



# Nortel Meridian 1 Release 25.40B using E1 QSIG to Cisco Unified CallManager 4.1

February 12, 2008

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## Introduction

- This is an application note for connectivity of Nortel Meridian 1 Option 11C Release 25.40B PBX with Cisco CallManager Release 4.1 using Cisco CMM-E1 QSIG as MGCP gateway.
- The network topology diagram (Figure 1) shows the test setup for end-to-end interoperability with the Cisco CallManager connected to the PBX via CMM-E1 QSIG link as MGCP gateway.
- Connectivity is achieved by using the PRI QSIG E1 protocol type on the MGCP gateway and ISO QSIG switch type on the Nortel Meridian 1 Option 11C Release 25.40B PBX.
- This Application Note uses the CMM-E1 voice gateway, however other Cisco voice gateways are also an option to use since Cisco CallManager QSIG implementation does not depend on the physical interface.

Network Topology

**Basic Call Setup End-to-End Configuration**

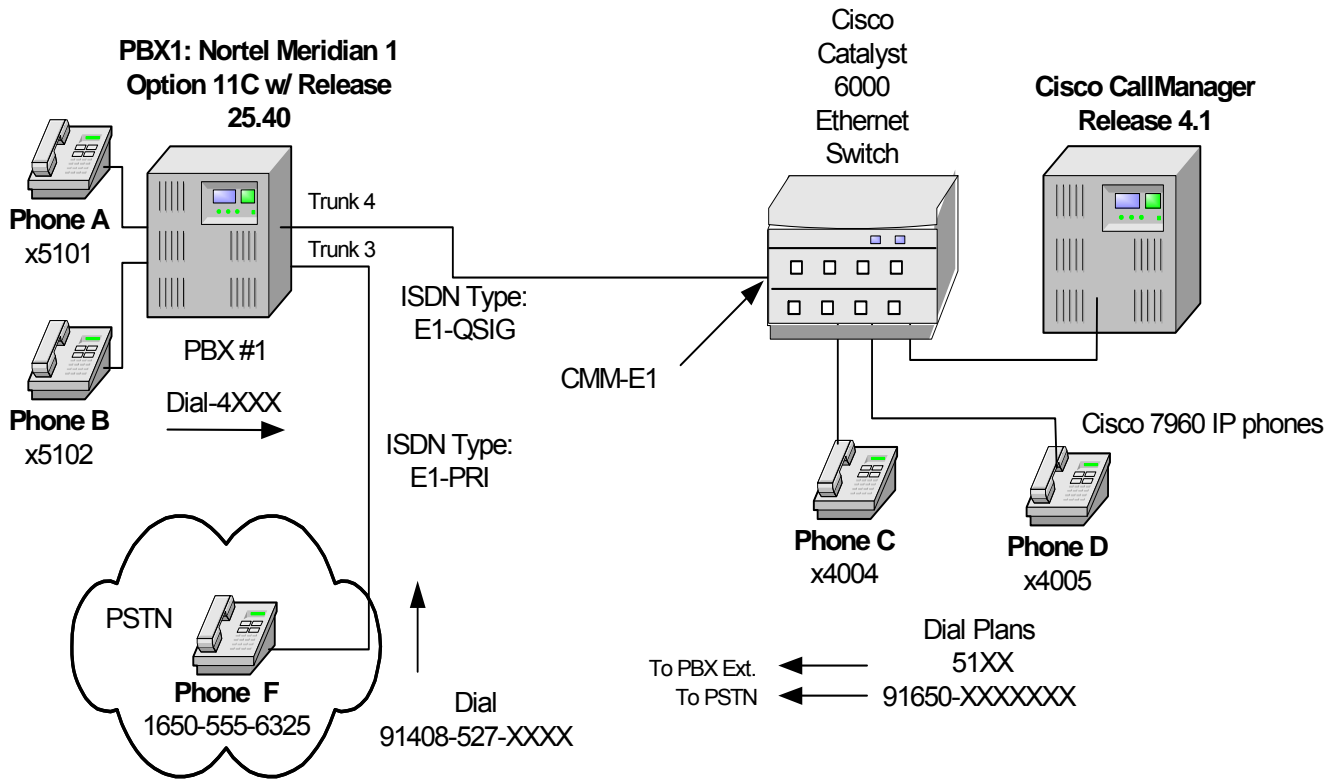


Figure 1. Basic Call Setup



## Limitations

### Call Transfer by Join Notification

- For consulted or blind network transfers where the Nortel PBX is the transferring node, no update of name and number occurs on the originating or terminating set's display.

### Call Forward by Join Notification

- For forwarded calls where Nortel phone is the final destination, the calling name display depends on the Class of Service (CLS) setting of the terminating phone. With CLS = DNDD, the terminating phone displays the originating phone's name. With CLS=DNDA, the terminating phone displays the forwarding or originally called party's name.

### 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 Cisco Unified CallManager 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 Cisco Unified CallManager 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 Cisco Unified CallManager do not propose path replacement.

## Message Waiting Indication

- Message Waiting Indication works in two scenarios:
  1. CISCO UNIFIED CALLMANAGER is the Message Center PINX
  2. 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 Hardware:
  - Cisco Catalyst 6000 switch with CMM-E1 Gateway
  - Cisco CallManager Server
- Nortel Meridian 1 Option 11C PBX

### Software Requirements

- PBX Release 25.40B
- Cisco CallManager 4.1
- CMM IOS Version: wscmm-i6s-mz.123-8.XY2.bin

## 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*
- 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) – *see Limitations Section*
- 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*

## **Features Not Supported**

Please refer to Limitations Section



## Configuration

### **Configuring the Nortel Meridian 1 Option 11C PBX**

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

### Common Equipment 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 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
```

```
PRI2 03 04
```

```
DTI2
```

```
MISP
```



## D-Channel Configuration

```
REQ prt
TYPE adan dch 4
```

```
ADAN      DCH 4
CTYP MSDL
CARD 04
PORT 1
DES e1_isgf
USR PRI
DCHL 4
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 **
QCHID YES
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 YES
DIDD 0
OVLN YES
OVLN 0
T310 120
T200 3
T203 10
N200 3
N201 260
K 7
```

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)

```
REQ
```





## Route Data Block Configuration

```
REQ: prt
TYPE: rdb
CUST 0
ROUT 104

TYPE RDB
CUST 00
DMOD
ROUT 104
DES E1_ISGF
TKTP TIE
NPID_TBL_NUM 0
ESN NO
CNVT NO
SAT NO
RCLS EXT
DTRK YES
BRIP NO
DGTP PRI2
ISDN YES
    MODE PRA
    IFC ISGF
    SBN NO
    PNI 00000
    NCNA NO
    NCRD NO
    CTYP UKWN
    INAC NO
    ISAR NO
    CPFXS YES
    DAPC NO
    INTC NO
DSEL VOD
PTYP DTT
AUTO NO
DNIS NO
DCDR NO
ICOG IAO
SRCH RRB
TRMB YES
STEP
ACOD 304
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  
OHQT 00  
CBQ NO  
AUTH NO  
TTBL 0  
ATAN NO  
PLEV 2  
ALRM NO  
ART 0  
SGRP 0  
AACR NO



## Trunk Data Block Configuration

```
REQ: prt
TYPE: tnb
TN 4 1
DATE
PAGE
DES
```

```
DES ELISGF to CMM
TN 004 01
TYPE TIE
CDEN SD
CUST 0
TRK PRI2
PDCA 1
PCML A
NCOS 0
RTMB 104 1
B-CHANNEL SIGNALING
TGAR 0
AST NO
IAPG 0
CLS UNR DTN CND WTA LPR APN THFD
P10 VNL
```

## Coordinated Dialing Plan Configuration

```
REQ prt
CUST 0
FEAT cdp
TYPE dsc
DSC 400
DSC 400
FLEN 0
DSP LSC
RLI 4
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

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

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



```
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

This section contains configuration menus and commands and describes configuration sequences and tasks.



## Configuring the Cisco Unified CallManager (delete if Toll Bypass)

### CMM-E1 Gateway Configuration

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 : Communication Media Module  
Gateway : S1/DS1-3@CMM-E1  
Device Protocol: Digital Access PRI  
Registration: Registered with Cisco CallManager CM-MARS  
IP Address: 172.20.231.51

Status: Ready

##### Device Information

End-Point Name*	S1/DS1-3@CMM-E1
Description	S1/DS1-3@CMM-E1
Device Pool*	Default
Call Classification*	Use System Default
Network Locale	< None >
Media Resource Group List	< None >
Location	< None >
AAR Group	< None >
Load Information	

##### Multilevel Precedence and Preemption (MLPP) Information

MLPP Domain (e.g., "0000FF")	
MLPP Indication	Not available on this device
MLPP Preemption	Not available on this device

##### Interface Information

PRI Protocol Type*	PRI QSIG E1
Protocol Side*	User
Channel Selection Order*	Bottom Up



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 unknown\*

Calling party IE number type unknown\*

Called Numbering Plan\*

Calling Numbering Plan\*

Number of digits to strip\*

Caller ID DN

SMDI Base Port\*

**PRI Protocol Type Specific Information**

- Display IE Delivery
- Redirecting Number IE Delivery - Outbound
- Redirecting Number IE Delivery - Inbound
- Send Extra Leading Character In DisplayIE\*\*\*



- 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\*\*

Connected Line ID Presentation (QSIG Inbound Call)\*

#### UUIE Configuration

- Passing Precedence Level Through UUIE

Security Access Level

#### Product Specific Configuration

Line Coding\*

Framing\*

Clock\*

Input Gain (-6..14 db)\*

Output Attenuation (-6..14 db)\*

Echo Cancellation Enable\*

Echo Cancel 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](#)



## Partitions Configuration for Incoming Trunk

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### 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



## Partitions Configuration for Phones

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### 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



## Calling Search Space - Incoming Trunk

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Calling Search Space Configuration

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

**Calling Search Space: Incoming Trunk (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

phones
--------

▼ ▲

Selected Partitions\*  
(ordered by highest priority)

Incoming Trunk
----------------

\* indicates required item



## Calling Search Space - Path Replacement

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Calling Search Space Configuration

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

**Calling Search Space: PathReplacementCSS**  
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)

Incoming Trunk phones
-----------------------

\* indicates required item



## Calling Search Space - Phones

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### 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

Incoming Trunk
----------------

▼ ▲

Selected Partitions\*  
(ordered by highest priority)

phones
--------

\* indicates required item



## Enbloc Route Pattern Configuration

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

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

### Route Pattern Configuration

**Route Pattern: 51XX**  
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="51XX"/>
Partition	< None >
Description	CMM to Nortel
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
MLPP Precedence	Default
Gateway or Route List*	S1/DS1-3@CMM-E1 <a href="#">(Edit)</a>
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	

#### Calling Party Transformations

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

#### Connected Party Transformations



Description: CMM to number

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

**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="&lt; Not Exist &gt;"/>	<input type="text"/>

\* indicates required item.





## Overlap Sending Route Pattern Configuration

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: 9.51**  
Status: Insert completed  
Note: Any update to this Route Pattern automatically resets the associated gateway or Route List

**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

**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**



Description: | Overlap CMM to Number

Numbering Plan\* | North American Numbering Plan

Route Filter | <None >

MLPP Precedence | Default

Gateway or Route List\* | S1/DS1-3@CMM-E1 (Edit)

Route Option  
 Route this pattern  
 Block this pattern | — Not Selected —

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 | <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.



## PSTN Route Pattern Configuration

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

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

### Route Pattern Configuration

**Route Pattern: New**  
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="91650XXXXXX"/>
Partition	< None >
Description	<input type="text"/>
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
MLPP Precedence	Default
Gateway or Route List*	S1/DS1-3@CMM-E1
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	

#### Calling Party Transformations

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

#### Connected Party Transformations



## Translation Pattern for Incoming Calls

### Translation Pattern Configuration

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

**Translation Pattern: 4XXX**  
Status: Ready

#### Pattern Definition

Translation Pattern	<input type="text" value="4XXX"/>
Partition	<input type="text" value="Incoming Trunk"/>
Description	<input type="text"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="&lt; None &gt;"/>
Calling Search Space	<input type="text" value="phones"/>
MLPP Precedence	<input type="text" value="Default"/>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="-- Not Selected --"/>

Provide Outside Dial Tone       Urgent Priority

#### Calling Party Transformations

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	<input type="text" value="Default"/>
Calling Name Presentation	<input type="text" value="Default"/>

#### Connected Party Transformations

Connected Line ID Presentation	<input type="text" value="Default"/>
Connected Name Presentation	<input type="text" value="Default"/>

#### Called Party Transformations

Discard Digits	<input type="text" value="&lt; None &gt;"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

\* indicates required item.



## CLIR and CNIR Route Pattern Configuration

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

**Route Pattern: 51XX**  
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="51XX"/>
Partition	<input type="text" value="&lt; None &gt;"/>
Description	<input type="text" value="CMM to Nortel"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="&lt; None &gt;"/>
MLPP Precedence	<input type="text" value="Default"/>
Gateway or Route List*	<input type="text" value="S1/DS1-3@CMM-E1"/> <a href="#">(Edit)</a>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="— Not Selected —"/>
Call Classification*	<input type="text" value="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	

**Calling Party Transformations**

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	<input type="text" value="Restricted"/>
Calling Name Presentation	<input type="text" value="Restricted"/>

**Connected Party Transformations**

Connected Line ID Presentation	<input type="text" value="Default"/>
Connected Name Presentation	<input type="text" value="Default"/>

**Called Party Transformations**

Discard Digits	<input type="text" value="&lt; None &gt;"/>
----------------	---



## COLR and CONR Translation Pattern Configuration

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Translation Pattern Configuration

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

**Translation Pattern: 4XXX**  
Status: Ready

#### Pattern Definition

Translation Pattern	<input type="text" value="4XXX"/>
Partition	<input type="text" value="Incoming Trunk"/>
Description	<input type="text"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="&lt; None &gt;"/>
Calling Search Space	<input type="text" value="phones"/>
MLPP Precedence	<input type="text" value="Default"/>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="-- Not Selected --"/>

Provide Outside Dial Tone       Urgent Priority

#### Calling Party Transformations

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	<input type="text" value="Default"/>
Calling Name Presentation	<input type="text" value="Default"/>

#### Connected Party Transformations

Connected Line ID Presentation	<input type="text" value="Restricted"/>
Connected Name Presentation	<input type="text" value="Restricted"/>

#### Called Party Transformations

Discard Digits	<input type="text" value="&lt; None &gt;"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>



## MWI lamp On/Off Configuration

System Route Plan Service Feature Device User Application Help

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### Message Waiting Configuration

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

Message Waiting Number : 7000  
Status: Ready

Message Waiting Number\*

Description

Message Waiting Indicator  On  Off

Partition

Calling Search Space

\* indicates required item



## Message Waiting Configuration

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

Message Waiting Number : 7001

Status: Ready

Message Waiting Number\*

Description

Message Waiting Indicator  On  Off

Partition

Calling Search Space

\* indicates required item





## CallBack Service Parameters

Calling Search Space < None >

**Clusterwide 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 Retention
Connection Response Type*	Default to Connection Release	Default to Connection Retention
CallBack Request Protection Timer (T1) (sec)*	10	10
CallBack Recall Timer (T3) (sec)*	20	20
CallBack Calling Search Space	Incoming Trunk	

**Clusterwide Parameters (Route Plan)**

Parameter Name	Parameter Value	Suggested Value
Stop Routing on Out of Bandwidth Flag*	False	False
Stop Routing on Unallocated Number Flag*	True	True
Stop Routing on User Busy	True	True



## Softkey Template Configuration

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

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### Softkey Template Configuration

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

**Softkey Template: Standard User CallBack**  
Status: Ready

Softkey Template Name\*

Description

Application

\* indicates required item



## CallBack Softkey Template Configuration

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### 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

- 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)

Selected Softkeys (ordered by position)\*\*

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

\*\* indicates mandatory fields  
\* indicates required item



## Path Replacement Service Parameters

Clusterwide Parameters (Feature - Path Replacement)		
Parameter Name	Parameter Value	Suggested Value
Path Replacement Enabled*	<input type="text" value="True"/>	False
Path Replacement on Tromboned Calls*	<input type="text" value="True"/>	True
Start Path Replacement Minimum Delay Time (sec)*	<input type="text" value="2"/>	0
Start Path Replacement Maximum Delay Time (sec)*	<input type="text" value="4"/>	0
Path Replacement T1 Timer (sec)*	<input type="text" value="30"/>	30
Path Replacement T2 Timer (sec)*	<input type="text" value="15"/>	15
Path Replacement PINX Id	<input type="text" value="4444"/>	
Path Replacement Calling Search Space	<input type="text" value="&lt; None &gt;"/>	
Clusterwide Parameters (Feature - Call Back)		
Parameter Name	Parameter Value	Suggested Value
Callback Enabled Flag*	<input type="text" value="True"/>	True
Callback Notification Audio File Name*	<input type="text" value="CallBack.raw"/>	CallBack.raw

To enable Path Replacement



## Forward by Reroute Service Parameter

Clusterwide Parameters (Feature - Forward)		
Parameter Name	Parameter Value	Suggested Value
Forward Maximum Hop Count*	<input type="text" value="12"/>	12
Forward No Answer Timer (sec)*	<input type="text" value="12"/>	12
Max Forward Hops to DN*	<input type="text" value="12"/>	12
Retain Forward Information*	<input type="text" value="False"/>	False
Forward By Reroute Enabled*	<input type="text" value="True"/>	False
Forward By Reroute T1 Timer (sec)*	<input type="text" value="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*	<input type="text" value="True"/>	False
Path Replacement on Tromboned Calls*	<input type="text" value="True"/>	True
Start Path Replacement	<input type="text" value=""/>	

To forward by Reroute



## IP Phone Configuration

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

**Phone Configuration**

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

**Directory Numbers**

**Base Phone**

- 7912 Line 1 - 4004 in phones
- 7912 Line 2 - Add new DN

Phone: SEP003094C2B08E (Auto 4004)  
Registration: Registered with Cisco CallManager CM-MARS  
IP Address: **172.20.33.60**  
Status: Ready

**Phone Configuration (Model = Cisco 7960)**

**Device Information**

MAC Address*	<input type="text" value="003094C2B08E"/>
Description	<input type="text" value="Auto 4004"/>
Owner User ID	<input type="text"/> <a href="#">(Select User ID)</a>
Device Pool*	<input type="text" value="Default"/> <a href="#">(View details)</a>
Calling Search Space	<input type="text" value="&lt; None &gt;"/>
AAR Calling Search Space	<input type="text" value="&lt; None &gt;"/>
Media Resource Group List	<input type="text" value="&lt; None &gt;"/>
User Hold Audio Source	<input type="text" value="&lt; None &gt;"/>
Network Hold Audio Source	<input type="text" value="&lt; None &gt;"/>
Location	<input type="text" value="&lt; None &gt;"/>
User Locale	<input type="text" value="&lt; None &gt;"/>
Network Locale	<input type="text" value="&lt; None &gt;"/>
Device Security Mode	<input type="text" value="Use System Default"/>
Signal Packet Capture Mode	<input type="text" value="None"/>
Packet Capture Duration	<input type="text" value="0"/>
Built In Bridge	<input type="text" value="Default"/>
Privacy	<input type="text" value="Default"/>

Retry Video Call as Audio  
 Ignore Presentation Indicators (internal calls only)



Ignore Presentation Indicators (internal calls only)

**Phone Button Template Information**

Phone Button Template\*  [\(View button list\)](#)

**Softkey Template Information**

Softkey Template

**Expansion Module Information**

Module 1

Module 2

**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

Messages

Services

Authentication Server

Proxy Server

Idle

Idle Timer (seconds)

**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 (CAPE) Information**

Certificate Operation

Authentication Mode  [Generate String](#)

Authentication String

Key Size (bits)

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

**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 (CAPE) 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:

**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](#)





## Directory Number Configuration

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Directory Number Configuration

[Configure Device \(SEP003094C2B08E\)](#)  
[Dependency Records](#)

**Associated With**  
SEP003094C2B08E  
7980 (Line 1)

**Directory Number: 4004 (phones)**  
Status: Ready  
Note: Any update to this Directory Number automatically resets the associated devices

**Directory Number**

Directory Number\*   
Partition

**Directory Number Settings**

Voice Mail Profile   
(Choose <None> to use default)

Calling Search Space   
AAR Group   
User Hold Audio Source   
Network Hold Audio Source   
Auto Answer

**Call Forward and Pickup Settings**

	Voice Mail	Coverage/ Destination	Calling Search Space
Forward All	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value="&lt; None &gt;"/>
Forward Busy Internal	<input type="checkbox"/>	<input type="text" value="5105"/>	<input type="text" value="&lt; None &gt;"/>
Forward Busy External	<input type="checkbox"/>	<input type="text" value="5105"/>	<input type="text" value="&lt; None &gt;"/>
Forward No Answer Internal	<input type="checkbox"/>	<input type="text" value="5105"/>	<input type="text" value="&lt; None &gt;"/>
Forward No Answer External	<input type="checkbox"/>	<input type="text" value="5105"/>	<input type="text" value="&lt; None &gt;"/>
Forward No Coverage Internal	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value="&lt; None &gt;"/>
Forward No Coverage External	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value="&lt; None &gt;"/>
No Answer Ring Duration	<input type="text" value=""/>	(seconds)	
Call Pickup Group	<input type="text" value="&lt; None &gt;"/>		

**MLPP Alternate Party Settings**



Forward No Answer Internal  [ ] [None >]

Forward No Answer External  [5105] [None >]

Forward No Coverage Internal  [ ] [None >]

Forward No Coverage External  [ ] [None >]

No Answer Ring Duration [ ] (seconds)

Call Pickup Group [None >]

**MLPP Alternate Party Settings**

Target (Destination) [ ]

Calling Search Space [None >]

No Answer Ring Duration [ ] (seconds)

**Line Settings for all Devices**

Alerting Name [COOKIE]

**Line Settings for this Device**

Display (Internal Caller ID) [COOKIE]

Line Text Label [MARS4]

External Phone Number Mask [ ]

Message Waiting Lamp Policy [Use System Policy]

Ring Setting (Phone Idle) [Use System Default]

Ring Setting (Phone Active)\*\* [Use System Default]

**Multiple Call / Call Waiting Settings**

Maximum Number of Calls\* [4] (1 - 200)

Busy Trigger\* [2] (<= 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 [Western European (Latin 1)]



## Configuring the Cisco CMM-E1

### CMM-E1 Configuration

```
CMM-E1#sh ver
Cisco IOS Software, Cat6K-lc Software (wscmm-I6S-M), Version 12.3(8)XY2, RELEASE
SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Tue 16-Nov-04 12:19 by cmong
```

```
ROM: System Bootstrap, Version 12.2(1r)T2, RELEASE SOFTWARE (fc1)
```

```
CMM-E1 uptime is 4 weeks, 3 days, 22 hours, 13 minutes
System returned to ROM by power-on
System image file is "bootflash:wscmm-i6s-mz.123-8.XY2.bin"
```

```
cisco WS-SVC-CMM Cat6k Voice Linecard (R7000) processor (revision 0xFF) with 196
608K/65536K bytes of memory.
Processor board ID SAD0825030S
R7000 CPU at 400MHz, Implementation 39, Rev 3.3, 256KB L2 Cache
Last reset from power-on
1 FastEthernet interface
1 Gigabit Ethernet interface
186 Serial interfaces
6 Channelized E1/PRI ports
32768K bytes of processor board bootflash (Read/Write)
```

```
Configuration register is 0x2
```

```
CMM-E1#sh run
Building configuration...
```

```
Current configuration : 3554 bytes
!
version 12.3
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname CMM-E1
!
boot-start-marker
boot-end-marker
!
no logging console
!
no aaa new-model
ip subnet-zero
ip tcp synwait-time 13
ip host CM-MARS 172.20.231.254
!
```



```
!  
isdn switch-type primary-4ess  
!  
!  
!  
!  
!  
!  
!  
!  
!  
ccm-manager mgcp  
ccm-manager music-on-hold  
!  
!  
!  
controller E1 1/0  
  pri-group timeslots 1-31 service mgcp  
!  
controller E1 1/1  
  pri-group timeslots 1-31 service mgcp  
!  
controller E1 1/2  
  pri-group timeslots 1-31 service mgcp  
!  
controller E1 1/3  
  pri-group timeslots 1-31 service mgcp  
!  
controller E1 1/4  
  pri-group timeslots 1-31 service mgcp  
!  
controller E1 1/5  
  pri-group timeslots 1-31 service mgcp  
!  
interface GigabitEthernet1/0  
  ip address 172.20.231.51 255.255.255.0  
  no ip proxy-arp  
  no negotiation auto  
  no keepalive  
!  
interface Serial1/0:15  
  no ip address  
  no logging event link-status  
  isdn switch-type primary-net5  
  isdn incoming-voice voice  
  isdn bind-13 ccm-manager  
  no cdp enable  
!  
interface Serial1/1:15  
  no ip address  
  no logging event link-status  
  isdn switch-type primary-net5  
  isdn protocol-emulate network
```



```
isdn incoming-voice voice
isdn bind-13 ccm-manager
no isdn outgoing display-ie
no cdp enable
!
interface Serial1/2:15
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn protocol-emulate network
isdn incoming-voice voice
isdn bind-13 ccm-manager
no cdp enable
!
interface Serial1/3:15
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn incoming-voice voice
isdn map address . plan privacy type subscriber
isdn bind-13 ccm-manager
no cdp enable
!
interface Serial1/4:15
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn incoming-voice voice
isdn bind-13 ccm-manager
no cdp enable
!
interface Serial1/5:15
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn incoming-voice voice
isdn bind-13 ccm-manager
no cdp enable
!
ip classless
ip route 0.0.0.0 0.0.0.0 172.20.231.1
no ip http server
!
!
control-plane
!
!
voice-port 1/0:15
echo-cancel coverage 64
!
voice-port 1/1:15
echo-cancel coverage 64
!
voice-port 1/2:15
```



```
    echo-cancel coverage 64
!
voice-port 1/3:15
    echo-cancel coverage 64
!
voice-port 1/4:15
    echo-cancel coverage 64
!
voice-port 1/5:15
    echo-cancel coverage 64
!
mgcp
mgcp call-agent CM-MARS 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 timer receive-rtcp
mgcp sdp simple
mgcp fax t38 inhibit
mgcp rtp payload-type g726r16 static
!
mgcp profile default
!
!
!
!
dial-peer voice 1 pots
    application mgcpapp
!
dial-peer voice 2 pots
    application mgcpapp
!
dial-peer voice 3 pots
    application mgcpapp
!
dial-peer voice 4 pots
    application mgcpapp
!
dial-peer voice 5 pots
    application mgcpapp
    port 1/4:15
!
dial-peer voice 6 pots
    application mgcpapp
    port 1/5:15
!
dial-peer voice 9991015 pots
    application mgcpapp
    port 1/0:15
!
dial-peer voice 9991115 pots
```



```
application mgcpapp
port 1/1:15
!
dial-peer voice 9991215 pots
application mgcpapp
port 1/2:15
!
dial-peer voice 9991315 pots
application mgcpapp
port 1/3:15
!
!
line con 0
transport preferred all
transport output all
line vty 0 4
login
transport preferred all
transport input all
transport output all
!
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
CLOK 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
```





## Acronyms

Acronym	Definitions
ANF-PR	Additional Network Feature Path Replacement
CCM	Cisco 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



## Appendix A

### CallManager Software Release



### Nortel Meridian 1 Option 11C Software Release

#### Software Release

MAIN CAB  
Version 2111  
Release 25  
Issue 40 B



### 3640\_PSTN Configuration (Simulating PSTN)

```
3640_PSTN#sh run
Building configuration...

Current configuration : 1467 bytes
!
version 12.3
service timestamps debug datetime msec
service timestamps log uptime
no service password-encryption
no service dhcp
!
hostname 3640_PSTN
!
boot system slot0:c3640-is-mz.122-13.T
!
voice-card 1
!
no aaa new-model
ip subnet-zero
!
!
ip cef
ip host danube 171.69.2.27
ip host whiz 171.69.1.162
ip host dirt 171.69.1.129
!
isdn switch-type primary-ni
no scripting tcl init
no scripting tcl encdir
!
!
!
!
!
!
!
!
no voice hpi capture buffer
no voice hpi capture destination
!
!
!
!
!
controller T1 1/0
    framing esf
    linecode b8zs
    pri-group timeslots 1-24
!
!
!
```



```
interface FastEthernet0/0
  ip address 172.20.33.55 255.255.255.0
  duplex auto
  speed auto
  no cdp enable
!
interface FastEthernet0/1
  no ip address
  shutdown
  duplex auto
  speed auto
  no cdp enable
!
interface Serial1/0:23
  no ip address
  no logging event link-status
  isdn switch-type primary-ni
  isdn protocol-emulate network
  isdn incoming-voice voice
  isdn outgoing display-ie
  no cdp enable
!
no ip http server
ip classless
ip route 0.0.0.0 0.0.0.0 FastEthernet0/0
!
!
no cdp run
!
tftp-server flash
tftp-server nvram
!
voice-port 1/0:23
!
voice-port 2/0/0
  station-id name PSTN_PHONE
!
voice-port 2/0/1
!
!
!
!
dial-peer cor custom
!
!
!
dial-peer voice 1 pots
  destination-pattern 16503646325
  port 2/0/0
!
dial-peer voice 2 pots
  destination-pattern 91408527....
  direct-inward-dial
  port 1/0:23
```



```
prefix 91408527
!  
!  
line con 0  
line aux 0  
line vty 0 4  
password cisco  
no login  
!  
!  
!  
end
```

```
3640_PSTN#
```



## Acronyms

Acronym	Definitions
ANF-PR	Additional Network Feature Path Replacement
AOC	Advice-of-charge. Information element is sent with the connection setup information for incoming Euro-ISDN connections. The AOC IE is used for call charge calculation.
CUCM	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



## Important Information

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### Corporate Headquarters

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

### European Headquarters

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

### Americas Headquarters

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

### Asia Pacific Headquarters

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

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