

Cisco Unified CallManager Release 4.1-PBX Interoperability: Nortel Meridian 1 Release 25.40B using a Cisco 3745 T1 QSIG as MGCP Gateway

Revised October 27, 2006

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Introduction

This is an application note for connectivity of Nortel Meridian 1 Opt11C Release 25.40B PBX with Cisco Unified CallManager Release 4.1 using Cisco 3745-T1 QSIG as MGCP gateway.

The network topology diagram (Figure 1) shows the test setup for end-to-end interoperability with the Cisco Unified CallManager connected to the PBX via 3745-T1 QSIG link as MGCP gateway.

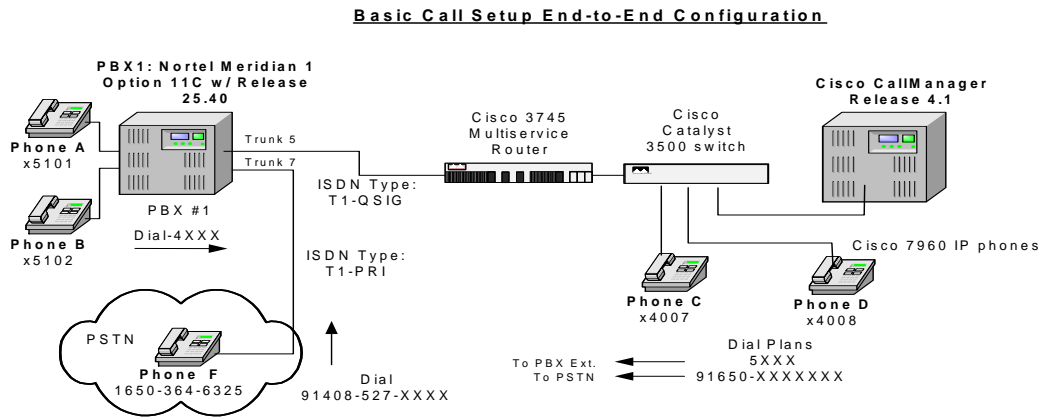
Connectivity is achieved by using the PRI QSIG T1 protocol type on the MGCP gateway and ISO QSIG switch type on the Nortel Meridian 1 Opt11C Release 25.40B PBX.

This Application Note uses the 3745-T1 voice gateway, however other Cisco voice gateways are also an option to use since Cisco Unified CallManager QSIG implementation does not depend on the physical interface.



Network Topology

Figure 1. Network Topology or Test Setup



Limitations

Call Transfer Notification

The Nortel PBX Call Transfer Notification feature over QSIG on a T1 1.544 Mbps Primary Rate Interface interfaces does not work properly. The Nortel documentation states that this feature is supported on E1 and BRIT interfaces. Following is an excerpt from the Nortel Technical Publication (NTP):

- “The QSIG Call Transfer Notification feature supports the Call Transfer Notification capability over QSIG private networks, and over mixed QSIG/MCDN and QSIG/DPNSS1 networks. This applies to 2.0 Mbps Primary Rate Interface (PRI2), and ISDN Basic Rate Trunking (BRIT) applications.” The documentation did NOT state that this also applies to T1 1.544 Mbps Primary Rate Interface.

Call Forwarding (Diversion) by Reroute

The Nortel does not initiate a Call Diversion by Reroute to deflect a call that is meant for a local station programmed to forward all calls to another station within the network. Thus, although the call was completed, no Reroute was done during the call. The Nortel, however, will respond to a Call Reroute message sent by another node and respond by initiating a new SETUP message to an alternate route.

Path Replacement

The CCM does not propose Path Replacement when it is the terminating side of the call on Call Fwd (U, B or NR). And the Nortel only initiates path replacement when it is the terminating side. So for call scenarios where the CCM is the terminating node of a forwarded call and the Nortel is the originating node, no Path Replacement will take place for this call scenario as both the Nortel and the CCM do not propose path replacement.



Message Waiting Indication

Message Waiting Indication works in two scenarios:

CCM is the Message Center PINX

Nortel is the Message Center PINX integrated with either Nortel Meridian Mail or Nortel Call Pilot. However, if the Nortel is acting as the Message Center PINX and is providing MWI through ACD, DN or Attendant Message Centers and requires the Nortel MIK (Message Indication Key) and MCK (Message Cancellation Key) keys to send activate/deactivate messages (i.e. the Nortel Meridian 1 is integrated to a third-party vendor voicemail system such as an OCTEL ARIA or Serenade) then the Nortel does not convert this MCDN proprietary messages properly to QSIG to enable/disable the MWI lamp on the Cisco IP Phone. Please refer to the Notes on Nortel MWI section included in this document for more details.

System Components

Hardware Requirements

Cisco Catalyst 3500 switch

Cisco 3745

Cisco Unified CallManager Server

Nortel Meridian 1 Opt11C PBX

Software Requirements

PBX Release 25.40B

Cisco Unified CallManager 4.1

Features

Features Supported

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

Sending Alerting Name

CT-Call Transfer (by join) – *See Limitations Section regarding Call Transfer Notification*

CFU-Call Forwarding Unconditional (by join)

CFB-Call Forwarding Busy (by join)

CFNR-Call Forwarding No Reply (by join)

CFU-Call Forwarding Unconditional (by Reroute) – *see Limitations Section*

CFB-Call Forwarding Busy (by Reroute) – *see Limitations Section*



CFNR-Call Forwarding No Reply (by Reroute) – *see Limitations Section*

CCBS-Call Completion to Busy Subscriber

CCNR-Call Completion No Reply

ANF-PR-Additional Network Feature Path Replacement (for Call Transfer by join) –

ANF-PR-Additional Network Feature Path Replacement (for Call Diversion by forward switching) – *see Limitations Section*

ANF-PR-Additional Network Feature Path Replacement (for Trombone connection)

MWI- Message Waiting Indication (lamp ON, lamp OFF) – *see Limitations Section*

Configuration

Configuration Sequence and Tasks

Configure in the following sequence:

1. Configure common equipment
2. Configure the D-Channel
3. Configure the Route Data Block.
4. Configure the Trunk Data Block
5. Configure the Coordinated Dialing Plan
6. Configure the Digital Station Phone

Configuration Menus and Commands

Nortel Meridian 1 Opt11C PBX Configuration

REQ prt

TYPE cequ

CEQU

MPED 8D

SUPL 000 004 008 012

016 032 036 040

044 048 064 068

072 V096

XCT 000

CONF 029 030 031 062



094 095

DLOP NUM DCH FRM LCMT YALM T1TE TRSH

PRI 03 24 ESF B8S FDL - 00

04 24 ESF B8S FDL - 00

05 24 ESF B8S FDL - 00

06 23 ESF B8S FDL - 00

07 24 ESF B8S FDL - 00

08 24 ESF B8S FDL - 00

09 23 ESF B8S FDL - 00

DTI2

MISP

D-Channel Configuration

REQ prt
TYPE adan dch 5

```

ADAN      DCH 5
  CTYP MSDL
  CARD 05
  PORT 1
  DES To_3745
  USR PRI
  DCHL 5
  OTBF 32
  PARM RS422 DTE
  DRAT 64KC
  CLOK EXT
  IFC ISGF
    PINX_CUST 0
    ISDN_MCNT 300
  CLID OPT0
  CO_TYPE STD
  SIDE NET
  CNEG 1
  RLS ID 26
  RCAP COLP NDI CCBI CCNI PRI DV3I CTI QMWI
  PR_TRIGS DIV 2 3
    CNG 2 3
    CTR2 2 3
  PR_RTN NO
  MBGA NO
  OVLN NO

```

isdn switch-type ISO Q.SIG with GF platform

QSIG Features to enable:

- COLP** Connected Line Presentation
- NDI** Name Display using Integer Coding (ISO)
- CCBI** Call Completion on BUSY (ISO)
- CCNI** Call Completion on No Response (ISO)
- PRI** Path Replacement (ISO)
- DV3I** Call Diversion Notification (ISO)
- CTI** Call Transfer Notification (ISO)
- QMWI** QSIG Message Waiting Indication (ISO)



OVLS NO
T310 120
T200 3
T203 10
N200 3
N201 260
K 7



Route Data Block Configuration

```
REQ: prt
TYPE: rdb
CUST 0
ROUT 105

TYPE RDB
CUST 00
DMOD
ROUT 105
DES T1_ISGF_USER
TKTP TIE
NPID_TBL_NUM 0
ESN NO
CNVT NO
SAT NO
RCLS EXT
DTRK YES
BRIP NO
DGTP PRI
ISDN YES
    MODE PRA
    IFC ISGF
    SBN NO
    PNI 00001
    NCNA NO
    NCRD NO
    CHTY BCH
    CTYP UKWN
    INAC NO
    ISAR NO
    CPFXS YES
    DAPC NO
    INTC NO
DSEL VOD
PTYPR PRI
AUTO NO
DNIS NO
DCDR NO
ICOG IAO
SRCH RRB
TRMB YES
STEP
ACOD 305
TCPP NO
TARG 01
CLEN 1
BILN NO
OABS
INST
ANTK
```



SIGO STD
ICIS YES
TIMR ICF 512
OGF 512
EOD 13952
NRD 10112
DDL 70
ODT 4096
RGV 640
GRD 896
SFB 3
NBS 2048
NBL 4096
TFD 0
DRNG NO
CDR NO
MUS NO
OHQ NO

PAGE 002

OHQT 00
CBQ NO
AUTH NO
TTBL 0
ATAN NO
PLEV 2
ALRM NO
ART 0
SGRP 0
AACR NO

REQ :



Trunk Data Block Configuration

```
REQ: prt
TYPE: tnb
TN 5 1
DATE
PAGE
DES

DES To_3745
TN 005 01
TYPE TIE
CDEN SD
CUST 0
TRK PRI
PDCA 1
PCML MU
NCOS 0
RTMB 115 1
B-CHANNEL SIGNALING
TGAR 0
AST NO
IAPG 0
CLS UNR DTN CND WTA LPR APN THFD HKD
P10 VNL
TKID
```

Coordinated Dialing Plan Configuration

```
REQ prt
CUST 0
FEAT cdp
TYPE dsc
DSC 400
DSC 400
FLEN 0
DSP LSC
RLI 5
NPA
NXX
```



Digital Station Phone Configuration

REQ: prt
TYPE: 2616

MARP NOT ACTIVATED

TN 001 0 0 0
DATE
PAGE
DES

DES TEST1
TN 001 0 00 00
TYPE 2616
CDEN 8D
CUST 0
OM 0
FDN
TGAR 0
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU
XLST

| | |
|------|-----------------------------------|
| CNDA | Call Party Name Display ALLOWED |
| DNDA | Dialed Name Display ALLOWED |
| DDGA | DN Display on other set ALLOWED |
| NAMA | Name Display on other set ALLOWED |

CLS CTD FBD WTA LPR MTD FND HTD ADD HFD
MWA LMPX RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
POD DSX VMD CMSD SLKD CCSD SWD LND **CNDA**
CFTA SFD MRD DDV CNID CDCA MSID DAPA BFED RCB
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD **DNDA** CFXA ARHD CLTD ASCD
CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD AHD
DDGA NAMA
DRDD EXR0
USRD ULAD RTDD RBDD RBHD PGND FLXD FTTC DNDY DNO3 MCBN
CPND_LANG ENG
RCO 0
EFD 6001
HUNT 4001
EHT 6001
LHK 0
PLEV 02
AST
IAPG 0
AACS NO
ITNA NO
DGRP



```

MLWU_LANG 0
DNDR 0
KEY 00 SCR 5101 0   MARP
      CPND
        NAME BERT
        XPLN 13
        DISPLAY_FMT FIRST, LAST
01
02
03 CFW 12 5002
04 AO6
05 TRN
06 MWK 5001
07
08 ADL 16
09 ADL 16
10 ADL 16
11 ADL 16
12 ADL 16
13 ADL 16 5001
14 RGA
15
DATE 24 SEP 2004

```

NACT

Digital Station Phone Configuration – Name and Number Restriction

```

REQ: prt
TYPE: 2616
TN 001 0 0 0
DATE
PAGE
DES

```

```

DES TEST1
TN 001 0 00 00
TYPE 2616
CDEN 8D
CUST 0
OM 0
FDN
TGAR 0
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU
XLST
CLS CTD FBD WTA LPR MTD FND HTD ADD HFD

```

| | |
|------|----------------------------------|
| CNDD | Call Party Name Display DENIED |
| DNDD | Dialed Name Display DENIED |
| DDGD | DN Display on other set DENIED |
| NAMD | Name Display on other set DENIED |



MWA LMPX RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
POD DSX VMD CMSD SLKD CCSD SWD LND **CNDD**
CFTA SFD MRD DDV CNID CDCA MSID DAPA BFED RCBF
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD **DNDD** CFXA ARHD CLTD ASCD
CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD AHD
DDGD NAMD
DRDD EXR0
USRD ULAD RTDD RBDD RBHD PGND FLXD FTTC DNDY DNO3 MCBN
CPND_LANG ENG
RCO 0
EFD 6001
HUNT 4001
EHT 6001
LHK 0
PLEV 02
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
DNDR 0
KEY 00 SCR 5101 0 MARP
CPND
NAME BERT
XPLN 13
DISPLAY_FMT FIRST, LAST
01
02
03 CFW 12 5002
04 AO6
05 TRN
06 MWK 5001
07
08 ADL 16
09 ADL 16
10 ADL 16
11 ADL 16
12 ADL 16
13 ADL 16 5001
14 RGA
15
DATE 24 SEP 2004

NACT



Cisco Unified CallManager Configuration

3745-T1 Gateway Configuration

The screenshot shows the Cisco CallManager Administration interface in a Microsoft Internet Explorer browser. The page title is "Gateway Configuration" and it displays configuration details for a Cisco 3745 gateway. The configuration includes product information, status, and a "Device Information" section with various fields like End-Point Name, Description, Device Pool, Call Classification, Network Locale, Media Resource Group List, Location, AAR Group, and Load Information. There are also buttons for "Update", "Delete", and "Reset Gateway".

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Cisco SYSTEMS

Gateway Configuration

[Back to MGCP Configuration](#)
[Back to Find/List Gateways](#)
[Dependency Records](#)

Product : Cisco 3745
Gateway : S3/DS1-0@3745_T1
Device Protocol: Digital Access PRI
Registration: Registered with Cisco CallManager jupiter
IP Address: 172.20.33.52

Status: Ready

Device Information

| | |
|---------------------------|--------------------------|
| End-Point Name* | S3/DS1-0@3745_T1 |
| Description | S3/DS1-0@3745_T1 |
| Device Pool* | Default |
| Call Classification* | Use System Default |
| Network Locale | United States |
| Media Resource Group List | < None > |
| Location | < None > |
| AAR Group | < None > |
| Load Information | |
| V150 (subset) | <input type="checkbox"/> |

Multilevel Precedence and Preemption (MLPP) Information



Cisco CallManager 4.1 Administration - Gateway Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/gatewayconfig.asp?pkid={4C8B80D4-22F3-40C1-B7E5-41E9252241C6}&Action=Update&Type=52&MGCP={DE17C386-7FF0-4B42-80DC-64F9F7838350}

Multilevel Precedence and Preemption (MLPP) Information

MLPP Domain (e.g., "0000FF*")

MLPP Indication

MLPP Preemption

Interface Information

PRI Protocol Type*

Protocol Side*

Channel Selection Order*

Channel IE Type*

PCM Type*

Delay for first restart (1/8 sec ticks)

Delay between restarts (1/8 sec ticks)

Inhibit restarts at PRI initialization

Enable status poll

Call Routing Information

Inbound Calls

Significant Digits*

Calling Search Space

AAR Calling Search Space

Prefix DN

Outbound Calls

Calling Line ID Presentation*

Calling Party Selection*

Called party IE number type

Done Local Intranet



Cisco CallManager 4.1 Administration - Gateway Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAAdmin/gatewayconfig.asp?pkid={B4C3C519-7868-4E76-B476-3F50796B05E9}&Action=Update&Type=52&MGCP={7314A147-12C8-4A31-82B7-AA47A1BFF6E}

| | |
|---------------------------------------|-------------------|
| Called party IE number type unknown* | Cisco CallManager |
| Calling party IE number type unknown* | Cisco CallManager |
| Called Numbering Plan* | Cisco CallManager |
| Calling Numbering Plan* | Cisco CallManager |
| 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 DisplayIE***
- 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



Cisco CallManager 4.1 Administration - Gateway Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/gatewayconfig.asp?pkid={4C8B80D4-22F3-40C1-87E5-41E9252241C6}&Action=Update&Type=52&MGCP={DE17C386-7FF0-4B42-80DC-64F9F7838350}

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 i

Line Coding*

Framing*

Clock*

Input Gain (-6..14 db)*

Output Attenuation (-6..14 db)*

Echo Cancellation Enable*

Echo Cancellation Coverage (ms)*

* indicates required item
** applicable to DMS-100 protocol only
*** applicable to DMS-100 protocol and DMS-250 protocol only
**** may be required to force ringback from some PBXs

[Back to MGCP Configuration](#)
[Back to Find/List Gateways](#)

Done Local Intranet



Partitions Configuration

The screenshot shows the Cisco CallManager 4.1 Administration interface for Partition Configuration. The browser window title is "Cisco CallManager 4.1 Administration - Partition Configuration - Microsoft Internet Explorer". The address bar shows the URL: `https://jupiter/CCMAdmin/routepartitionconfig.asp?RoutePartition={4F597C74-059B-4FCD-A1AF-7D0C4AF0FFD1}`. The page has a navigation menu with items: System, Route Plan, Service, Feature, Device, User, Application, Help. The main content area is titled "Partition Configuration" and shows details for a partition named "Incoming Trunk". The status is "Ready". There are three buttons: "Update", "Delete", and "Restart Devices". The form fields are: Partition Name* (Incoming Trunk), Description (Incoming Trunk), Time Schedule (< None >), Time Zone (radio buttons for "Originating Device" and "Specific Time Zone", with "(GMT) Monrovia, Casablanca" selected). A note at the bottom left states "* indicates required item". The footer of the browser shows a JavaScript error: `javascript:toggleMenuState(6);` and a "Local intranet" icon.

Partition Configuration

[Add a New Partition](#)
[Back to Find/List Partitions](#)
[Dependency Records](#)

Partition: Incoming Trunk
Status: Ready

Partition Name*
Description
Time Schedule
Time Zone Originating Device
 Specific Time Zone

* indicates required item



Cisco CallManager 4.1 Administration - Partition Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://jupiter/CCMAdmin/routepartitionconfig.asp?RoutePartition={FD985216-6A08-49A3-9721-71FEESF26D93}> Go Links

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Partition Configuration

[Add a New Partition](#)
[Back to Find/List Partitions](#)
[Dependency Records](#)

Partition: phones
Status: Ready

Partition Name*

Description

Time Schedule

Time Zone Originating Device
 Specific Time Zone

* indicates required item

Applet started Local intranet



Calling Search Space

The screenshot shows a web browser window displaying the Cisco CallManager 4.1 Administration interface. The page title is "Calling Search Space Configuration". The browser's address bar shows the URL: "http://10.10.10.10:8443/cisco/callmanager41/administration/finding/listcallingsearchspaces/F6B0-40B4-8829-50A32C58399B".

The page content includes a navigation menu at the top: System, Route Plan, Service, Feature, Device, User, Application, Help. The main heading is "Calling Search Space Configuration" with a sub-heading "Calling Search Space: Incoming Trunk (in use)". The status is "Ready". There are buttons for "Copy", "Update", and "Delete".

The "Calling Search Space Information" section contains a form with the following fields:

- Calling Search Space Name*: Incoming Trunk
- Description: (empty)

The "Route Partitions for this Calling Search Space" section contains a form with the following fields:

- Find Partitions containing: (empty) Find
- Available Partitions: phones
- Selected Partitions* (ordered by highest priority): Incoming Trunk

A note at the bottom left states: "* indicates required item".



Cisco CallManager 4.1 Administration - Calling Search Space Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/callingsearchspace.asp?pkid=(F6781ED4-EEDD-4040-A95C-45D08BEE43FA)

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration

For Cisco IP Telephony Solutions

Calling Search Space Configuration

[Add New Calling Search Space](#)
[Back to Find/List Calling Search Spaces](#)
[Dependency Records](#)

Calling Search Space: PathReplacementCCS
Status: Ready

Calling Search Space Information

Calling Search Space Name* PathReplacementCCS
Description

Route Partitions for this Calling Search Space

Find Partitions containing
Available Partitions

Selected Partitions* (ordered by highest priority)
phones
Incoming Trunk

* indicates required item

Done Local intranet



Cisco CallManager 4.1 Administration - Calling Search Space Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/callingsearchspace.asp?pkid={B35CD303-4C87-4656-930A-720BC25CB93C}

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration

For Cisco IP Telephony Solutions

Calling Search Space Configuration

[Add New Calling Search Space](#)
[Back to Find/List Calling Search Spaces](#)
[Dependency Records](#)

Calling Search Space: phones (in use)
Status: Ready

Calling Search Space Information

Calling Search Space Name*
Description

Route Partitions for this Calling Search Space

Find Partitions containing
Available Partitions

Selected Partitions* (ordered by highest priority)

* indicates required item

Local intranet

Enbloc Route Pattern Configuration



Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={5B9F960-0593-4FA6-A98B-8E16621942EA}

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration

For Cisco IP Telephony Solutions

Route Pattern Configuration

[Add a New Route Pattern](#)
[Back to Find/List Route Patterns](#)

Route Pattern: 500X
Status: Ready
Note: Any update to this Route Pattern automatically resets the associated gateway or Route List

Pattern Definition

| | |
|---|---|
| Route Pattern* | <input type="text" value="500X"/> |
| Partition | <None > |
| Description | <input type="text"/> |
| Numbering Plan* | North American Numbering Plan |
| Route Filter | <None > |
| MLPP Precedence | Default |
| Gateway or Route List* | S3/DS1-0@3745_T1 (Edit) |
| Route Option | <input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="Not Selected"/> |
| Call Classification* | OffNet <input type="checkbox"/> Allow Device Override |
| <input checked="" type="checkbox"/> Provide Outside Dial Tone | <input type="checkbox"/> Allow Overlap Sending <input type="checkbox"/> Urgent Priority |
| <input type="checkbox"/> Require Forced Authorization Code | |
| Authorization Level | <input type="text" value="0"/> |
| <input type="checkbox"/> Require Client Matter Code | |



Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={5B9F960-0593-4FA6-A988-8E16621942EA}

Call Classification* Allow Device Override

Provide Outside Dial Tone Allow Overlap Sending Urgent Priority

Require Forced Authorization Code
Authorization Level

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

Carrier Identification Code

Network Service Protocol

| Network Service | Service Parameter Name | Service Parameter Value |
|---|---|-------------------------|
| <input type="text" value="--- Not Selected ---"/> | <input type="text" value="<Not Exist >"/> | <input type="text"/> |

* indicates required item.



Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid=(28193C01-957E-49FF-8056-437643498213)

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration

For Cisco IP Telephony Solutions

Route Pattern Configuration

[Add a New Route Pattern](#)
[Back to Find/List Route Patterns](#)

Route Pattern: 510X

Status: Ready
Note: Any update to this Route Pattern automatically resets the associated gateway or Route List

Pattern Definition

| | |
|---|---|
| Route Pattern* | <input type="text" value="510X"/> |
| Partition | < None > |
| Description | |
| Numbering Plan* | North American Numbering Plan |
| Route Filter | < None > |
| MLPP Precedence | Default |
| Gateway or Route List* | S3/DS1-0@3745_T1 (Edit) |
| Route Option | <input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="Not Selected"/> |
| Call Classification* | OffNet <input type="checkbox"/> Allow Device Override |
| <input checked="" type="checkbox"/> Provide Outside Dial Tone | <input type="checkbox"/> Allow Overlap Sending <input type="checkbox"/> Urgent Priority |
| <input type="checkbox"/> Require Forced Authorization Code | |
| Authorization Level | <input type="text" value="0"/> |
| <input type="checkbox"/> Require Client Matter Code | |

Done

Start Cisco CallManager 4.1 ... router - HyperTerminal enbloc route pattern2.bm...

11:08 AM



Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={28193C01-957E-49FF-8056-437B43498213}

Call Classification* Allow Device Override

Provide Outside Dial Tone Allow Overlap Sending Urgent Priority

Require Forced Authorization Code
Authorization Level

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

Carrier Identification Code

Network Service Protocol

| Network Service | Service Parameter Name | Service Parameter Value |
|---|---|-------------------------|
| <input type="text" value="--- Not Selected ---"/> | <input type="text" value="<Not Exist >"/> | <input type="text"/> |

* indicates required item.



Overlap Sending Route Pattern Configuration

The screenshot shows the Cisco CallManager Administration web interface in Microsoft Internet Explorer. The browser title is "Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer". The address bar shows the URL: <https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={00685693-DAF3-458F-BA28-D5B0C9FCB21}>. The page header includes "System Route Plan Service Feature Device User Application Help" and the Cisco CallManager Administration logo. The main heading is "Route Pattern Configuration" with links for "Add a New Route Pattern" and "Back to Find/List Route Patterns". The configuration is for "Route Pattern: 1119.X", which has a status of "Ready". A note states: "Any update to this Route Pattern automatically resets the associated gateway or Route List". There are buttons for "Copy", "Update", and "Delete". The "Pattern Definition" section includes the following fields: "Route Pattern*" (1119.X), "Partition" (<None >), "Description" (Overlap to Nortel 25.40B), "Numbering Plan*" (North American Numbering Plan), "Route Filter" (<None >), "MLPP Precedence" (Default), and "Gateway or Route List*" (S3/DS1-0@3745_T1) with an "Edit" link. The "Route Option" section has "Route this pattern" selected and "Block this pattern" set to "Not Selected". The "Call Classification*" is "OffNet". There are checkboxes for "Provide Outside Dial Tone", "Require Forced Authorization Code", and "Require Client Matter Code". The "Allow Overlap Sending" checkbox is checked. The "Authorization Level" is set to "0". The "Allow Device Override" and "Urgent Priority" checkboxes are unchecked. The status bar at the bottom shows "Done" and "Local Intranet".



Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={00685693-DAF3-458F-BA28-D5B0C9FCBE21}> Go Links

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

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

Connected Party Transformations

Connected Line ID Presentation Default
Connected Name Presentation Default

Called Party Transformations

Discard Digits PreDot
Called Party Transform Mask
Prefix Digits (Outgoing Calls)

ISDN Network-Specific Facilities Information Element

Carrier Identification Code
Network Service Protocol - Not Selected -
Network Service Service Parameter Name Service Parameter Value
- Not Selected - < Not Exist >

* indicates required item.

Done Local Intranet



PSTN Route Pattern Configuration

Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={129EF707-D8E3-4C20-8DD8-6EC7C12A0BF0}

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Route Pattern Configuration

[Add a New Route Pattern](#)
[Back to Find/List Route Patterns](#)

Route Pattern: 91650XXXXXX

Status: Ready
Note: Any update to this Route Pattern automatically resets the associated gateway or Route List

Copy Update Delete

Pattern Definition

Route Pattern*

Partition

Description

Numbering Plan*

Route Filter

MLPP Precedence

Gateway or Route List* (Edit)

Route Option
 Route this pattern
 Block this pattern

Call Classification* Allow Device Override

Provide Outside Dial Tone Allow Overlap Sending Urgent Priority

Require Forced Authorization Code
Authorization Level

Require Client Matter Code



Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={129EF707-D8E3-4C20-8D08-6EC7C12A0BF0}

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

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls) 408527

Calling Line ID Presentation Default

Calling Name Presentation Default

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

Carrier Identification Code

Network Service Protocol - Not Selected -

Network Service Service Parameter Name Service Parameter Value

- Not Selected - < Not Exist >

* indicates required item.

Done Local Intranet



Translation Pattern for Incoming Calls

The screenshot shows the Cisco CallManager Administration web interface in Microsoft Internet Explorer. The browser title is "Cisco CallManager 4.1 Administration - Translation Pattern Configuration". The address bar shows the URL: <https://jupiter/CCMAdmin/translationconfig.asp?pkid={68B55024-B308-4893-962B-A910E5440A58}>. The page header includes "Cisco CallManager Administration For Cisco IP Telephony Solutions" and the Cisco Systems logo. The main heading is "Translation Pattern Configuration".

Translation Pattern: 4XXX
Status: Ready

Buttons: Copy, Update, Delete

Pattern Definition

| | |
|---|--|
| Translation Pattern | 4XXX |
| Partition | Incoming Trunk |
| Description | |
| Numbering Plan* | North American Numbering Plan |
| Route Filter | < None > |
| Calling Search Space | phones |
| MLPP Precedence | Default |
| Route Option | <input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern (Not Selected) |
| <input checked="" type="checkbox"/> Provide Outside Dial Tone | <input checked="" type="checkbox"/> Urgent Priority |

Calling Party Transformations

Use Calling Party's External Phone Number Mask



Cisco CallManager 4.1 Administration - Translation Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/translationconfig.asp?pkid={68855024-B308-4893-962B-A910B5440A58}

Numbering Plan*

Route Filter

Calling Search Space

MLPP Precedence

Route Option
 Route this pattern
 Block this pattern

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

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)

* indicates required item.



CLIR and CNIR Route Pattern Configuration

Cisco CallManager 4.1 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/routepatternconfig.asp?pkid={55B9F960-0593-4FA6-A9B8-8E16621942EA}

Configuration

Route Pattern: 500X
Status: Ready
Note: Any update to this Route Pattern automatically resets the associated gateway or Route List

Copy Update Delete

Pattern Definition

| | |
|---|--|
| Route Pattern* | 500X |
| Partition | <None > |
| Description | |
| Numbering Plan* | North American Numbering Plan |
| Route Filter | <None > |
| MLPP Precedence | Default |
| Gateway or Route List* | S3/DS1-0@3745_T1 (Edit) |
| Route Option | <input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern (Not Selected) |
| Call Classification* | OffNet <input type="checkbox"/> Allow Device Override |
| <input checked="" type="checkbox"/> Provide Outside Dial Tone | <input type="checkbox"/> Allow Overlap Sending <input type="checkbox"/> Urgent Priority |
| <input type="checkbox"/> Require Forced Authorization Code | Authorization Level: 0 |
| <input type="checkbox"/> Require Client Matter Code | |

Calling Party Transformations

| | |
|---|------------|
| <input type="checkbox"/> 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 |

Done Local Intranet



COLR and CONR Translation Pattern Configuration

Cisco CallManager 4.1 Administration - Translation Pattern Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAAdmin/translationconfig.asp?pkid={68855024-E308-4893-962B-A91085440A58}

Translation Pattern: 4XXX
Status: Ready
Copy Update Delete

Pattern Definition

| | |
|--|--|
| Translation Pattern | 4XXX |
| Partition | Incoming Trunk |
| Description | |
| Numbering Plan* | North American Numbering Plan |
| Route Filter | < None > |
| Calling Search Space | phones |
| MLPP Precedence | Default |
| Route Option | <input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern (--- Not Selected ---) |
| <input type="checkbox"/> Provide Outside Dial Tone | <input checked="" type="checkbox"/> Urgent Priority |

Calling Party Transformations

| | |
|---|---------|
| <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 |

Connected Party Transformations

| | |
|--------------------------------|------------|
| Connected Line ID Presentation | Restricted |
| Connected Name Presentation | Restricted |

Called Party Transformations

| | |
|-----------------------------|----------|
| Discard Digits | < None > |
| Called Party Transform Mask | |

Done Local Intranet



MWI lamp On/Off Configuration

Cisco CallManager 4.1 Administration - Message Waiting Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address <https://jupiter/CCMAdmin/messagewaitingconfig.asp?plid={979D102B-FF48-4DE8-BAB5-832FFA4DF434}> Go Links

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Message Waiting Configuration

[Add a New Message Waiting Number](#)
[Back to Find/List Message Waiting Numbers](#)

Message Waiting Number : 7000

Status: Ready

Copy Update Delete

Message Waiting Number*

Description

Message Waiting Indicator On Off

Partition

Calling Search Space

* indicates required item

Done Local intranet



Cisco CallManager 4.1 Administration - Message Waiting Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address: https://jupiter/CCMAdmin/messagewaitingconfig.asp?pkid={4C8AC31F-718A-4D2A-A8FD-9A2962D6BAD7}

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Message Waiting Configuration

[Add a New Message Waiting Number](#)
[Back to Find/List Message Waiting Numbers](#)

Message Waiting Number : 7001
Status: Ready

Copy Update Delete

Message Waiting Number*

Description

Message Waiting Indicator On Off

Partition

Calling Search Space

* indicates required item

Done Local intranet



CallBack Service Parameters

Cisco CallManager 4.1 Administration - Service Parameters Configuration - Microsoft Internet Explorer provided by Cisco Systems

Address: https://10.94.150.41/ccmadmin/serviceparameters.asp?crNodeName=bldr-ccm41&crNodeID={DE09D85F-B633-4AFC-AEC1-54C4F3AA09DC}&crServiceType=0

Cluster Wide Parameters (Feature - Call Back)

| Parameter Name | Parameter Value | Suggested Value |
|---|---------------------------------|---------------------------------|
| Callback Enabled Flag* | True | True |
| Callback Notification Audio File Name* | CallBack.raw | CallBack.raw |
| Connection Proposal Type* | Connection Retention | Connection Release |
| Connection Response Type* | Default to Connection Retention | Default to Connection Retention |
| Callback Request Protection Timer (T1) (sec)* | 10 | 10 |
| Callback Recall Timer (T3) (sec)* | 20 | 20 |
| Callback Calling Search Space | <None > | |

Clusterwide Parameters (Route Plan)



Softkey Template Configuration

The screenshot shows the Cisco CallManager Administration web interface in Microsoft Internet Explorer. The browser title is "Cisco CallManager 4.1 Administration - Softkey Template Configuration - Microsoft Internet Explorer". The address bar shows the URL: <https://jupiter/CCMAdmin/softkeytemplateconfig.asp?pkid={06A338FB-EFE6-40E3-A10F-919294D4A518}>. The page header includes navigation tabs: System, Route Plan, Service, Feature, Device, User, Application, and Help. The main content area is titled "Softkey Template Configuration" and displays the configuration for a template named "Standard User CallBack".

Softkey Template Configuration

Softkey Template: Standard User CallBack

Status: Ready

Copy Update Delete Restart Devices

Softkey Template Name* Standard User CallBack

Description Standard Softkey Template for CallManager only

Add Application Delete Application

Application Cisco CallManager

* indicates required item

Navigation links: [Add New Softkey Template](#), [Configure Softkey Layout](#), [Dependency Records](#), [Back to Find/List Softkey Templates](#)



CallBack Softkey Template Configuration

Cisco CallManager 4.1 Administration - Softkey Layout Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/softkeylayoutconfig.asp?pkid={06A338FB-BFE6-40B3-A10F-919294D4A518}

Softkey Layout Configuration

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration For Cisco IP Telephony Solutions

Softkey Template Configuration

Call States

- Connected
- Connected Conference
- Connected Transfer
- Digits After First
- Off Hook
- Off Hook With Feature
- On Hold
- On Hook**
- Remote In Use
- Ring In
- Ring Out

Softkey Template: Standard User CallBack

Status: Ready

Update Restart Devices

Selected Softkeys (ordered by position)**

Unselected Softkeys

- Conference List (30)(ConfList)
- Direct Transfer (28)(DirTrfr)
- Immediate Divert (31)(IDivert)
- Join (15)(Join)
- Quality Report Tool (22)(QRT)
- Remove Last Conference Party (19)
- Select (29)(Select)
- Undefined (0)(Undefined)
- Video Mode Command (33)(VidMod)

- Redial (1)(Redial)
- **NewCall (2)(NewCall)
- Forward All (5)(FwdAll)
- Call Back (20)(CallBack)

** indicates mandatory fields
* indicates required item



Cisco CallManager 4.1 Administration - Softkey Layout Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address: https://upiter/CCMAdmin/softkeylayoutconfig.asp?pkid={06A338FB-8FE6-40B3-A1DF-919294D4A518}&callState=8

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration

For Cisco IP Telephony Solutions

Softkey Layout Configuration

[Softkey Template Configuration](#)

Call States

- Connected
- Connected Conference
- Connected Transfer
- Digits After First
- Off Hook
- Off Hook With Feature
- On Hold
- On Hook
- Remote In Use
- Ring In
- Ring Out**

Softkey Template: Standard User CallBack

Status: Ready

Unselected Softkeys

Selected Softkeys (ordered by position)* *

Undefined (0)(Undefined)

Undefined (0)(Undefined)
*End Call (9)(EndCall)
Call Back (20)(CallBack)

** indicates mandatory fields
* indicates required item



Path Replacement Service Parameters

The screenshot shows the Cisco CallManager 4.1 Administration interface for Service Parameters Configuration. The browser address bar shows the URL: <https://jupiter/CCMAdmin/serviceparameters.asp?crNodeName=jupiter&crNodeID={445CA45F-51FA-4169-B4BB-37C889F09CDB}&crServiceType=0>. The page displays a table of parameters for Path Replacement. A callout box with the text "To enable Path Replacement" points to the "Path Replacement Enabled*" parameter, which is currently set to "True".

| Name | Parameter Value | Suggested Value |
|--|--------------------|-----------------|
| Path Replacement Enabled* | True | False |
| Path Replacement on Tromboned Calls* | True | True |
| Start Path Replacement Minimum Delay Time (sec)* | 0 | 0 |
| Start Path Replacement Maximum Delay Time (sec)* | 0 | 0 |
| Path Replacement T1 Timer (sec)* | 30 | 30 |
| Path Replacement T2 Timer (sec)* | 15 | 15 |
| Path Replacement PINX Id | | |
| Path Replacement Calling Search Space | PathReplacementCCS | |



Forward by Reroute Service Parameter

Cisco CallManager 4.1 Administration - Service Parameters Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/serviceparameters.asp?crNodeName=jupiter&crNodeID=(445CA45F-51FA-4169-B4BB-37C889F09CDB)&crServiceType=0

Clusterwide Parameters (Feature - Forward)

| Parameter Name | Parameter Value | Suggested Value |
|------------------------------------|-----------------|-----------------|
| Forward Maximum Hop Count* | 12 | 12 |
| Forward No Answer Timer (sec)* | 12 | 12 |
| Max Forward Hops to DN* | 12 | 12 |
| Retain Forward Information* | False | False |
| Forward By Reroute Enabled* | True | False |
| Forward By Reroute T1 Timer (sec)* | 15 | 10 |

Some parameters in this group are hidden, click on Advanced button to see hidden parameters

Clusterwide Parameters (Feature - Path Replacement)

| Parameter Name | Parameter Value | Suggested Value |
|--------------------------------------|-----------------|-----------------|
| Path Replacement Enabled* | True | False |
| Path Replacement on Tromboned Calls* | True | True |
| Start Path Replacement | 0 | 0 |

To forward by Reroute



IP Phone Configuration

Cisco CallManager 4.1 Administration - Phone Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/phoneconfig.asp?pkid={41047EC1-DC38-483C-B958-FDE1F7362ADF}

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Phone Configuration

[Add a new phone](#)
[Add/Update Speed Dials](#)
[Subscribe/Unsubscribe Services](#)
[Dependency Records](#)
[Back to Find/List Phones](#)

Directory Numbers

Base Phone

- Line 1 - 4007 in phones
- Line 2 - 2224007 in phones

Phone: SEP003094C28282 (Auto 4007)
Registration: Registered with Cisco CallManager jupiter
IP Address: 172.20.33.112

Status: Ready

Phone Configuration (Model = Cisco 7960)

Device Information

| | |
|---------------------------|---|
| MAC Address* | <input type="text" value="003094C28282"/> |
| Description | <input type="text" value="Auto 4007"/> |
| Owner User ID | <input type="text"/> (Select User ID) |
| Device Pool* | <input type="text" value="Default"/> (View details) |
| Calling Search Space | <input type="text" value="< None >"/> |
| AAR Calling Search Space | <input type="text" value="< None >"/> |
| Media Resource Group List | <input type="text" value="< None >"/> |
| User Hold Audio Source | <input type="text" value="< None >"/> |
| Network Hold Audio Source | <input type="text" value="< None >"/> |
| Location | <input type="text" value="< None >"/> |

Done Local intranet



Cisco CallManager 4.1 Administration - Phone Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/phoneconfig.asp?pkid={41047EC1-DC38-483C-B958-FDE1F7362ADF}

| | |
|---|--|
| User Locale | < None > |
| Network Locale | < None > |
| Device Security Mode | Use System Default |
| Signal Packet Capture Mode | None |
| Packet Capture Duration | 0 |
| Built In Bridge | Default |
| Privacy | Default |
| <input checked="" type="checkbox"/> Retry Video Call as Audio | |
| <input type="checkbox"/> Ignore Presentation Indicators (internal calls only) | |
| Phone Button Template Information | |
| Phone Button Template* | Standard 7960 (View button list) |
| Softkey Template Information | |
| Softkey Template | Standard User CallBack |
| Expansion Module Information | |
| Module 1 | < None > |
| Module 2 | < None > |
| Firmware Load Information (leave blank to use default) | |
| Phone Load Name | |
| Module 1 Load Name | (Module 1 selection required) |
| Module 2 Load Name | (Module 2 selection required) |
| Cisco IP Phone - External Data Locations (leave blank to use default) | |
| Information | |
| Directory | |

Done Local intranet



Cisco CallManager 4.1 Administration - Phone Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/phoneconfig.asp?pkid={41047EC1-DC38-483C-B958-FDE1F7362ADF}

| | |
|-----------------------|----------------------|
| 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"/> |

Extension Mobility (Device Profile) Information

Enable Extension Mobility Feature

Log Out Profile:

Log In User ID:

Log In Time:

Log Out Time:

Certification Authority Proxy Function (CAPF) Information

Certificate Operation:

Authentication Mode:

Authentication String:

Key Size (bits):

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

Certificate Operation Status : None

Multilevel Precedence and Preemption (MLPP) Information

MLPP Domain: (e.g., "0000FF")

MLPP Indication:

MLPP Preemption:

Done Local Intranet



Cisco CallManager 4.1 Administration - Phone Configuration - Microsoft Internet Explorer

Address: https://jupiter/CCMAdmin/phoneconfig.asp?pkid={41047EC1-DC38-483C-B958-FDE1F7362ADF}

Key Size (bits)

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

Certificate Operation Status : None

Multilevel Precedence and Preemption (MLPP) Information

MLPP Domain (e.g., "0000FF")

MLPP Indication

MLPP Preemption

Product Specific Configuration

Disable Speakerphone

Disable Speakerphone and Headset

Forwarding Delay*

PC Port*

Settings Access*

Gratuitous ARP*

PC Voice VLAN Access*

Video Capabilities*

Auto Line Select*

Web Access*

* indicates a required item.
** Indicates time on Publisher.

[Back to top of page](#)
[Back to Find/List Phones](#)

Done Local intranet



Directory Number Configuration

The screenshot shows the Cisco CallManager Administration web interface in Microsoft Internet Explorer. The browser address bar shows the URL: `https://jupiter/CCMAdmin/directorynumber.asp?NumPlanMapID={14CAD3B6-6069-4A97-851E-FD2FE0177F7C}`. The page title is "Cisco CallManager Administration - Directory Number Configuration".

The main content area is titled "Directory Number Configuration" and includes a navigation menu (System, Route Plan, Service, Feature, Device, User, Application, Help) and a Cisco Systems logo. There are links for "Configure Device (SEP003094C28282)" and "Dependency Records".

The configuration details for the directory number 4007 (phones) are as follows:

- Associated With:** SEP003094C28282 (Line 1)
- Directory Number:** 4007 (phones)
- Status:** Ready
- Note:** Any update to this Directory Number automatically resets the associated devices.
- Buttons:** Update, Remove from Device, Reset Devices
- Directory Number:** Directory Number* (4007), Partition (phones)
- Directory Number Settings:**
 - Voice Mail Profile: <None> (Choose <None> to use default)
 - Calling Search Space: phones
 - AAR Group: <None>
 - User Hold Audio Source: <None>
 - Network Hold Audio Source: <None>
 - Auto Answer: Auto Answer Off
- Call Forward and Pickup Settings:**

| | Voice Mail | Coverage/ Destination | Calling Search Space |
|-------------|--------------------------|--------------------------|----------------------|
| Forward All | <input type="checkbox"/> | | <None> |



Cisco CallManager 4.1 Administration - Directory Number Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address <https://jupiter/CCMAdmin/directorynumber.asp?NumPlanMapID={14CAD3B6-6069-4A97-851E-FD2FE0177F7C}> Go Links

Call Forward and Pickup Settings

| | Voice Mail | Coverage/ Destination | Calling Search Space |
|------------------------------|--------------------------|--------------------------|----------------------|
| Forward All | <input type="checkbox"/> | <input type="text"/> | <None > |
| Forward Busy Internal | <input type="checkbox"/> | <input type="text"/> | <None > |
| Forward Busy External | <input type="checkbox"/> | <input type="text"/> | <None > |
| Forward No Answer Internal | <input type="checkbox"/> | <input type="text"/> | <None > |
| Forward No Answer External | <input type="checkbox"/> | <input type="text"/> | <None > |
| Forward No Coverage Internal | <input type="checkbox"/> | <input type="text"/> | <None > |
| Forward No Coverage External | <input type="checkbox"/> | <input type="text"/> | <None > |
| No Answer Ring Duration | <input type="text"/> | (seconds) | |
| Call Pickup Group | | <input type="text"/> | <None > |

MLPP Alternate Party Settings

| | |
|-------------------------|--------------------------------|
| Target (Destination) | <input type="text"/> |
| Calling Search Space | <None > |
| No Answer Ring Duration | <input type="text"/> (seconds) |

Line Settings for all Devices

| | |
|---------------|----------------|
| Alerting Name | Aries ALerting |
|---------------|----------------|

Line Settings for this Device

| | |
|------------------------------|----------------------|
| Display (Internal Caller ID) | Aries Connected |
| Line Text Label | <input type="text"/> |
| External Phone Number Mask | <input type="text"/> |
| Message Waiting Lamp Policy | Use System Policy |

Done Local intranet



Cisco CallManager 4.1 Administration - Directory Number Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://jupiter/CCMAdmin/directorynumber.asp?NumPlanMapID={14CAD3B6-6069-4A97-851E-FD2FE0177F7C}>

No Answer Ring Duration (seconds)

Line Settings for all Devices

Alerting Name

Line Settings for this Device

Display (Internal Caller ID)

Line Text Label

External Phone Number Mask

Message Waiting Lamp Policy

Ring Setting (Phone Idle)

Ring Setting (Phone Active)**

Multiple Call / Call Waiting Settings

Maximum Number of Calls* (1 - 196)

Busy Trigger* (<= Max. Calls)

Forwarded Call Information Display

Caller Name Caller Number

Redirected Number Dialed Number

* indicates required item; changes to Line or Directory Number settings require restart.

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

Note:
If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong character set is selected. (English characters are included in all character sets.)

Character Set

Done Local intranet



Cisco 3745 Configuration

3745_T1#sh ver

Cisco IOS Software, 3700 Software (C3745-ADVENTERPRISEK9-M), Version 12.3(7)T, R
LEASE SOFTWARE (fc1)
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Sat 21-Feb-04 05:53 by eaarmas

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

3745_T1 uptime is 6 days, 14 hours, 42 minutes
System returned to ROM by power-on
System image file is "flash:c3745-adventerprisek9-mz.123-7.T.bin"

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco 3745 (R7000) processor (revision 2.0) with 117760K/13312K bytes of memory.

Processor board ID JMX0648L13Y
R7000 CPU at 350MHz, Implementation 39, Rev 3.3, 256KB L2, 2048KB L3 Cache
2 FastEthernet interfaces
48 Serial interfaces
2 Channelized T1/PRI ports
2 Voice FXS interfaces
DRAM configuration is 64 bits wide with parity disabled.
151K bytes of NVRAM.
62592K bytes of ATA System CompactFlash (Read/Write)

Configuration register is 0x2



3745_T1#sh run

Building configuration...

Current configuration : 2755 bytes

```
!  
version 12.3  
service timestamps debug uptime  
service timestamps log uptime  
no service password-encryption  
!  
hostname 3745_T1  
!  
boot-start-marker  
boot system slot0:c3745-ipvoice-mz.shamu_p2_18  
boot-end-marker  
!  
logging buffered 1000000 debugging  
!  
no network-clock-participate slot 1  
no network-clock-participate slot 2  
no network-clock-participate slot 3  
no network-clock-participate slot 4  
no network-clock-participate wic 0  
no network-clock-participate wic 1  
no network-clock-participate wic 2  
no network-clock-participate aim 0  
no network-clock-participate aim 1  
voice-card 2  
    no dspfarm  
!  
voice-card 3  
    no dspfarm  
!  
no aaa new-model  
ip subnet-zero  
ip cef  
!  
!  
ip tcp synwait-time 13  
!  
!  
ip host JUPITER 172.20.33.254  
ip name-server 172.20.33.254  
ip audit po max-events 100  
no ftp-server write-enable  
isdn switch-type primary-4ess  
!  
!  
no voice call carrier capacity active  
!  
!
```



```
!  
!  
!  
!  
!  
!  
!  
!  
ccm-manager mgcp  
ccm-manager music-on-hold  
ccm-manager config server JUPITER  
ccm-manager config  
!  
!  
!  
controller T1 3/0  
  framing esf  
  linecode b8zs  
  pri-group timeslots 1-24 service mgcp  
!  
controller T1 3/1  
  framing esf  
  linecode b8zs  
  pri-group timeslots 1-24 service mgcp  
!  
no crypto isakmp enable  
!  
!  
!  
!  
interface FastEthernet0/0  
  ip address 172.20.33.52 255.255.255.0  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  ip address 172.20.8.20 255.255.255.0  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial3/0:23  
  no ip address  
  no logging event link-status  
  isdn switch-type primary-qsig  
  isdn incoming-voice modem  
  isdn incoming-voice voice  
  isdn bind-13 ccm-manager  
  no cdp enable  
!  
interface Serial3/1:23  
  no ip address  
  no logging event link-status
```



```
isdn switch-type primary-qsig
isdn protocol-emulate network
isdn incoming-voice modem
isdn incoming-voice voice
isdn bind-13 ccm-manager
no cdp enable
!
ip classless
ip route 0.0.0.0 0.0.0.0 172.20.31.1
ip route 0.0.0.0 0.0.0.0 FastEthernet0/0
ip route 0.0.0.0 0.0.0.0 172.20.33.1
!
ip http server
no ip http secure-server
!
!
!
!
!
control-plane
!
!
!
voice-port 3/0:23
!
voice-port 3/1:23
!
voice-port 4/0/0
!
voice-port 4/0/1
!
mgcp
mgcp call-agent jupiter 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 package-capability rtp-package
no mgcp package-capability res-package
mgcp package-capability sst-package
no mgcp package-capability fxr-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
```



```
application mgcpapp
port 3/0:23
!
dial-peer voice 2 pots
application mgcpapp
port 3/1:23
!
!
!
line con 0
line aux 0
line vty 0 4
login
!
!
end
```



Notes on Nortel MWI

Nortel's Network Message Services (NMS) provides messaging services across Meridian 1 network using ISDN signaling. There are two NMS applications:

1. The Network Message Service – Message Center allows a caller transparent access to a centralized message center over an ISDN PRI/ISL network. Three types of Message Center configurations are supported:
 - a) ACD Message Center
 - b) DN Message Center
 - c) Attendant Message Center

For these types of Message Centers, the message taker's set is used to activate and deactivate a user's Message Waiting Indicator. Message Indication Key (MIK) and Message Cancellation Keys (MCK) are used to turn on/off the Message Waiting Indication on a user telephone.

2. The Network Message Service – Meridian Mail offers access to the Meridian Mail system across the Meridian 1 network. Remote users defined as part of the NMS-MM server have access to all the Meridian Mail features available on the local switch. This type of configuration uses the existing Nortel Meridian 1 voice mail system (i.e. Meridian Mail or Nortel Call Pilot) as the network's voice mail hub while in the process of migrating to IP telephony.

Limitations

For the Nortel Meridian 1 PBX to support the QSIG MWI feature, the PBX must **at least** have an Enterprise software level (to get ISDN Tie lines) with **X11 Rel. 25.40 or 25.40B software** (to get QSIG MWI).

In addition to NMS software and Phantom TN Features, the following packages must be installed on the PBX:

- PKG 305 (QSIG Generic Function)
- PKG 316 (QSIG Supplementary Services)
- PKG 263 (Qsig Basic Call/Name Display)
- PKG 175 (Network Message Service)
- As mentioned earlier in this document, using MCK and MIK keys to send activate/deactivate messages (i.e. the Nortel Meridian 1 is integrated to a third-party vendor voicemail system such as an OCTEL ARIA or Serenade) do not work to enable/disable the Cisco IP Phone Message Waiting Indicator. The Nortel does not convert the Nortel MCDN proprietary activate/deactivate messages properly to QSIG Facility message.

Nortel Option 11C D-Channel Configuration:

```
ADAN DCH 32
CTYP TMDI
CARD 32 --- defines card in slot 32 (loop 32) as the QSIG trunk to CCM
PORT 1
DES Qsig
USR PRI
DCHL 32
OTBF 127
PARM RS232 DTE
DRAT 64KC
CLOCK EXT
IFC ISGF --- defines switch-type ISO QSIG with GF platform
  PINX_CUST 0
  ISDN_MCNT 300
CLID OPT0
CO_TYPE STD
SIDE USR
CNEG 1
RLS ID **
RCAP COLP QMWI --- enables MWI feature across QSIG trunk
MBGA NO
OVLN NO
```



OVLS NO
T310 120
T200 3
T203 10
N200 3
N201 260
K 7

← Formatted: Bullets and Numbering



Acronyms

| Acronym | Definitions |
|---------|--|
| ANF-PR | Additional Network Feature Path Replacement |
| CCM | Cisco Unified CallManager |
| CCBS | Call Completion to Busy Subscriber |
| CCNR | Call Completion on No Reply |
| CFB | Call Forwarding on Busy |
| CFNR | Call Forwarding No Reply |
| CFU | Call Forwarding Unconditional |
| CLIP | Calling Line (Number) Identification Presentation |
| CLIR | Calling Line (Number) Identification Restriction |
| CMM | Communication Media Module (CMM) is a Cisco Catalyst® 6500 Series and Cisco 7600 Series line card that provides flexible and high-density T1/E1 gateways |
| 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 |
| CT | Call Transfer |
| MWI | Message Waiting Indicator |
| PSTN | Public Switched Telephone Network |



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