Nortel Meridian 1 Release 25.40 using T1 QSIG to Cisco Unified CallManager 4.1

January 31, 2008

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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

Basic Call Setup End-to-End Configuration

PBX1: Nortel Meridian 1  
Option 11C w/ Release  
25.40

Phone A  
ox5101

PBX #1

Trunk 5  
Trunk 7

Phone B  
ox5102

ISDN Type:  
T1-QSIG

Dial-4XXX

ISDN Type:  
T1-PRI

PSTN

Phone F  
1650-555-6325

Dial  
91408-527-XXXX

Cisco 3745  
Multiservice  
Router

Cisco Catalyst  
3500 switch

Dial Plans  
5XXX  
To PBX Ext.  
To PSTN

Cisco Unified CallManager  
Release 4.1

Phone C  
x4007

Phone D  
x4008

Cisco 7960 IP phones

Dial  
91650-XXXXXXX

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=DNDN, 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 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) – See Limitations Section for caveat on display

CFB-Call Forwarding Busy (by join) – See Limitations Section for caveat on display

CFNR-Call Forwarding No Reply (by join) – See Limitations Section for caveat on display

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

**Features Not Supported**
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  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

REQ
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
    CTRZ 2 3
PR_RTN NO
MBGA NO
OVLR NO
OVLG NO
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)
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
IPC 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
PTYP PRI
AUTO NO
DNIS NO
DCDR NO
ICOG 1AO
SRCH RRB
TRMB YES
STEP
ACOD 305
TCPP NO
TARG 01
CLEN 1
BILN NO
OABS
INST
ANTK
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
IAFG 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

CLS  CTD FBD WTA LPR MTD PND 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 RCBD
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD DNDA CFXA ARHD CLTD ASCD
CPFA CPTA ABDD CFHD PICD NAID BUZZ AGRD MOAD AHD

DDGA NAME
DRDD EXR0
USRD ULAD RTDD RBDD RBHD PGND FLXD FTTC DNDY DNO3 MCBN

CPND LANG ENG
RCO 0
EPD 6001
HUNT 4001
EHT 6001
LHK 0
PLEV 02
AST
IAPG 0
AACS NO
ITNA NO
DGRP
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 RCBD
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 EXRO
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
Configuring the Cisco Unified CallManager

3745-T1 Gateway Configuration

Gateway Configuration

<table>
<thead>
<tr>
<th>Product</th>
<th>Cisco 3745</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>S3/081-08-3745-T1</td>
</tr>
<tr>
<td>Device Protocols</td>
<td>Digital Access PRI</td>
</tr>
<tr>
<td>Registration</td>
<td>Registered with Cisco CallManager jupiter</td>
</tr>
<tr>
<td>IP Address</td>
<td>172.20.99.52</td>
</tr>
</tbody>
</table>

Status: Ready
- Update
- Delete
- Reset Gateway

Device Information

<table>
<thead>
<tr>
<th>End-Point Name*</th>
<th>S3/081-08-3745-T1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>S3/081-08-3745-T1</td>
</tr>
<tr>
<td>Device Pool*</td>
<td>Default</td>
</tr>
<tr>
<td>Call Classification*</td>
<td>Use System Default</td>
</tr>
<tr>
<td>Network Locale</td>
<td>United States</td>
</tr>
<tr>
<td>Media Resource Group List</td>
<td>(None)</td>
</tr>
<tr>
<td>Location</td>
<td>(None)</td>
</tr>
<tr>
<td>E911 Group</td>
<td>(None)</td>
</tr>
<tr>
<td>Load Information</td>
<td>(None)</td>
</tr>
<tr>
<td>V150 (subset)</td>
<td>(None)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLPP Domain (e.g., '0000FF')</td>
<td></td>
</tr>
<tr>
<td>MLPP Indication</td>
<td>Off</td>
</tr>
<tr>
<td>MLPP Preemption</td>
<td>Enabled</td>
</tr>
</tbody>
</table>

### Interface Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRI Protocol Type*</td>
<td>PRI DSSG 1</td>
</tr>
<tr>
<td>Protocol Side*</td>
<td>User</td>
</tr>
<tr>
<td>Channel Selection Order*</td>
<td>Bottom-Up</td>
</tr>
<tr>
<td>Channel IE Type*</td>
<td>Timeslot Number</td>
</tr>
<tr>
<td>PCM Type*</td>
<td>p-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>
</tbody>
</table>

- [ ] Inhibit restarts at PRI initialization
- [ ] Enable status poll

### Call Routing Information

#### Inbound Calls

<table>
<thead>
<tr>
<th>Parameter</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>None</td>
</tr>
<tr>
<td>Prefix DN</td>
<td></td>
</tr>
</tbody>
</table>

#### Outbound Calls

<table>
<thead>
<tr>
<th>Parameter</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>CallProtect MSISDN format</td>
<td></td>
</tr>
<tr>
<td>Called party IE number type unknown*</td>
<td>Cisco CallManager</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Calling party IE number type unknown*</td>
<td>Cisco CallManager</td>
</tr>
<tr>
<td>Called Numbering Plan*</td>
<td>Cisco CallManager</td>
</tr>
<tr>
<td>Calling Numbering Plan*</td>
<td>Cisco CallManager</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>ISDN 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-IGIN Progress Indicator IE Enable****
- MCDN Channel Number Extension Bit Set to Zero**
- Send Calling Name In Facility IE
- Interface Identifier Present**

<table>
<thead>
<tr>
<th>Interface Identifier Value***</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Line ID Presentation (QSIG Inbound Call)*</td>
<td>Default</td>
<td></td>
</tr>
</tbody>
</table>

**H.248 Configuration**

- Passing Precedence Level Through H.248
- Security Access Level |  |  |
<table>
<thead>
<tr>
<th>Configuration Category</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send Calling Name in Facility IE</td>
<td></td>
</tr>
<tr>
<td>Interface Identifier Present**</td>
<td></td>
</tr>
<tr>
<td>Interface Identifier Value**</td>
<td></td>
</tr>
<tr>
<td>Connected Line ID Presentation (QSIG Inbound Call)*</td>
<td>Default</td>
</tr>
<tr>
<td><strong>UIUE Configuration</strong></td>
<td></td>
</tr>
<tr>
<td>Passing Precedence Level Through UIUE</td>
<td></td>
</tr>
<tr>
<td>Security Access Level</td>
<td></td>
</tr>
<tr>
<td><strong>Product Specific Configuration</strong></td>
<td></td>
</tr>
<tr>
<td>Line Coding*</td>
<td>BRRS</td>
</tr>
<tr>
<td>Framing*</td>
<td>ESF</td>
</tr>
<tr>
<td>Clock*</td>
<td>External</td>
</tr>
<tr>
<td>Input Gain (-6...14 db)*</td>
<td></td>
</tr>
<tr>
<td>Output Attenuation (-6...14 db)*</td>
<td></td>
</tr>
<tr>
<td>Echo Cancellation Enable*</td>
<td>Enable</td>
</tr>
<tr>
<td>Echo Cancellation Coverage (ms)*</td>
<td>Default</td>
</tr>
</tbody>
</table>

* indicates required item
** applicable to DMS-100 protocol only
*** applicable to DMS-100 protocol and DMS-259 protocol only
**** may be required to force ringback from some PBXs

Back to MGCP Configuration
Back to FindAList Gateways
### Partition Configuration

**Partition: Incoming Trunk**

<table>
<thead>
<tr>
<th>Status: Ready</th>
</tr>
</thead>
</table>

- **Partition Name**: Incoming Trunk
- **Description**: Incoming Trunk
- **Time Schedule**: (None)
- **Time Zone**: (GMT) Montevideo, Cosecha

* Indicates required item
Partition Configuration

Partition: phones
Status: Ready
Update | Delete | Restart Devices

Partition Name* phones
Description phones
Time Schedule <None> ▶

Time Zone
  - Originating Device
  - Specific Time Zone (GMT) Monrovia, Costa Rica

* Indicates required item
<table>
<thead>
<tr>
<th>Call Classification*</th>
<th>OnNet</th>
<th>☐ Allow Device Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Provide Outside Dial Tone</td>
<td>☐ Allow Overlap Sending</td>
<td>☐ Urgent Priority</td>
</tr>
<tr>
<td>☐ Require Forced Authorization Code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authorization Level</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>☐ Require Client Master Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Calling Party Transformations

<table>
<thead>
<tr>
<th>Use Calling Party's External Phone Number Mask</th>
<th></th>
</tr>
</thead>
<tbody>
<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>Connected Line ID Presentation</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Name Presentation</td>
<td>Default</td>
</tr>
</tbody>
</table>

### Called Party Transformations

<table>
<thead>
<tr>
<th>Discard Digits</th>
<th>☐ None</th>
</tr>
</thead>
<tbody>
<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>Carrier Identification Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Service Protocol</td>
<td>Not Selected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Service</th>
<th>Service Parameter Name</th>
<th>Service Parameter Value</th>
</tr>
</thead>
</table>

* Indicates required item.
<table>
<thead>
<tr>
<th>Call Classification*</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Provide Outside Dial Tone</td>
<td>□ Allow Overlap Sending</td>
<td></td>
</tr>
<tr>
<td>□ Require Forced Authorization Code</td>
<td>□ Allow Device Override</td>
<td></td>
</tr>
<tr>
<td>Authorization Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Require Client Master Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Calling Party Transformations**

<table>
<thead>
<tr>
<th>Use Calling Party’s External Phone Number Mask</th>
<th></th>
</tr>
</thead>
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</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**

| Connected Line ID Presentation | Default |
| Connected Name Presentation | Default |

**Called Party Transformations**

| Discard Digits | Default |
| Called Party Transform Mask |  |
| Prefix Digits (Outgoing Calls) |  |

**ISDN Network-Specific Facilities Information Element**

| Carrier Identification Code |  |
| Network Service Protocol | Not Selected |
| Network Service | Not Selected |
| Service Parameter Name | Not Exists |
| Service Parameter Value |  |

* Indicates required item.
## Overlap Sending Route Pattern Configuration

**Route Pattern Configuration**

**Route Patterns: 1119.X**

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

<table>
<thead>
<tr>
<th>Pattern Definition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Pattern</td>
<td>1119X</td>
</tr>
<tr>
<td>Partition</td>
<td>None</td>
</tr>
<tr>
<td>Description</td>
<td>Overlap to Nortel 25-408</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>MLPP Precedence</td>
<td>Default</td>
</tr>
<tr>
<td>Gateway or Route List</td>
<td>S3051-8@3745_T1 (Edit)</td>
</tr>
<tr>
<td>Route Option</td>
<td>Route this pattern</td>
</tr>
<tr>
<td>Call Classification</td>
<td>Default</td>
</tr>
</tbody>
</table>

- **Block this pattern:** Not Selected
- **Provide Outside Dial Tone:**
- **Allow Overlap Sending:**
- **Allow Device Override:**
- **Require Forced Authorization Code:**
- **Authorization Level:**
- **Require Client Matter Code:**

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<table>
<thead>
<tr>
<th>Call Classification</th>
<th>OnNet</th>
<th>Allow Device Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide Outside Dial Tone</td>
<td></td>
<td>Allow Overlap Sending</td>
</tr>
<tr>
<td>Require Forced Authorization Code</td>
<td></td>
<td>Urgent Priority</td>
</tr>
<tr>
<td>Authorization Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Require Client Matter Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Calling Party Transformations**

<table>
<thead>
<tr>
<th>Calling Party Transform Mask</th>
<th></th>
</tr>
</thead>
<tbody>
<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**

| 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 | |

* Indicates required item.
Route Pattern Configuration

Route Pattern: 91658XXXXXXX
Status: Ready
Note: Any update to this Route Pattern automatically resets the associated gateway or Route List

Pattern Definition

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Pattern</td>
<td>91658XXXXXXX</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 List</td>
<td>S3/OSI-0-3745_T1</td>
</tr>
<tr>
<td>Route Option</td>
<td>Route this pattern</td>
</tr>
<tr>
<td>Block this pattern</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Call Classification</td>
<td>CN:1</td>
</tr>
<tr>
<td>Provide Outside Dial Tone</td>
<td>disabled</td>
</tr>
<tr>
<td>Require Forced Authorization Code</td>
<td></td>
</tr>
<tr>
<td>Authorization Level</td>
<td>0</td>
</tr>
<tr>
<td>Require Client Matter Code</td>
<td>disabled</td>
</tr>
</tbody>
</table>

Add a New Route Pattern
Back to Find/List Route Patterns
### Call Classification*
- **OnNet**
- **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**
- **Profile 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**
- **Profile Digits (Outgoing Calls)**

#### ISDN Network-Specific Facilities Information Element
- **Carrier Identification Code**
- **Network Service**
- **Service Parameter Name**
- **Service Parameter Value**

* Indicates required item.
Translation Pattern for Incoming Calls

Translation Pattern Configuration

Translation Pattern: 4XXX
Status: Ready

Copy Update Delete

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>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>Route this pattern</td>
</tr>
<tr>
<td></td>
<td>Block this pattern</td>
</tr>
<tr>
<td>Provide Outside Dial Tone</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Urgent Priority</td>
<td></td>
</tr>
</tbody>
</table>

Calling Party Transformations

- Use Calling Party’s External Phone Number Mask

Add a New Translation Pattern
Back to Find/List Translation Patterns

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### Calling Party Transformations

- **Numbering Plan**: North American Numbering Plan
- **Route Filter**: <None>
- **Calling Search Space**: phones
- **MLPP Precedence**: Default
- **Route Option**: 
  - Route this pattern
  - Block this pattern: Not Selected

### 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 and CNIR Route Pattern Configuration

#### Configuration

**Route Patterns: 500X**

- **Status:** Ready
- Note: Any updates to this Route Pattern automatically update to the associated gateway or route list

<table>
<thead>
<tr>
<th>Pattern Definition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Pattern*</td>
<td>500X</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>MLP Precedence</td>
<td>Default</td>
</tr>
<tr>
<td>Gateway or Route List*</td>
<td>53010-0001 @3745_T1</td>
</tr>
<tr>
<td>Route Option</td>
<td>Route this pattern</td>
</tr>
<tr>
<td>Call Classification*</td>
<td>ON Net</td>
</tr>
<tr>
<td>Provide Outside Dial Tone</td>
<td>Yes</td>
</tr>
<tr>
<td>Require Forced Authentication Code</td>
<td>Yes</td>
</tr>
<tr>
<td>Authorization Level</td>
<td>8</td>
</tr>
<tr>
<td>Require Client Matter Code</td>
<td>Yes</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: Restricted
- Calling Name Presentation: Restricted
### COLR and CONR Translation Pattern Configuration

<table>
<thead>
<tr>
<th>Translation Pattern: 4XXK</th>
<th>Status: Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy</td>
<td>Update</td>
</tr>
</tbody>
</table>

#### Pattern Definition
- **Translation Pattern**: 4XXK
- **Partition**: Incoming Trunk
- **Description**: 
- **Numbering Plan**: North American Numbering Plan
- **Route Filter**: <None>
- **Calling Search Space**: phones
- **MLPP Precedence**: Default
- **Route Option**: Route this pattern
- **Block this pattern**: Not Selected

#### 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**: Restricted
- **Connected Name Presentation**: Restricted

#### Called Party Transformations
- **Discard Digits**: <None>
- **Called Party Transform Mask**: 

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MWI lamp On/Off Configuration

Message Waiting Configuration

Message Waiting Number: 7000
Status: Ready

Message Waiting Number

Description

Message Waiting Indicator

 Partition
Calling Search Space

* indicates required item

Add a New Message Waiting Number
Back to Find/ list Message Waiting Numbers
### Message Waiting Configuration

<table>
<thead>
<tr>
<th>Message Waiting Number: 7001</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status:</strong> Ready</td>
</tr>
<tr>
<td><strong>Copy</strong></td>
</tr>
<tr>
<td><strong>Update</strong></td>
</tr>
<tr>
<td><strong>Delete</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Message Waiting Indicator</strong></td>
</tr>
<tr>
<td><strong>On</strong></td>
</tr>
<tr>
<td><strong>Off</strong></td>
</tr>
<tr>
<td><strong>Partition</strong></td>
</tr>
<tr>
<td><strong>Phones</strong></td>
</tr>
<tr>
<td><strong>Calling Search Space</strong></td>
</tr>
<tr>
<td><strong>Phones</strong></td>
</tr>
</tbody>
</table>

* indicates required item
### CallBack Service Parameters

#### Cluster Wide Parameters (Feature - Call Back)

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Parameter Value</th>
<th>Suggested Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CallBack Enabled Flag</td>
<td>True</td>
<td>True</td>
</tr>
<tr>
<td>Callback Notification Audio File Name</td>
<td>CallBack.raw</td>
<td>CallBack.raw</td>
</tr>
<tr>
<td>Connection Proposal Type</td>
<td>Connection Retention</td>
<td>Connection Release</td>
</tr>
<tr>
<td>Connection Response Type</td>
<td>Default to Connection Retention</td>
<td>Default to Connection Retention</td>
</tr>
<tr>
<td>Callback Request Protection Timer (T1) (sec)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Callback Recall Timer (T3) (sec)</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>CallBack Calling Search Space</td>
<td>(None)</td>
<td>(None)</td>
</tr>
</tbody>
</table>

#### Cluster Wide Parameters (Route Plan)
### Softkey Template Configuration

**Softkey Template Name**: Standard User Callback  
**Description**: Standard Softkey Template for CallManager only

**Application**: Cisco CallManager

* Indicates required item
CallBack Softkey Template Configuration

Softkey Layout Configuration

Softkey Template: Standard User Callback

Status: Ready

Unselected Softkeys
- Conference List (3)<UnDefined>
- Directed Transfer (2)<DiLit>
- Immediate Divert (3)<DiVer>
- Join (1)<Join>
- Quality Report Tool (23)<QRT>
- Remove Last Conference Party (19)
- Select (29)<Select>
- Undefined (0)<Undefined>
- Video Mode Command (3)<VidMode>

Selected Softkeys (ordered by position)**
- Redial (1)<Redial>
- **New Call (2)<NewCall>
- Forward All (5)<FwdAll>
- Call Back (20)<CallBack>

** indicates mandatory fields
* indicates required item
Softkey Layout Configuration

Unselected Softkeys

Selected Softkeys (ordered by position)**

** indicates mandatory fields
* indicates required item
### Path Replacement Service Parameters

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Parameter Value</th>
<th>Suggested Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path Replacement Enabled</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>Path Replacement on Tromboned Calls</td>
<td>True</td>
<td>True</td>
</tr>
<tr>
<td>Start Path Replacement Minimum Delay Time (sec)*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Start Path Replacement Maximum Delay Time (sec)*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Path Replacement T1 Timer (sec)*</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Path Replacement T2 Timer (sec)*</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Path Replacement PINX Id</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Path Replacement Calling Search Space</td>
<td>PathReplacementCCS</td>
<td></td>
</tr>
</tbody>
</table>

To enable Path Replacement
# Forward by Reroute Service Parameter

## Clusterwide Parameters (Feature - Forward)

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Parameter Value</th>
<th>Suggested Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Maximum Hop Count*</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Forward No Answer Timer (sec)*</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Max Forward Hops to ON*</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Return Forward Information*</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>Forward By Reroute Enabled*</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>Forward By Reroute TTL Timer (sec)*</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

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

## Clusterwide Parameters (Feature - Path Replacement)

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Parameter Value</th>
<th>Suggested Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path Replacement Enabled*</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>Path Replacement on Troubled Calls*</td>
<td>True</td>
<td></td>
</tr>
<tr>
<td>Start Path Replacement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To forward by Reroute
<table>
<thead>
<tr>
<th>User Locale</th>
<th>&lt;None&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Locale</td>
<td>&lt;None&gt;</td>
</tr>
<tr>
<td>Device Security Mode</td>
<td>Use System Default</td>
</tr>
<tr>
<td>Signal Packet Capture Mode</td>
<td>None</td>
</tr>
<tr>
<td>Packet Capture Duration</td>
<td>0</td>
</tr>
<tr>
<td>Built In Bridge</td>
<td>Default</td>
</tr>
<tr>
<td>Privacy</td>
<td>Default</td>
</tr>
</tbody>
</table>

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

**Phone Button Template Information**

| Phone Button Template* | Standard 7860 (View button list) |

**Softkey Template Information**

| Softkey Template          | Standard User CallBack                  |

**Expansion Module Information**

<table>
<thead>
<tr>
<th>Module 1</th>
<th>&lt;None&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 2</td>
<td>&lt;None&gt;</td>
</tr>
</tbody>
</table>

**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
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messages</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>Authentication Server</td>
<td></td>
</tr>
<tr>
<td>Proxy Server</td>
<td></td>
</tr>
<tr>
<td>Idle</td>
<td></td>
</tr>
<tr>
<td>Idle Timer (seconds)</td>
<td></td>
</tr>
<tr>
<td><strong>Extension Mobility (Device Profile) Information</strong></td>
<td></td>
</tr>
<tr>
<td>Enable Extension Mobility Feature</td>
<td></td>
</tr>
<tr>
<td>Log Out Profile</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Log In User ID</td>
<td>None</td>
</tr>
<tr>
<td>Log In Time</td>
<td>None</td>
</tr>
<tr>
<td>Log Out Time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Certification Authority Proxy Function (CAPF) Information</strong></td>
<td></td>
</tr>
<tr>
<td>Certificate Operation</td>
<td>No Pending Operation</td>
</tr>
<tr>
<td>Authentication Mode</td>
<td>By Authentication String</td>
</tr>
<tr>
<td>Authentication String</td>
<td>Generate String</td>
</tr>
<tr>
<td>Key Size (bits)</td>
<td>1024</td>
</tr>
<tr>
<td>Operation Completes By**</td>
<td>YYYY : MMM : DD : HH</td>
</tr>
<tr>
<td>Certificate Operation Status</td>
<td>None</td>
</tr>
<tr>
<td><strong>Multilevel Precedence and Preemption (MLPP) Information</strong></td>
<td></td>
</tr>
<tr>
<td>MLPP Domain</td>
<td>(e.g., &quot;0000FF&quot;)</td>
</tr>
<tr>
<td>MLPP Indication</td>
<td>Default</td>
</tr>
<tr>
<td>MLPP Preemption</td>
<td>Default</td>
</tr>
<tr>
<td>Key Size (bits)</td>
<td>1024</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
</tr>
<tr>
<td>Operation Completes By**</td>
<td></td>
</tr>
<tr>
<td>Certificate Operation Status</td>
<td>None</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>MLPP Domain</th>
<th>(e.g., &quot;0000FF&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLPP Indication</td>
<td>Default</td>
</tr>
<tr>
<td>MLPP Preemption</td>
<td>Default</td>
</tr>
</tbody>
</table>

** Product Specific Configuration **

<table>
<thead>
<tr>
<th>Disable Speakerphone</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disable Speakerphone and Headset</td>
<td></td>
</tr>
<tr>
<td>Forwarding Delay*</td>
<td>Disabled</td>
</tr>
<tr>
<td>PC Port*</td>
<td>Enabled</td>
</tr>
<tr>
<td>Settings Access*</td>
<td>Enabled</td>
</tr>
<tr>
<td>Gratuitous ARP*</td>
<td>Enabled</td>
</tr>
<tr>
<td>PC Voice VLAN Access*</td>
<td>Enabled</td>
</tr>
<tr>
<td>Video Capabilities*</td>
<td>Disabled</td>
</tr>
<tr>
<td>Auto Line Select*</td>
<td>Disabled</td>
</tr>
<tr>
<td>Web Access*</td>
<td>Enabled</td>
</tr>
</tbody>
</table>

* Indicates a required item.
** Indicates time on Publisher.
### Directory Number Configuration

**Associated With**
- SEP003094C202B2 (Line 1)

**Directory Number: 4007 (phones)**
- **Status:** Ready
- **Note:** Any update to this Directory Number automatically resets the associated devices

**Directory Number**
- Directory Number: 4007
- Partition: phones

**Directory Number Settings**
- **Voice Mail Profile:** (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:**
  - Forward All: [ ]
  - Coverage/Destination: [None]
  - Calling Search Space: [None]
### Call Forward and Pickup Settings

<table>
<thead>
<tr>
<th>Forward Setting</th>
<th>Voice Mail</th>
<th>Coverage/Destination</th>
<th>Calling Search Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward All</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Busy Internal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Busy External</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward No Answer Internal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward No Answer External</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward No Coverage Internal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward No Coverage External</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Answer Ring Duration</td>
<td>(seconds)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **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**: Avaya Alerting

### Line Settings for this Device

- **Display (Internal Caller ID)**: Avaya Connected
- **Line Text Label**: 
- **External Phone Number Mask**: 
- **Message Waiting Lamp Policy**: Use System Policy
## Line Settings for all Devices

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerting Name</td>
<td>Alcatel 816</td>
</tr>
</tbody>
</table>

## Line Settings for this Device

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display (Internal Caller ID)</td>
<td>Alcatel 816</td>
</tr>
<tr>
<td>Line Text Label</td>
<td></td>
</tr>
<tr>
<td>External Phone Number Mask</td>
<td></td>
</tr>
<tr>
<td>Message Waiting Lamp Policy</td>
<td>Use System Policy</td>
</tr>
<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>

## MultiCall / Call Waiting Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Number of Calls</td>
<td>4 (1 - 156)</td>
</tr>
<tr>
<td>Busy Trigger*</td>
<td>2 (&lt;= Max. Calls)</td>
</tr>
</tbody>
</table>

## Forwarded Call Information Display

- **Call Name**: Selected
- **Caller Number**: Selected
- **Redirected Number**: Selected
- **Dailed Number**: Selected

* 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.)

<table>
<thead>
<tr>
<th>Character Set</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western European (Latin 1)</td>
<td></td>
</tr>
</tbody>
</table>
Configuring the Cisco 3745

3745 Configuration

```
3745_T1#sh ver
Cisco IOS Software, 3700 Software (C3745-ADVENTERPRISEK9-M), Version 12.3(7)T, R
ELEASE 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/ww1/export/crypto/tool/stqrq.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

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Page 52 of 64
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  Qsec
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
   OVLR NO
   OVLS NO
   T310 120
   T200 3
```
Appendix A

CallManager Software Release

When reporting or troubleshooting a problem, please give the following information to Technical Assistance:

* Cisco CallManager System version: 4.1(2)
* Cisco CallManager Administration version: 4.1(0.6)
* Cisco CallManager Installation ID: CCM4.1(2)

Database Information

DSN: CiscoCallManager
SERVER: JUPITER
DATABASE: CCM0305

OK

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 PSTNPHONE
!
voice-port 2/0/1
!
!
!
dial-peer cor custom
!
!
!
dial-peer voice 1 pots
  destination-pattern 16505556325
  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

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANF-PR</td>
<td>Additional Network Feature Path Replacement</td>
</tr>
<tr>
<td>CCM</td>
<td>Cisco CallManager</td>
</tr>
<tr>
<td>CCBS</td>
<td>Call Completion to Busy Subscriber</td>
</tr>
<tr>
<td>CCNR</td>
<td>Call Completion on No Reply</td>
</tr>
<tr>
<td>CFB</td>
<td>Call Forwarding on 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>CMM</td>
<td>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</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>MWI</td>
<td>Message Waiting Indicator</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>
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<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>
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<td>www-europe.cisco.com</td>
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<td><a href="http://www.cisco.com">www.cisco.com</a></td>
</tr>
<tr>
<td>800 553-NETS (6387)</td>
<td>Tel: 31 0 20 357 1000</td>
<td>Fax: 408 527-0883</td>
<td>Tel: +65 317 7777</td>
</tr>
<tr>
<td>Fax: 408 526-4100</td>
<td>Fax: 31 0 20 357 1100</td>
<td></td>
<td>Fax: +65 317 7799</td>
</tr>
</tbody>
</table>

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