	Primary Rate ISDN
PSAP	Public Service Access Point
SIP	Session Initiation Protocol
ToH	Tone on Hold



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