Nortel Meridian Opt11C Rel25 using E1 QSIG to Cisco Unified CallManager 4.0

November 9, 2007 Revision 3

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Introduction

- This is an Application Note for Connectivity of Nortel Meridian Opt11C Release 25 PBX with Cisco Unified CallManager (CUCM) Release 4.0 using Cisco 6608-E1 QSIG as MGCP Gateway.
- The Network Topology diagram shows the test set-up for end-to-end interoperability with the Cisco Unified CallManager connected to the PBX via 6608-E1 QSIG link as MGCP Gateway.
- Connectivity is achieved by using the PRI ISO QSIG E1 protocol type on the MGCP gateway and ISGF switch type on the Nortel PBX.
- Basic Calls worked fine in both directions with Calling/Connected Name and Calling/Connected Number features support.
Network Topology

Figure 1. Network Topology

Basic Call Setup End-to-End Configuration

PBX1: Nortel Meridian Opt11C Release 25.40

Phone A x500

Phone B x5002

PBX #1

Slot 7

Slot 4

ISDN Type:

E1-QSIG

6608-E1

ISDN Type:

T1-PRI

DMS100

Cisco Catalyst

6000 Ethernet Switch

Cisco Unified CallManager Release 4.0

Cisco Unity Release 4.0

Cisco 7960 IP phones

Phone C x4000

Phone D x4001

Dial Plans

5XXX

91650-XXXXXXX

Dial

91408-527-XXXX

To PBX Ext.

To PSTN

91408-527-XXXX

Dial

91408-527-XXXX

PSTN

Phone F

650-364-6325

Limitations

No known limitations.

System Components

Hardware Requirements

- Cisco Hardware
  - Cisco Cat6K switch with 6608-E1 Gateway
  - Cisco Unified CallManager Server
- Nortel Meridian Opt11C PBX.
  - Hardware: NTBK50AA, 2 Mb PRI

Software Requirements

- PBX Software Release 25
- Cisco Unified CallManager 4.0
- Cisco WS-X6608-E1 gateway Version 7.6(3a)
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
- CT-Call Transfer (by join)
- CFU-Call Forwarding Unconditional (by join)
- CFB-Call Forwarding Busy (by join)
- CFNR-Call Forwarding No Reply (by join)
- MWI- Message Waiting Indication (lamp ON, lamp OFF) ¹

Features Not Supported

- Cisco Unified CallManager 4.0 does not support sending Alerting Name or Busy Name Identification information

Configuration

Configuring the Nortel Meridian Opt11C PBX

Configure in the following sequence:

1. Configure Common Equipment.
2. Configure D-Channel.
3. Configure Route Data Block.
4. Configure Trunk.
5. Configure Coordinated Dialing Plan
6. Configure Dialing Plan for Tandem Call

¹ MWI was tested with Cisco Unified CallManager 4.0 configured with Cisco Unity as the message center PINX and PBX users as remote subscribers. Nortel Meridian PBX was not configured to handle Q.SIG MWI messages at the time of testing therefore it is not known at that time whether Q.SIG MWI integration with Nortel Meridian PBX will work.
Configuration Menus and Commands

Common equipment

>`LD 22
>PT2000
>MARP NOT ACTIVATED

>REQ  prt
>TYPE  cequ

CEQU
>MPED 8D
>SUPL 000 004 008 012
>016 032 036 040
>044 048 064 068
>072
>XCT 000
>CONF 029 030 031 062
>094 095

>DLOP NUM DCH FRM LCMT YALM T1TE TRSH
>TRK 03 24 ESF B8S FDL - 00
>PRI 04 24 ESF B8S FDL - 00
>PRI2 05 07
>DTI2 06
>MISP

>REQ  ****
>

Configure D-Channel

For QSIG Trunk:
>`ld 22
>PT2000
>MARP NOT ACTIVATED

>REQ  prt
>TYPE  adan dch 7

ADAN    DCH 7
>CTYP MSDL
>CARD 07
>PORT 1
>DES E1_ISGF_4
>USR PRI
>DCHL 7
>OTBF 32
>PARAM 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
PR_TRIGS DIV 2 3
PR_RTN NO
MBGA NO
OVLR YES
DIDD 0
OVLRS NO
T310 120
T200 3
T203 10
N200 3
N201 260
K 7

REQ ****
>

For PSTN Trunk:
>1d 22

PT2000
MARP NOT ACTIVATED

REQ prt

TYPE adan dch 4

ADAN DCH 4
CTYP MSDL
CARD 04
PORT 1
DES tid100
USR PRI
DCHL 4
OTBF 32
PARM RS422 DTE
DRAT 64KC
CLOK EXT

IFC S100
SIDE USR
CNEG 1
RLS ID **
RCAP ND2
MBGA NO
OVLR NO
OVLRS NO
T200 3
T203 10
N200 3
N201 260
Configure Route Data Block

For QSIG Trunk:
>ld 21
  PT1000

REQ: prt

TYPE: rdb

CUST 0

ROUT 107

TYPE RDB
CUST 00
DMOD
ROUT 107
DES E1_ISGF_4
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 00001
  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 407
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
SPB 3
NBS 2048
NBL 4096
TFD 0
DRNG NO
CDR NO
MUS NO
OHQ NO
OHQT 00

For PSTN Trunk:
>ld 21
PT1000
REQ: prt
TYPE: rdb
CUST 0

ROUT 104

TYPE RDB
CUST 00
DMOD
ROUT 104
DES T1S100
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  S100
       SBN  NO
       PNI  00001
       NCNA YES
       NCRD NO
       CHTY BCH
       CTYP UKWN
       INAC NO
       ISAR NO
       CPUB OFF
       DAPC NO
       BCOT 0

DSEL VOD
PTYP PRI
AUTO NO
DNIS NO
DCDR NO
ICOG IAO
SRCH RRB
TRMB YES

STEP
ACOD 704
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
Configure Trunk

For QSIG Trunk:
>ld 20
PT0000
MARP NOT ACTIVATED

REQ: prt

TYPE: tnb

TN  7 1

DATE

PAGE

DES

DES  E1 ISGF_4

TN  007 01

TYPE TIE

CDEN SD
CUST 0
TRK  PRI2
PDCA 1
PCML A
NCOS 0
RTMB 107 1
B-CHANNEL SIGNALING
TGAR 0
AST  NO
IAPG 0
CLS  UNR DTN CND WTA LPR APN THFD
     P10 VNL
TKID

DATE  1 MAR 2004

NACT ****
>

For PSTN Trunk:
>ld 20
Configure Coordinated Dialing Plan

>>LD 87

ESN000

MEM AVAIL: (U/P): 1269530 USED U P: 73054 33671 TOT: 1376255
DISK RECS AVAIL: 480
REQ prt

CUST 0
FEAT cdoxp

ESN009
FEAT cdp

TYPE dsc
DSC  400
DSC  400
FLEN 0
DSP  LSC
RLI  8
NPA
NXX

MEM AVAIL: (U/P): 1269530    USED U P: 73054 33671    TOT: 1376255
DISK RECS AVAIL: 480
REQ ****

OVL000
>ld 87

ESN000

MEM AVAIL: (U/P): 1269530    USED U P: 73054 33671    TOT: 1376255
DISK RECS AVAIL: 480
REQ  prt
CUST 0
FEAT cdp
TYPE dsc

DSC  49
DSC  49
FLEN 0
DSP  LSC
RLI  8
NPA
NXX

MEM AVAIL: (U/P): 1269530    USED U P: 73054 33671    TOT: 1376255
DISK RECS AVAIL: 480
REQ ****

OVL000
>
OVL000
>LD 86

ESN000

MEM AVAIL: (U/P): 1269530    USED U P: 73054 33671    TOT: 1376255
DISK RECS AVAIL: 480
REQ  prt
CUST 0
Configure Dialing Plan for Tandem Call

Dial Plan Configuration when PBX received AC1 (9) + NPA (1408) digit string

>ld 90

ESN000

MEM AVAIL: (U/P): 1269530 USED U P: 73054 33671 TOT: 1376255
DISK RECS AVAIL: 480
REQ **** >

NPA 1408

NPA 1408 RLI 7 SDRR NONE ITEI NONE
OVL000
Dial Plan Configuration when PBX received AC1 (9) + NPA (1650) digit string

>ld 90

ESN000

NPA 1650

NPA 1650
RLI 4
SDRR NONE
ITEI NONE

MEM AVAIL: (U/P): 1269530  USED U P: 73054 33671  TOT: 1376255
DISK RECS AVAIL: 480
REQ ****
Station Configuration for CLIP, CNIP, COLP, and CONP (Number and Name presentation)

>LD 11
SL1000
MARP NOT ACTIVATED
MEM AVAIL: (U/P): 1269530    USED U P: 73054 33671    TOT: 1376255
DISK RECS AVAIL: 480
TNS    AVAIL:  97    USED:  103    TOT:  200
ACD AGENTS AVAIL:  300    USED:   0    TOT:  300
AST    AVAIL:  100    USED:   0    TOT:  100
DATA PORTS AVAIL: 2498    USED:   2    TOT:  2500
DIGITAL TELEPHONES AVAIL: 2494    USED:   6    TOT:  2500
INTERNET TELEPHONES AVAIL:  6    USED:   0    TOT:   6

REQ:  prt

TYPE: 2616

MARP NOT ACTIVATED

TN   1 0 0 0 0

DATE

PAGE

DES

DES TEST1
TN 001 0 00 00
TYPE 2616
CDEN 8D
CUST 0
AOM 0
FDN 4990
TGAR 0
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU
XLST
CLS
   CTD FBD WTA LPR MTD FNA HTA ADD HFD
   MWA LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
   POD DSX VMD CMSD SLKD CCSD SWD LND CNDA
   CPTA SFD MRD DDV CNID CDCA MSID DAPA BFED RCBD
   ICDD CDMD LLCN MCTD CLBD AUTU
   GPUD DPUD DNDA CFXA ARHD CLTD ASCD
   CPFA CPTA ABBD CFHD FICD NAID BUZZ AGRD MOAD AHD
   DDGA NAMA
   DRDD EXRU
   USRD ULAD RTDD RBDD RBHD PGND FLXD FTTC DNDY DNO3 MCBN
CPND LANG ENG
   RCO 0
   EFD 4990
   HUNT 4001
   EHT 4001
   LHK 0
   PLEV 02
AST
IAPG 0
Station Configuration for CLIR, COLR-Calling/Connected Line Identification Restriction

>LD 11
SL1000
MARP NOT ACTIVATED

MEM AVAIL: (U/P): 1269530 USED U P: 73054 33671 TOT: 1376255
DISK RECS AVAIL: 480
TNS AVAIL: 97 USED: 103 TOT: 200
ACD AGENTS AVAIL: 300 USED: 0 TOT: 300
AST AVAIL: 100 USED: 0 TOT: 100
DATA PORTS AVAIL: 2498 USED: 2 TOT: 2500
DIGITAL TELEPHONES AVAIL: 2494 USED: 6 TOT: 2500
INTERNET TELEPHONES AVAIL: 6 USED: 0 TOT: 6

REQ: prt

TYPE: 2616

MARP NOT ACTIVATED
Station Configuration for CNIR, CONR-Calling/Connected Name Identification Restrictio

>LD 11
SL1000
MARP NOT ACTIVATED

MEM AVAIL: (U/P): 1269530 USED U P: 73054 33671 TOT: 1376255
DISK RECS AVAIL: 480
TNS AVAIL: 97 USED: 103 TOT: 200
ACD AGENTS AVAIL: 300 USED: 0 TOT: 300
AST AVAIL: 100 USED: 0 TOT: 100
DATA PORTS AVAIL: 2498 USED: 2 TOT: 2500
DIGITAL TELEPHONES AVAIL: 2494 USED: 6 TOT: 2500
INTERNET TELEPHONES AVAIL: 6 USED: 0 TOT: 6

REQ: prt
TYPE: 2616

MARP NOT ACTIVATED

TN 1 0 0 0

DATE

PAGE

DES

DES TEST1
TN 001 0 00 00
TYPE 2616
CDEN 8D
CUST 0
AOM 0
Station Configuration for CFB- Call Forward on Busy

CF-Busy on Nortel requires setting up HUNT DN on Nortel station configuration by changing CLS parameter “HTD” (Hunt denied) to “HTA” (Hunt allowed) and specifying a DN for HUNT parameter.

>LD 11

SL1000
MARP NOT ACTIVATED

MEM AVAIL: (U/P): 1269530 USED U P: 73054 33671 TOT: 1376255
DISK RECS AVAIL: 480
TNS AVAIL: 97 USED: 103 TOT: 200
ACD AGENTS AVAIL: 300 USED: 0 TOT: 300
AST AVAIL: 100 USED: 0 TOT: 100
DATA PORTS AVAIL: 2498 USED: 2 TOT: 2500
DIGITAL TELEPHONES AVAIL: 2494 USED: 6 TOT: 2500
INTERNET TELEPHONES AVAIL: 6 USED: 0 TOT: 6

REQ: prt

TYPE: 2616

MARP NOT ACTIVATED

TN 1 0 0 0

DATE

PAGE

DES

DES TEST1
TN 001 0 00 00
TYPE 2616
CDEN 8D
CUST 0
AOM 0
FDN 4990
TGAR 0
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU

XLIST

CLS CTD FBD WTA LPR MTD FNA HTA ADD HFD
MWA LMPN 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 RCBKD
ICDD CDMD LLCN MCTD CLBD AUTU
Station Configuration for CFNR- Call Forward No Reply

LD 11

SL1000
MARP NOT ACTIVATED

MEM AVAIL: (U/P): 1269530 USED U P: 73054 33671 TOT: 1376255
DISK RECS AVAIL: 480
KEY 00 SCR 5001 0 MARP
   CPND
      NAME BIG BIRD
      XPLN 27
      DISPLAY_FMT FIRST, LAST
01 SCR 5011 0 MARP
   CPND
      NAME MINI BIRD
      XPLN 27
      DISPLAY_FMT FIRST, LAST
02
03 CFW 12 5002
04 AO6
05 TRN
06 DSP
07
08 ADL 16
09 ADL 16
10 ADL 16
11 ADL 16
12 ADL 16
13 ADL 16
14 RGA
15
DATE 16 MAR 2004

NACT ****

OVLO00
### Configuration of the Cisco Unified CallManager

#### 6608-E1 Gateway Configuration

**Gateway Configuration**

**Product:** Cisco Catalyst 6000 E1 VoIP Gateway

**Gateway**: 60/DS1-00@CDA0001C9DB633E

**Device Protocol:** Digital Access PRI

**Registration:** Registered with Cisco CallManager 172.20.32.284

**IP Address:** 172.20.32.103

**Status:** Ready

<table>
<thead>
<tr>
<th>Device Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC Address*</td>
</tr>
<tr>
<td>Description</td>
</tr>
<tr>
<td>DevicePool*</td>
</tr>
<tr>
<td>NetworkLocale</td>
</tr>
<tr>
<td>MediaResourceGroupList</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>AAR Group</td>
</tr>
<tr>
<td>Load Information</td>
</tr>
</tbody>
</table>

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

- **MLPP Domain (e.g., "0000FF")**: Not available on this device
- **MLPP Indicator**: Not available on this device
- **MLPP Preemption**: Not available on this device

**Interface Information**

- **PRI Protocol Type***: PRISO QSIG E1
- **Protocol Side***: User
- **ChannelSelectionOrder***: Top Down
- **ChannelIEType***: Timeslot Number
### PRI Protocol Type

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCM Type*</td>
<td>A-law</td>
</tr>
<tr>
<td>Delay for first restart (1/8 sec ticks)</td>
<td>32</td>
</tr>
<tr>
<td>Delay between restarts (1/8 sec ticks)</td>
<td>4</td>
</tr>
<tr>
<td>Inhibit restarts at PRI initialization</td>
<td></td>
</tr>
<tr>
<td>Enable status poll</td>
<td></td>
</tr>
</tbody>
</table>

#### Call Routing Information

##### Inbound Calls

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant Digits*</td>
<td>All</td>
</tr>
<tr>
<td>Calling Search Space</td>
<td>Incoming Trunk</td>
</tr>
<tr>
<td>AAR Calling Search Space</td>
<td>&lt;None&gt;</td>
</tr>
<tr>
<td>Prefix DN</td>
<td></td>
</tr>
</tbody>
</table>

##### Outbound Calls

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calling Line ID Presentation*</td>
<td>Default</td>
</tr>
<tr>
<td>Calling Party Selection*</td>
<td>Originator</td>
</tr>
<tr>
<td>Called party IE number type unknown*</td>
<td>National</td>
</tr>
<tr>
<td>Calling party IE number type unknown*</td>
<td>National</td>
</tr>
<tr>
<td>Called Numbering Plan*</td>
<td>ISDN</td>
</tr>
<tr>
<td>Calling Numbering Plan*</td>
<td>ISDN</td>
</tr>
<tr>
<td>Number of digits to strip*</td>
<td>0</td>
</tr>
<tr>
<td>Caller ID DN</td>
<td></td>
</tr>
<tr>
<td>SMDI Base Port*</td>
<td>0</td>
</tr>
</tbody>
</table>

#### 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****
## Setup non-PSIN Progress Indicator IE Enable**

- [ ] Setup non-PSIN Progress Indicator IE Enable

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

- [ ] MCDN Channel Number Extension Bit Set to Zero

## Send Calling Name In Facility IE**

- [ ] Send Calling Name In Facility IE

## Interface Identifier Present**

- [ ] Interface Identifier Present

### Interface Identifier Value**

- [ ] Interface Identifier Value

## Connected Line ID Presentation (QSIG Inbound Call)*

- [ ] Connected Line ID Presentation (QSIG Inbound Call)

## Connected PBX Model*

- [ ] Connected PBX Model

### Product Specific Configuration

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clock Reference*</td>
<td>Network</td>
</tr>
<tr>
<td>Framing*</td>
<td>CRC4</td>
</tr>
<tr>
<td>Audio Signal Adjustment into IP Network*</td>
<td>NoDbPadding</td>
</tr>
<tr>
<td>Audio Signal Adjustment from IP Network*</td>
<td>NoDbPadding</td>
</tr>
<tr>
<td>Zero Suppression*</td>
<td>HDB3</td>
</tr>
<tr>
<td>Digit On Duration(50-500ms)*</td>
<td>100</td>
</tr>
<tr>
<td>Interdigit Duration(50-500msec)*</td>
<td>100</td>
</tr>
<tr>
<td>SNMP Community String</td>
<td>public</td>
</tr>
<tr>
<td>Disable SNMP Set operations*</td>
<td></td>
</tr>
<tr>
<td>Debug Port Enable*</td>
<td></td>
</tr>
<tr>
<td>Hold Tone Silence Duration*</td>
<td>0</td>
</tr>
<tr>
<td>Port Used for Voice Calls*</td>
<td>✓</td>
</tr>
<tr>
<td>Port Used for Modem Calls*</td>
<td>✓</td>
</tr>
<tr>
<td>Port Used for Fax Calls*</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Fax and Modem Parameters

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fax Relay Enable*</td>
<td>✓</td>
</tr>
<tr>
<td>Fax Error Correction Mode Override*</td>
<td>✓</td>
</tr>
<tr>
<td>Maximum Fax Rate*</td>
<td>14400bps</td>
</tr>
<tr>
<td>Fax Payload Size*</td>
<td>20</td>
</tr>
<tr>
<td>Non-Standard Facilities Country Code*</td>
<td>65535</td>
</tr>
<tr>
<td><strong>Non Standard Facilities Vendor Code</strong></td>
<td>65535</td>
</tr>
<tr>
<td><strong>Fax/Modem Packet Redundancy</strong></td>
<td></td>
</tr>
<tr>
<td><strong>NSE Type</strong></td>
<td>Non-IOS Gateways</td>
</tr>
</tbody>
</table>

### Playout Delay Parameters

| **Initial Playout Delay** | 40  |
| **Minimum Playout Delay** | 20  |
| **Maximum Playout Delay** | 150 |

### Echo Canceller Configuration

| **Echo TailLength (ms)** | 32 ms |
| **Minumum ERL (db)** | 6 db |

* 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
## Find and List Partitions

2 matching record(s) for Partition Name begins with ""

Find Partitions where Partition Name begins with
and show 20 items per page

To list all items, click Find without entering any search text.

### Matching record(s) 1 to 2 of 2

<table>
<thead>
<tr>
<th>Partition Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ 4x Incoming Trunk</td>
<td>Incoming Trunk</td>
</tr>
<tr>
<td>✗ 4x Phones</td>
<td>Phones</td>
</tr>
</tbody>
</table>

Delete Selected

First Previous Next Last

Page 1 of 1
# Calling Search Space Configuration

## Calling Search Space: Incoming Trunk

### Status: Read

<table>
<thead>
<tr>
<th>Copy</th>
<th>Update</th>
<th>Delete</th>
<th>Restart Devices</th>
</tr>
</thead>
</table>

### Calling Search Space Information

<table>
<thead>
<tr>
<th>Calling Search Space Name*</th>
<th>Incoming Trunk</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
</table>

### Route Partitions for this Calling Search Space

**Find Partitions containing**

<table>
<thead>
<tr>
<th>Available Partitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phones</td>
</tr>
</tbody>
</table>

**Selected Partitions**

(ordered by highest priority)

<table>
<thead>
<tr>
<th>Incoming Trunk</th>
</tr>
</thead>
</table>

* indicates required item
Enbloc Route Pattern Configuration

**Route Pattern/Hunt Pilot**: 5XXX

**Status**: Ready

Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

**Pattern Definition**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Pattern/Hunt Pilot*</td>
<td>5XXX</td>
</tr>
<tr>
<td>Partition</td>
<td>&lt;None&gt;</td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Numbering Plan*</td>
<td>North American Numbering Plan</td>
</tr>
<tr>
<td>Route Filter</td>
<td>&lt;None&gt;</td>
</tr>
<tr>
<td>MLPP Precedence</td>
<td>Default</td>
</tr>
<tr>
<td>Gateway or Route/Hunt List*</td>
<td>SD/DS1-0@SDA0001CSD6633E (Edit)</td>
</tr>
<tr>
<td>Route Option</td>
<td>Route this pattern, block this pattern</td>
</tr>
</tbody>
</table>

**Calling Party Transformations**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Calling Party's External Phone Number Mask</td>
<td></td>
</tr>
<tr>
<td>Calling Party Transform Mask</td>
<td></td>
</tr>
<tr>
<td>Prefix Digits (Outgoing Calls)</td>
<td></td>
</tr>
<tr>
<td>Calling Line ID Presentation</td>
<td>Default</td>
</tr>
<tr>
<td>Calling Name Presentation</td>
<td>Default</td>
</tr>
</tbody>
</table>

**Connected Party Transformations**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Line ID Presentation</td>
<td>Default</td>
</tr>
<tr>
<td>Connected Name Presentation</td>
<td>Default</td>
</tr>
</tbody>
</table>

**Called Party Transformations**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discard Digits</td>
<td>&lt;None&gt;</td>
</tr>
<tr>
<td>Called Party Transform Mask</td>
<td></td>
</tr>
<tr>
<td>Prefix Digits (Outgoing Calls)</td>
<td></td>
</tr>
</tbody>
</table>

**ISDN Network-Specific Facilities Information Element**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier Identification Code</td>
<td></td>
</tr>
<tr>
<td>Network Service Protocol</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Network Service</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Service Parameter Name</td>
<td>Service Parameter Value</td>
</tr>
<tr>
<td></td>
<td>&lt;Not Exist&gt;</td>
</tr>
</tbody>
</table>
Route Pattern for Cisco Unity Voicemail

<table>
<thead>
<tr>
<th>Route Pattern/Hunt Pilot:</th>
<th>499X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status:</td>
<td>Ready</td>
</tr>
<tr>
<td>Note:</td>
<td>Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List</td>
</tr>
</tbody>
</table>

**Pattern Definition**

- **Route Pattern/Hunt Pilot**: 499X
- **Partition**: Phones
- **Description**: (Field is empty)
- **Numbering Plan**: North American Numbering Plan
- **Route Filter**: <None>
- **MLPP Precedence**: Default
- **Gateway or Route/Hunt List**: Unity HuntList
- **Route Option**
  - Route this pattern
  - Block this pattern: Not Selected
- **Provide Outside Dial Tone**: Check box is present but not checked
- **Allow Overlap Sending**: Check box is present but not checked
- **Urgent Priority**: Check box is present but not checked

**Calling Party Transformations**

- **Use Calling Party’s External Phone Number Mask**: Check box is present but not checked
- **Calling Party Transform Mask**: (Field is empty)
- **Prefix Digits (Outgoing Calls)**: (Field is empty)
- **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**: (Field is empty)
- **Prefix Digits (Outgoing Calls)**: (Field is empty)

**ISDN Network-Specific Facilities Information Element**

<table>
<thead>
<tr>
<th>Carrier Identification Code</th>
<th>Not Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Service Protocol</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Network Service</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Service Parameter Name</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Service Parameter Value</td>
<td>Not Selected</td>
</tr>
</tbody>
</table>
Cisco Unity Voicemail Line Group
Line Group Configuration

Directory Numbers

Line Group: CiscoUM1
Status: Ready
Update Delete

Line Group Information

Line Group Name* CiscoUM1
RNA Reversion
Timeout*
10
Distribution Algorithm* Top Down

Hunt Options

No Answer* Try next member; then, try next group in Hunt List
Busy** Try next member; then, try next group in Hunt List
Not Available*** Try next member; then, try next group in Hunt List

Line Group Member Information

Find Directory Numbers to add to Line Group

Route Partition
Directory Numbers
Contains

Available DN/Route Partition
(Do not include directory numbers of application-controlled IP phones, or application-monitored IP phones in the line group.)

Add to Line Group

Current Line Group Members

Reverse Order of Selected DNs

Selected DN/Route Partition* 4990
4991

Removed DN/Route Partition
(to be removed from Line Group when you click Update)

Cisco Unity Subscriber
Translation Pattern for Incoming Calls
### Translation Pattern Configuration

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

#### Pattern Definition

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation Pattern</td>
<td>4XXX</td>
</tr>
<tr>
<td>Partition</td>
<td>Incoming Trunk</td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Numbering Plan</td>
<td>North American Numbering Plan</td>
</tr>
<tr>
<td>Route Filter</td>
<td>(None)</td>
</tr>
<tr>
<td>Calling Search Space</td>
<td>Phones</td>
</tr>
<tr>
<td>MLPP Precedence</td>
<td>Default</td>
</tr>
<tr>
<td>Route Option</td>
<td>C Block this pattern</td>
</tr>
<tr>
<td>Provide Outside Dial Tone</td>
<td>C Route this pattern</td>
</tr>
<tr>
<td>Allow Overlap Sending</td>
<td></td>
</tr>
<tr>
<td>Urgent Priority</td>
<td></td>
</tr>
</tbody>
</table>

#### 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)**: 

* indicates required item.
CLIR Route Pattern Configuration

Route Pattern/Hunt Pilot Configuration

Route Pattern/Hunt Pilot: SXXX

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

Copy | Update | Delete

Pattern Definition

Route Pattern/Hunt Pilot*: SXXX
Partition: < None >
Description: Siemens HiPath 4300 route
Numbering Plan*: North American Numbering Plan
Route Filter: < None >
MLPP Precedence: Default
Gateway or Route/Hunt List*: 8VDS1-64@8DA0001C9D8633E (Edit)
Route Option: Route this pattern, Block this pattern

Provide Outside Dial Tone | Allow Overlap Sending | 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: Restricted
Calling Name Presentation: Default

Connected Party Transformations

Connected Line ID Presentation: Default
Connected Name Presentation

Called Party Transformations

Discard Digits: < None >

CNIR Route Pattern Configuration
### Route Pattern/Hunt Pilot Configuration

**Route Pattern/Hunt Pilot:** 5XXX  
**Status:** Update completed  
**Note:** Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

<table>
<thead>
<tr>
<th>Pattern Definition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Pattern/Hunt Pilot</td>
<td>5XXX</td>
</tr>
<tr>
<td>Partition</td>
<td>&lt; None &gt;</td>
</tr>
<tr>
<td>Description</td>
<td>Siemens HiPath 4300 route</td>
</tr>
<tr>
<td>Numbering Plan</td>
<td>North American Numbering Plan</td>
</tr>
<tr>
<td>Route Filter</td>
<td>&lt; None &gt;</td>
</tr>
<tr>
<td>MLPP Precedence</td>
<td>Default</td>
</tr>
<tr>
<td>Gateway or Route/Hunt List</td>
<td>SD/CSI-0@SDA0001C598633E (Edit)</td>
</tr>
<tr>
<td>Route Option</td>
<td>Route this pattern, Block this pattern</td>
</tr>
</tbody>
</table>

- **Provide Outside Dial Tone:** [ ]  
- **Allow Overlap Sending:** [ ]  
- **Urgent Priority:** [ ]

#### Calling Party Transformations

- **Use Calling Party's External Phone Number Mask:** [ ]  
- **Calling Party Transform Mask:**          
- **Prefix Digits (Outgoing Calls):** Default  
- **Calling Line ID Presentation:**          
- **Calling Name Presentation:** Restricted  

#### Connected Party Transformations

- **Connected Line ID Presentation:** Default  
- **Connected Name Presentation:**          

#### Called Party Transformations

- **Discard Digits:** < None >  

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Page 41 of 50
# Translation Pattern Configuration

**Translation Pattern:** 4XXX  
**Status:** Update completed

<table>
<thead>
<tr>
<th><strong>Pattern Definition</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation Pattern</td>
<td>4XXX</td>
</tr>
<tr>
<td>Partition</td>
<td>Incoming Trunk</td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Numbering Plan*</td>
<td>North American Numbering Plan</td>
</tr>
<tr>
<td>Route Filter</td>
<td>&lt;None&gt;</td>
</tr>
<tr>
<td>Calling Search Space</td>
<td>Phones</td>
</tr>
<tr>
<td>MLP Precedence</td>
<td>Default</td>
</tr>
</tbody>
</table>

- **Route Option:**  
  - Route this pattern
  - Block this pattern  
  - Not Selected

- **Provide Outside Dial Tone:**  
- **Urgent Priority:**

**Calling Party Transformations**

- Use Calling Party's External Phone Number Mask
- Calling Party Transform Mask
- Prefix Digits (Outgoing Calls)
- Calling Line ID Presentation: Default
- Calling Name Presentation: Default

**Connected Party Transformations**

- Connected Line ID Presentation: Default
- Connected Name Presentation: Restricted

**Called Party Transformations**

- Discard Digits: <None>
- Called Party Transform Mask: 
- Prefix Digits (Outgoing Calls): 

* indicates required item.

---

### 7960 IP phone Configuration

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Page 43 of 50
# Phone Configuration

**Phone:** SEP003094C39863 (Auto 4001)  
**Registration:** Registered with Cisco CallManager 172.20.32.254  
**IP Address:** 172.20.32.110  
**Status:** Ready

### Directory Numbers
- **Base Phone**
  - Line 1 - 4001
  - Line 2 - Add new DN

### Phone Configuration (Model = Cisco 7960)

#### Device Information
- **MAC Address:** 003094C39863
- **Description:** Auto 4001
- **Owner User ID:** (Select User ID)
- **Device Pool:** Default (View details)
- **Calling Search Space:** < None >
- **AAR Calling Search Space:** < None >
- **Media Resource Group List:** < None >
- **User Hold Audio Source:** < None >
- **Network Hold Audio Source:** < None >
- **Location:** < None >
- **User Locale:** < None >
- **Network Locale:** < None >
- **Device Security Mode:** Use System Default
- **Built in Bridge:** Default
- **Privacy:** Default

#### Phone Button Template Information
- **Phone Button Template:** Standard 7960 (View button list)

#### Softkey Template Information
- **Softkey Template:** < None >

#### Expansion Module Information
- **Module 1:** < None >
- **Module 2:** < None >
Module 1 Load Name: 
Module 2 Load Name: 

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: Not Selected
- Log In User ID: None
- Log In Time: None
- Log Out Time: None

Multilevel Precedence and Preemption (MLPP) Information:
- MLPP Domain: e.g., "0000FF"
- MLPP Indication: Default
- MLPP Preemption: Default

Product Specific Configuration:
- Disable Speakerphone
- Disable Speakerphone and Headset
- Forwarding Delay*: Disabled
- PC Port*: Enabled
- Settings Access*: Enabled
- Gratuitous ARP*: Enabled
- PC Voice VLAN Access*: Enabled
- Video Capabilities*: Disabled
- Auto Line Select*: Disabled
### Directory Number Configuration

**Directory Number: 4001 (Phones)**

- **Status:** Ready
- **Note:** Any update to this Directory Number automatically resets the associated devices

**Directory Number**

- **Directory Number:** 4001
- **Partition:** Phones

**Directory Number Settings**

- **Voice Mail Profile:** (None)
- **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**

<table>
<thead>
<tr>
<th>Voice Mail Destination</th>
<th>Calling Search Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward All</td>
<td>(None)</td>
</tr>
<tr>
<td>Forward Busy</td>
<td>(None)</td>
</tr>
<tr>
<td>Forward No Answer</td>
<td>(None)</td>
</tr>
<tr>
<td>No Answer Ring Duration</td>
<td>(seconds)</td>
</tr>
<tr>
<td>Call Pickup Group</td>
<td>(None)</td>
</tr>
</tbody>
</table>

**MLPP Alternate Party Settings**

<table>
<thead>
<tr>
<th>Target (Destination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calling Search Space</td>
</tr>
<tr>
<td>No Answer Ring Duration</td>
</tr>
</tbody>
</table>

**Line Settings for this Device**

- **Display (internal Caller ID):** JOHN DOE
- **Line Text Label:**
- **External Phone Number Mask:**
<table>
<thead>
<tr>
<th>Message Waiting Lamp Policy</th>
<th>Use System Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring Setting (Phone Idle)</td>
<td>Use System Default</td>
</tr>
<tr>
<td>Ring Setting (Phone Active)**</td>
<td>Use System Default</td>
</tr>
</tbody>
</table>

### Multiple Call / Call Waiting Settings

<table>
<thead>
<tr>
<th>Maximum Number of Calls*</th>
<th>4</th>
<th>(1 - 200)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Busy Trigger*</td>
<td>2</td>
<td>(&lt; Max. Calls)</td>
</tr>
</tbody>
</table>

### 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) |
## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM</td>
<td>Cisco CallManager</td>
</tr>
<tr>
<td>CFB</td>
<td>Call Forwarding Busy</td>
</tr>
<tr>
<td>CFNR</td>
<td>Call Forwarding No Reply</td>
</tr>
<tr>
<td>CFU</td>
<td>Call Forwarding Unconditional</td>
</tr>
<tr>
<td>CLIP</td>
<td>Calling Line (Number) Identification Presentation</td>
</tr>
<tr>
<td>CLIR</td>
<td>Calling Line (Number) Identification Restriction</td>
</tr>
<tr>
<td>CNIP</td>
<td>Calling Name Identification Presentation</td>
</tr>
<tr>
<td>CNIR</td>
<td>Calling Name Identification Restriction</td>
</tr>
<tr>
<td>COLP</td>
<td>Connected Line (Number) Identification Presentation</td>
</tr>
<tr>
<td>COLR</td>
<td>Connected Line (Number) Identification Restriction</td>
</tr>
<tr>
<td>CONP</td>
<td>Connected Name Identification Presentation</td>
</tr>
<tr>
<td>CONR</td>
<td>Connected Name Identification Restriction</td>
</tr>
<tr>
<td>CT</td>
<td>Call Transfer</td>
</tr>
<tr>
<td>PSTN</td>
<td>Public Switched Telephone Network</td>
</tr>
</tbody>
</table>
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<th>Americas Headquarters</th>
<th>Asia Pacific Headquarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>170 West Tasman Drive</td>
<td>BV</td>
<td>170 West Tasman Drive</td>
<td>Capital Tower</td>
</tr>
<tr>
<td>San Jose, CA 95134-1706</td>
<td>Haarlerbergpark</td>
<td>San Jose, CA 95134-1706</td>
<td>168 Robinson Road</td>
</tr>
<tr>
<td>USA</td>
<td>Haarlerbergweg 13-19</td>
<td>USA</td>
<td>#22-01 to #29-01</td>
</tr>
<tr>
<td><a href="http://www.cisco.com">www.cisco.com</a></td>
<td>1101 CH Amsterdam</td>
<td><a href="http://www.cisco.com">www.cisco.com</a></td>
<td>Singapore 068912</td>
</tr>
<tr>
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<td>The Netherlands</td>
<td>Tel: 408 526-7660</td>
<td><a href="http://www.cisco.com">www.cisco.com</a></td>
</tr>
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<td>800 553-NETS (6387)</td>
<td>www-europe.cisco.com</td>
<td>Fax: 408 527-0883</td>
<td>Tel: +65 317 7777</td>
</tr>
<tr>
<td>Fax: 408 526-4100</td>
<td></td>
<td>Fax: +65 317 7799</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
<td>Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia • Czech Republic • Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Korea • Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal • Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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