

Cisco Unified Communications Manager Release 6.0 - PBX Interoperability: Nortel CS1000M Release 4.0 Using SIP Trunk.

August 1, 2007 Initial Version

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Introduction

The purpose of this document is to detail the steps and configurations necessary for Cisco Unified Communications Manager 6.0 to interoperate with the Nortel Communication Server 1000M (CS1000M) running software release 4.0

The following items were tested:

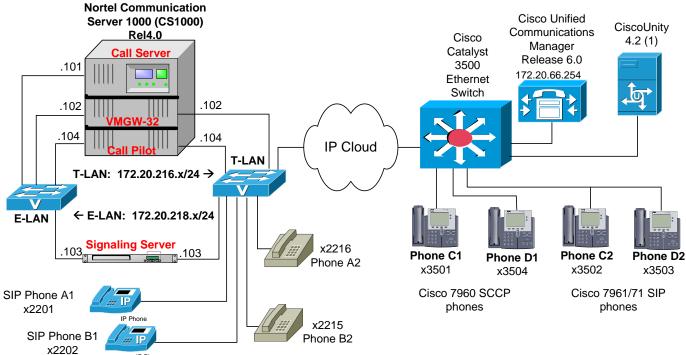
- 1. SIP and SCCP phone registration to the Cisco Unified Communications Manager
- 2. Basic call between the two systems and verification of voice path
- 3. CLIP/CLIR/CNIP/CNIR features Calling Party Name and Number delivery (Allowed and Restricted)
- 4. COLP/CONP/COLR/CONR features Connected Name and Number delivery (Allowed and Restricted)
- 5. Call Transfer (Blind, Attended, Early Attended)
- 6. Call Forwarding (CFA Call Forward All, CFB Call Forward Busy, CFNA Call Forward No Answer)
- 7. Hold and Resume with Music On-Hold
- 8. Voice Messaging and MWI activation-deactivation
- 9. DTMF-relay (RFC2833, SIP INFO, or KPML)



Network Topology

Figure 1. Network Topology or Test Setup

SIP Call Setup End-to-End Configuration





Limitations

For Nortel CS1000M and Cisco Unified Communications Manager (CUCM) to interoperate with each other (Basic Call and/or Supplementary features), the CUCM "Media Termination Point Required" box must be checked under the SIP Trunk configuration. This causes the CUCM SIP trunk to support Early Offer (SIP Invite with SDP) by pre-allocating MTP resources. The Nortel PBX requires early offer to set its media attribute to send/receive mode. If this box is not checked, CUCM will do delay offer (SIP Invite without SDP, SDP included in 200 ACK message instead). The Nortel PBX responds to delay offer by setting its media attribute to receive only mode. Thus, although calls are completed, there is one way audio from Cisco to Nortel.

The method used by each system to pass the phone name and number information across the SIP trunk is different. Cisco Unified Communications Manager used the "Remote-Party-Id" field while Nortel CS1000M used the "P-Asserted-Id" field. Since both parties do not support each other method, they used the information from the SIP From header as the calling party name and number information

For features such as CLIR, CNIR, COLR and CONR, both systems set the SIP FROM: header to be "Anonymous" and have the proper restriction set with the RPID and PAI fields. Since both parties do not support each other method, they used the information within the SIP FROM: header instead which is "Anonymous". Cisco Unified Communications Manager use "Remote-Party-Id" and "Privacy" whereas Nortel use "P-Asserted-Id" and "Privacy".

Both systems support Attended and Early Attended Call Transfer feature. However, they are not able to update the phone displays properly after the transfer is completed. This is due to the differences between the two systems method of passing the name and number information across SIP Trunk.

Both Nortel phones and Cisco Unified Communications Manager TNP phones (7961, 7970, 7971 and 7911) phones do not support SIP Blind Call Transfer.

Both systems support Call Forwarding (CFU, CFB, and CFNA) features. However, they are not able to update the phone displays properly after forwarding the call. This is due to the differences between the two systems method of passing the name and number information.

Call Completion (Callback) is not a supported feature on either systems using standard SIP protocol.

Voice Messaging does not work across SIP Trunk between CUCM and Nortel CS1000M PBX. The CUCM uses the SIP Diversion header to pass the redirect information across the SIP Trunk to the system that hosts the VM system. On the other hand, Nortel uses the SIP History-Info field. Due to the difference in the method of sending redirect information, the voice mail system cannot recognize a forwarded call and thus, will treat the call as a direct access call. As a result, Cisco Unity and/or Nortel Call Pilot will not work as a centralized voice mail system for both systems. Each voice mail system (Cisco Unity or Nortel Call Pilot) cannot have subscribers belonging to the one another. For example, Cisco Unity can be a voice mail system for Cisco Unified Communications Manager subscribers but not Nortel CS1000M subscribers using SIP Trunk.

MWI Activation and De-activation message do not work across SIP Trunk. The CUCM uses SIP Notify message for MWI notification. However, Nortel does not support this method.

End-to-end DTMF relay signaling does not work between the two systems and are incompatible with one another. The CUCM supports both RFC2833 and KPML methods of DTMF-relay. As of Release 4.0, the Nortel CS1000 uses SIP INFO message to relay DTMF.

System Components

Hardware Requirements

Cisco Unified Communications Manager MCS -7835H server,

Unity server MCS-7835H

Catalyst switch 3560 PoE-48

Cisco 7971, 7961 and 7960 IP phones

Nortel CS1000M

Nortel digital (2616) and IP (i2004, i2002) phones



Software Requirements

Cisco Unified Communications Manager Release 6.0.1

Cisco Unity Release 4.2(1)

CS1000M Release 4.0

Features

CLIP-Calling Line (Number) Identification Presentation (Please see the Limitation section)

CLIR-Calling Line (Number) Identification Restriction (Please see the Limitation section)

CNIP-Calling Name Identification Presentation (Please see the Limitation section)

CNIR-Calling Name Identification Restriction (Please see the Limitation section)

Alerting Name (Please see the Limitation section)

Attended Call Transfer (Please see the Limitation section)

Early Attended Call Transfer (Please see the Limitation section)

CFU-Call Forwarding Unconditional (Please see the Limitation section)

CFB-Call Forwarding Busy (Please see the Limitation section)

CFNA-Call Forwarding No Answer (Please see the Limitation section)

COLP-Connected Line (Number) Identification Presentation (Please see the Limitation section)

COLR- Connected Line (Number) Identification Restriction (Please see the Limitation section)

CONP-Connected Name Identification Presentation (Please see the Limitation section)

CONR-Connected Name Identification Restriction (Please see the Limitation section)

Hold and Resume

Conference Call (Please see the Limitation section)

Features Not Supported

MWI- Message Waiting Indication (lamp ON, lamp OFF) across the SIP Trunk

Call Completion (Callback; Automatic Callback)

Blind Call Transfer

DTMF-relay

Configuration

Configuring the Nortel Communication Server 1000 PBX

Call Server Setup via SSC Card Console

- 1. LD 17 Configure the IP D-channel (signaling channel) between the Call Server and the Signaling Server
- 2. LD 97 Configure the Super-loop for the Virtual Trunks
- 3. LD 14 Configure the SIP Virtual Trunks to the Signaling Server
- 4. LD 14 Configure the Virtual Gateway Trunks
- 5. LD 11 Configure for the Virtual lines for the Nortel IP phone (i200x series)
- 6. LD 16 Configure the SIP route
- 7. LD 86 Configure the Route List Block for the Virtual Trunk route



- 8. LD 87 Configure CDP steering codes
- 9. LD 21 List Trunk Member

Signaling Server Setup via the Nortel Element Manager

- 1. Configure the Zones
- 2. Configure a new IP Telephony Node summary
- 3. Configure the Node section
- 4. Configure the VGW and IP phone codec profile section
- 5. Configure the Quality of Service (QoS) section
- 6. Configure LAN Configuration section
- 7. Configure the SIP GW Setting section
- 8. Configure the Card section for the MC-32 VGMC card section
- 9. Configure the Signaling Server section

NRS (Network Routing Server)

- 1. Configure the System Wide Settings
- 2. Configure the NRS Server Settings
- 3. Configure a Service Domain
- 4. Configure a L1 Domain (UDP)
- 5. Configure a L0 Domain (CDP)
- 6. Configure a SIP gateway
- 7. Configure the Routing Entries

Configuring the Nortel Communication Server 1000 (CS1000)

Call Server Setup:

1. LD 17 - Configure the IP D-channel (signaling channel) between the Call Server and the Signaling Server

>ld 22 PT2000

REQ prt

TYPE adan dch 3

ADAN DCH 3

CTYP DCIP

DES IP_Trunk_DCH

USR ISLD

ISLM 4000

SSRC 1800

OTBF 32

NASA NO

IFC SL1

CNEG 1

RLS ID 4

RCAP ND2

MBGA NO

H323

OVLR NO

OVLS NO

2. LD 97 – Configure the Super-loop for the Virtual Trunks

>ld 97 SCSYS000



```
MEM AVAIL: (U/P): 2854769 USED U P: 182454 59352 TOT: 3096575
   DISK RECS AVAIL: 1152
   REQ prt
   TYPE supl
   SUPL
   SUPL SUPT SLOT XPEC0 XPEC1
   000 STD LEFT 01 0 1 ----
   004 STD LEFT 02 0 1 ----
   008 STD LEFT 03 0 1 -- - -
   012 STD LEFT 04 0 1 ----
   016 STD LEFT 05 0 1 ----
   032 STD LEFT 06 0 3 -- - -
   036 STD LEFT 07 0 3 -- - -
   040 STD LEFT 08 0 3 -- - -
   044 STD LEFT 10 0 3 ----
   048 STD LEFT 09 0 3 -- - -
   064 STD LEFT 11 0 3 ----
   068 STD LEFT 12 0 3 ----
   072 STD LEFT 13 0 3 ----
   096 VIRTUAL CARDS 61 - 64 81 - 84
   100 VIRTUAL CARDS 65 - 68 85 - 88
   128 STD LEFT 32 0 1 33 2 3
   132 STD LEFT 34 0 1 35 2 3
   136 STD LEFT 36 0 1 37 2 3
   140 STD LEFT 38 0 1 39 2 3
   144\ STD\ LEFT\ 40\ 0\ 1\ \ 41\ 2\ 3
   148 STD LEFT 42 0 1 43 2 3
   152 STD LEFT 44 0 1 45 2 3
   156 STD LEFT 46 0 1 47 2 3
3. LD 14 – Configure the SIP Virtual Trunks to the Signaling Server (One trunk = one line connection)
    >ld 20
    REQ: prt
    TYPE: tnb
                                          → SIP Virtual trunk to Signaling Server
    TN 62000
    DATE
    PAGE
    DES
    DES SIP_IP_VTRK
    TN 062 0 00 00 VIRTUAL
    TYPE IPTI
    CDEN 8D
    CUST 0
    XTRK VTRK
    ZONE 000
    LDOP BOP
    TIMP 600
    BIMP 600
    AUTO_BIMP NO
    TRK ANLG
    NCOS 0
    RTMB 10 1
    CHID 1
    TGAR 1
    STRI/STRO IMM IMM
```



```
SUPN YES
    AST NO
    IAPG 0
    CLS CTD DTN WTA LPR APN THFD
      P10 NTC MID
    TKID
    AACR NO
    DATE 25 FEB 2005
    NACT
4. LD 14 – Configure the Virtual Gateway Trunks (up to 32 trunks per MC-32)
   >ld 20
    REQ: prt
    TYPE: tnb
    TN 3
   CDEN
   CUST
    DATE
    PAGE
    DES
    DES 192.168.1.2
    TN 003 0 00 00
                                            → 1st channel define on the gateway
    TYPE VGW
    CUST 0
    XTRK MC32
    ZONE 000
    DES 192.168.1.2
    TN 003 0 00 01
                                            → 2nd channel define on the gateway
    TYPE VGW
    CUST 0
   XTRK MC32
    ZONE 000
5. LD 11 – Configure for the Virtual lines for the Nortel IP phones (phone A and phone B)
  Phone A1 (i2004)
    >ld 11
    SL1000
    MEM AVAIL: (U/P): 2854769 USED U P: 182454 59352 TOT: 3096575
    DISK RECS AVAIL: 1152
    DIGITAL TELEPHONES AVAIL: 6 USED: 2 TOT: 8
    IP USERS AVAIL: 6 USED: 2 TOT: 8 BASIC IP USERS AVAIL: 7 USED: 1 TOT: 8
     ACD AGENTS AVAIL: 10 USED: 0 TOT: 10
    PCA AVAIL: 0 USED: 0 TOT: 0
     AST AVAIL: 1 USED: 0 TOT: 1
     TNS AVAIL: 2405 USED: 95 TOT: 2500
    DATA PORTS AVAIL: 2500 USED: 0 TOT: 2500
    REQ: prt
    TYPE: tnb
    TN 610002
```



```
DATE
PAGE
DES
DES I2004
TN 061 0 00 02 VIRTUAL
TYPE I2004
CDEN 8D
CUST 0
ZONE 000
FDN
TGAR 1
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU
LNRS 16
XLST
CLS CTD FBA WTA LPR MTD FNA HTA TDD HFD CRPD
  MWA LMPN RMMD SMWD AAD IMD XHD IRA NID OLD VCE DRG1
  POD DSX VMD CMSD SLKD CCSD SWD LNA CNDA
  CFTA SFD MRD DDV CNIA CDCA MSID DAPA BFED RCBD
  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 OCBD FLXD FTTC DNDY DNO3 MCBN
  VOLA VOUD CDMR
CPND_LANG ENG
RCO 0
EFD
HUNT
EHT
LHK 0
LPK 1
PLEV 02
CSDN
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
DNDR 0
KEY 00 SCR 2201 0 MARP
   CPND
    NAME ZEUS_2201
    XPLN 8
    DISPLAY_FMT FIRST,LAST
  01
  02
  03 MIK
  04 MCK
  05
  06
  07
```



```
80
  09
  10
  11
  12
  13
  14
  15
  16 MWK 2500
  17 TRN
  18 AO6
  19 CFW 16 2500
  20 RGA
  21 PRK
  22 RNP
  23
  24 PRS
  25 CHG
  26 CPN
  27
  28
  29
  30
  31
DATE 24 MAY 2006
NACT
```

Phone A2 (2616):

```
REQ: prt
TYPE: 2616
TN 10
DATE
PAGE
DES
DES CS101A
TN 001 0 00 03
TYPE 2616
CDEN 8D
CUST 0
AOM 0
FDN
TGAR 1
LDN NO
NCOS 0
SGRP 0
RNPG 0
0 I
SSU
XLST
CLS CTD FBA 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 RCBD
  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 OCBD FLXD FTTC DNDY DNO3 MCBN CDMR
  CPND_LANG ENG
  RCO 0
  EFD
  HUNT
  EHT
  LHK 0
  PLEV 02
  CSDN
  AST
  IAPG 0
  AACS NO
  ITNA NO
  DGRP
  \mathsf{MLWU\_LANG}\ 0
  DNDR 0
  KEY 00 SCR 2216 0 MARP
     CPND
      NAME ZEUS_2216
      XPLN 9
      DISPLAY_FMT FIRST,LAST
    01
    02
    03 CFW 4 6100
    04 AO6
    05 TRN
    06
    07
    08
    09
    10
    11
    12
    13 MIK
    14 MCK
    15 RGA
  DATE 25 MAY 2006
  NACT
Phone B1 (i2002):
  REQ: prt
  TYPE: tnb
  TN 61001
  DATE
  PAGE
  DES
  DES 12002
  TN 061 0 00 01 VIRTUAL
  TYPE I2002
  CDEN 8D
  CUST 0
```



```
ZONE 000
FDN
TGAR 1
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
SSU
LNRS 16
XLST
CLS CTD FBA WTA LPR MTD FNA HTA TDD HFD CRPD
  MWA LMPN RMMD SMWD AAD IMD XHD IRA NID OLD VCE DRG1
  POD DSX VMD CMSD SLKD CCSD SWD LNA CNDA
  CFTA SFD MRD DDV CNIA CDCA MSID DAPA BFED RCBD
  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 OCBD FLXD FTTC DNDY DNO3 MCBN
  VOLA VOUD CDMR
CPND_LANG ENG
RCO 0
EFD
HUNT
EHT
LHK 0
LPK 1
PLEV 02
CSDN
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
DNDR 0
KEY 00 SCR 2202 0 MARP
   CPND
    NAME ZEUS_2202
    XPLN 8
    DISPLAY_FMT FIRST,LAST
  01
  02
  03 MIK
  04 MCK
  05
  06
  07
  80
  09
  10
  11
  12
  13
  14
  15
```

16 MWK 6100



```
17 TRN
    18 AO6
    19 CFW 16 6100
    20 RGA
    21 PRK
    22 RNP
    23
    24 PRS
    25 CHG
    26 CPN
    27
    28
    29
    30
    31
  DATE 24 MAY 2006
  NACT
Phone B2 (2616):
  REQ PRT
  TYPE: 2616
  TN 11
  DATE
  PAGE
  DES
  DES CS101A
  TN 001 0 00 02
  TYPE 2616
  CDEN 8D
  CUST 0
  AOM 0
  FDN
  TGAR 1
  LDN NO
  NCOS 0
  SGRP 0
  RNPG 0
  SCI 0
  SSU
  XLST
  CLS CTD FBA WTA LPR MTD FND HTA ADD HFD
  DRG1MWA LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE
    POD DSX VMD CMSD SLKD CCSD SWD LND CNDA
    CFTD SFD MRD DDV CNIA CDCA MSID DAPA BFED RCBD
    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
  CDMRUSRD ULAD RTDD RBDD RBHD PGND OCBD FLXD FTTC DNDY DNO3 MCBN
  CPND_LANG ENG
  RCO 0
  HUNT
  LHK 0
  PLEV 02
```

CSDN



```
AST
    IAPG 0
    AACS NO
    ITNA NO
    DGRP
    MLWU_LANG 0
    DNDR 0
    KEY 00 SCR 2215 0 MARP
        CPND
         NAME ZEUS_2215
         XPLN 7
         DISPLAY_FMT FIRST,LAST
       01
       02
       03 CFW 4 2500
       04 AO6
       05 TRN
       06
      07
       08
       09
       10
       11
       12
       13
       14
       15 RGA
    DATE 4 MAY 2006
    NACT
6. LD 16 – Configure the SIP route
   >ld 21
   PT1000
   REQ: prt
   TYPE: rdb
   CUST 0
   ROUT 10
   TYPE RDB
   CUST 00
   DMOD
   ROUT 10
   DES SIP_TIE
   TKTP TIE
   NPID_TBL_NUM 0
   ESN NO
   CNVT NO
   SAT NO
   RCLS EXT
   VTRK YES
   ZONE 000
   PCID SIP
   CRID YES
   NODE 101
   DTRK NO
```



```
ISDN YES
 MODE ISLD
 DCH 3
 IFC SL1
 PNI 00001
 NCNA YES
 NCRD YES
 TRO NO
 FALT NO
 CTYP UKWN
 INAC NO
 ISAR NO
 DAPC NO
PTYP ATT
AUTO NO
DNIS NO
DCDR NO
ICOG IAO
SRCH LIN
TRMB YES
STEP
ACOD 2310
TCPP NO
TARG 01
CLEN 1
BILN NO
OABS
INST
ANTK
SIGO STD
STYP SDAT
ICIS YES
TIMR ICF 512
  OGF 512
  EOD 13952
  DSI 34944
  NRD 10112
  DDL 70
  ODT 4096
  RGV 640
  GRD 896
  SFB 3
  NBS 2048
  NBL 4096
  IENB 5
PAGE 002
  TFD 0
  VSS 0
  VGD 6
SST 50
NEDC ORG
FEDC ORG
CPDC NO
DLTN NO
```

HOLD 02 02 40



```
SEIZ 02 02
SVFL 02 02
DRNG NO
CDR NO
VRAT NO
MUS NO
MANO NO
FRL 00
FRL 10
FRL 20
FRL 30
FRL 40
FRL 50
FRL 60
FRL 70
OHQ NO
OHQT 00
CBQ NO
AUTH NO
TTBL 0
ATAN NO
OHTD NO
PLEV 2
ALRM NO
ART 0
SGRP 0
AACR NO
REQ:
LD 86 – Configure the Route List Block for the Virtual Trunk route
>ld 86
ESN000
MEM AVAIL: (U/P): 2819994 USED U P: 223389 69576 TOT: 3112959
DISK RECS AVAIL: 1152
REQ prt
CUST 0
FEAT rlb
RLI 10
RLI 10
ENTR 0
LTER NO
ROUT 10
TOD 0 ON 1 ON 2 ON 3 ON
   4 ON 5 ON 6 ON 7 ON
VNS NO
SCNV NO
CNV NO
EXP NO
FRL 0
DMI 0
ISDM<sub>0</sub>
FCI 0
```

FSNI 0 SBOC NRR IDBB DBD

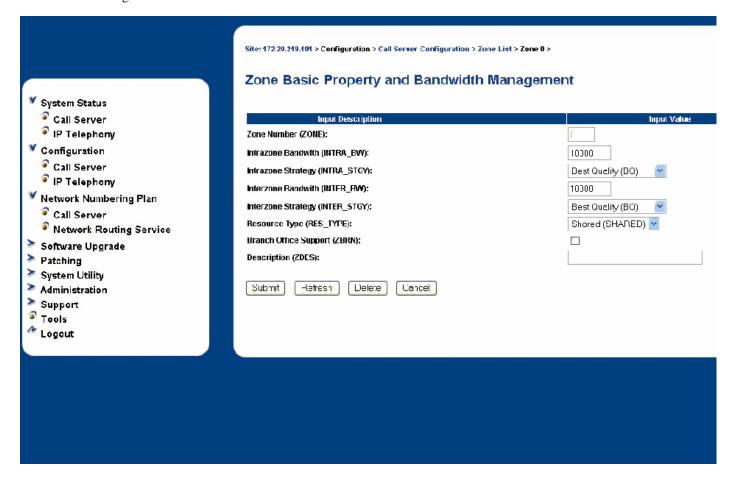


```
IOHQ NO
    OHQ NO
    CBQ NO
    ISET 0
    NALT 5
   MFRL 0
   OVLL 0
8. LD 87 – Configure CDP steering codes
   >ld 87
    ESN000
    MEM AVAIL: (U/P): 2819994 USED U P: 223389 69576 TOT: 3112959
    DISK RECS AVAIL: 1152
    REQ prt
   CUST 0
   FEAT cdp
    TYPE dsc
    DSC
   DSC 600
                                     → 600x Route to CCM extension, sent out via SIP route
   FLEN 0
   DSP LSC
   RLI 10
                                     → SIP Route List which point to Rout 10
   NPA
   NXX
                                     → 610x Route to Unity VM send out via SIP route
    DSC 610
   FLEN 0
   DSP LSC
   RLI 10
                                     → SIP Route List which point to Rout 10
   NPA
   NXX
9. LD 21 – List Trunk Members
   >Ld 21
    PT1000
    REQ: ltm
   CUST 0
    ROUT 10
   TYPE TLST
    TKTP TIE
    ROUT 10
    DES SIP_TIE
    TN 062 0 00 00 MBER 1 SIP_IP_VTRK
    TN 062 0 00 01 MBER 2 SIP_IP_VTRK
    TN 062 0 00 02 MBER 3 SIP_IP_VTRK
    TN 062 0 00 03 MBER 4 SIP_IP_VTRK
    TN 062 0 00 04 MBER 5 SIP_IP_VTRK
    TN 062 0 00 05 MBER 6 SIP_IP_VTRK
    TN 062 0 00 06 MBER 7 SIP_IP_VTRK
    TN 062 0 00 07 MBER 8 SIP_IP_VTRK
```



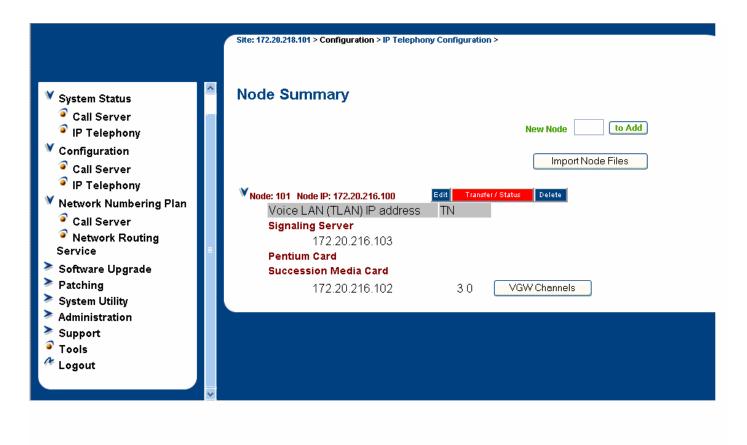
Signaling Server Setup:

10. Configure the Zones



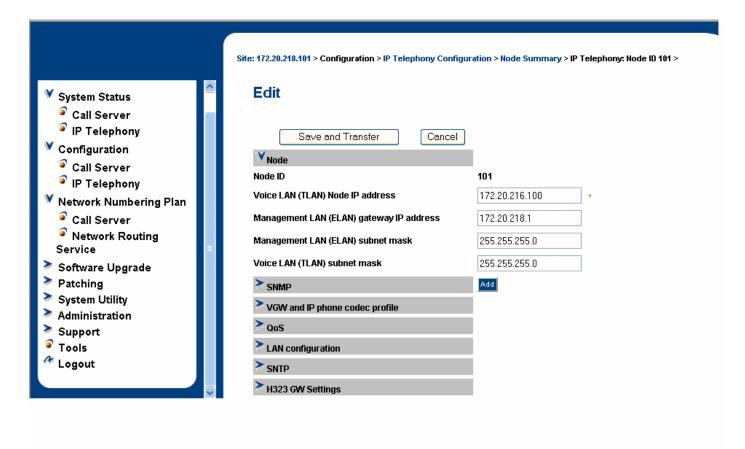


11. Configure a new IP Telephony Node summary





12. Configure the Node section

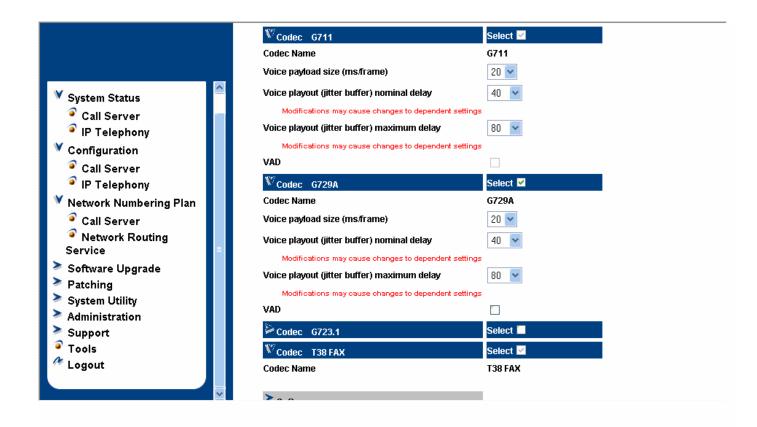




13. Configure the VGW and IP phone codec profile section

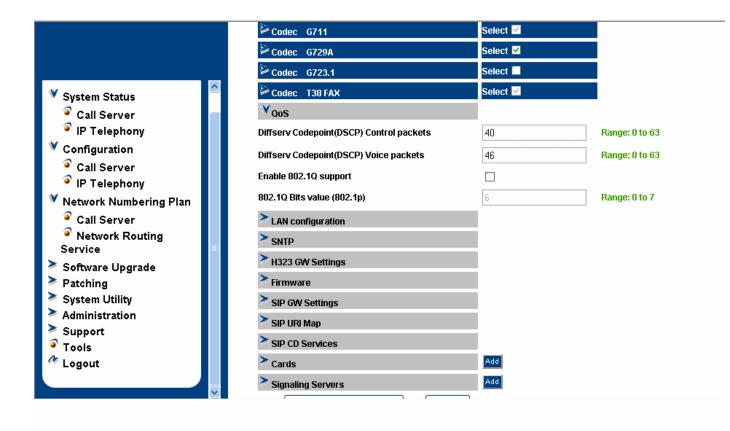
		VGW and IP phone codec profile		
		Enable Echo canceller	✓	
		Echo canceller tail delay	128 🔽	
▼ System Status	^	Voice activity detection threshold	-17	Range: -20 to +10
Call Server		ldle noise level	-65	Range: -327 to +327
IP Telephony		DTMF Tone detection	✓	
Configuration		Enable V.21 FAX tone detection	~	
Call ServerIP Telephony		FAX maximum rate (bps)	14400 🕶	
▼ Network Numbering Plan		FAX playout nominal delay	100	Range: 0 to 300
Call Server		FAX no activity timeout	20	Range: 10 to 32000
Network Routing Service		FAX packet size	30 💌	
Software Upgrade		Codec G711	Select <u>✓</u>	
Patching		Codec G729A	Select ✓	
System Utility		Codec G723.1	Select 🔲	
Administration Support		Codec T38 FAX	Select ✓	
Tools		≥ Q ₀ S		
* Logout		LAN configuration		
	4	≥ SNTP		





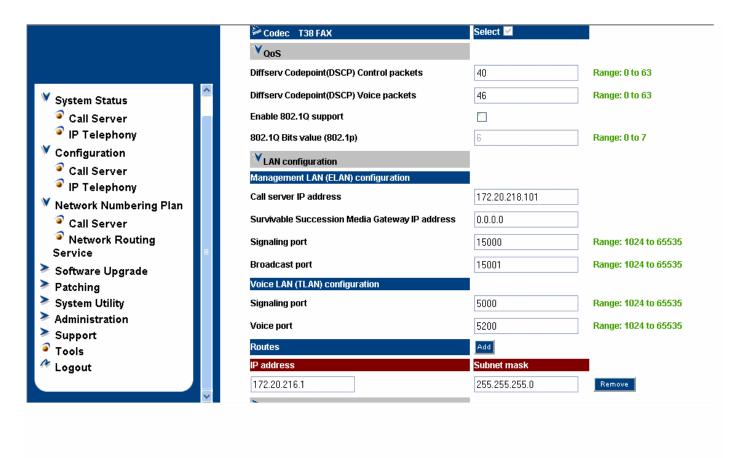


14. Configure the QoS section





15. Configure LAN Configuration section



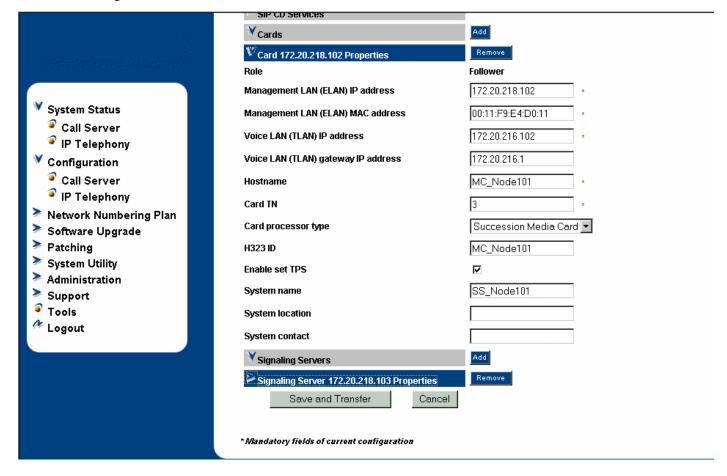


16. Configure the SIP GW Setting section

	▼SIP GW Settings	
	Primary Proxy / Re-direct IP address	172.20.216.103
	Primary Proxy / Re-direct IP Port	5060
	Primary Proxy Supports Registration	∀
▼ System Status	Primary CDS Proxy or Re-direct server flag	☑
Call Server	Secondary Proxy / Re-direct IP address	0.0.0.0
	Secondary Proxy / Re-direct IP Port	5060
▼ Configuration © Call Server	Secondary Proxy Supports Registration	
○ IP Telephony	Secondary CDS Proxy or Re-direct server flag	
Network Numbering Plan	¥ SIP URI Map	
Software Upgrade	Public E.164/National domain name	+1
PatchingSystem Utility	Public E.164/Subscriber domain name	+1314
Administration	Public E.164/Unknown domain name	
Support	Public E.164/Special Number domain name	
● Tools ◆ Logout	Private/UDP domain name	rtp
	Private/CDP domain name	interop.rtp
	Private/Special Number domain name	SPN.rtp
	Private/Unknown (vacant number routing) domain name	
	Unknown/Unknown domain name	
	SIP CD Services	
	Cards	Add

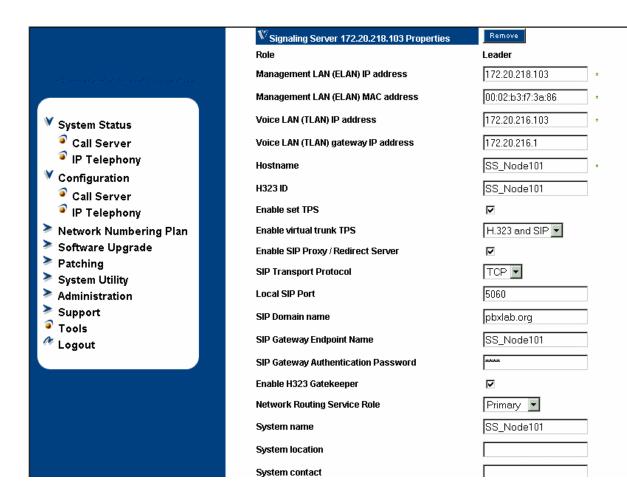


17. Configure the Card section for the MC-32 VGMC card section





18. Configure the Signaling Server section





Network Routing Server Setup:

19. Configure the System Wide Settings

	Network Routing Service	ee .	+ ##
Home Configuration Too	Is Reports Administration		Help Logout
	Location: Home > System Wide Se	ttings >	
NRS Overview	System Wide Settings		
=> System Wide Settings		DB sync interval for alternate [Hours]	24
NRS Server Settings	SIP re	gistration time to live timer [Seconds]	30
	H.323 gatekeeper re	gistration time to live timer [Seconds]	30
		H.323 alias name	H323NRS101 *
		Alternate NRS server is permanent	
		Auto backup time [HH:MM]	23:59
		Auto backup to FTP site enabled	
		Auto backup FTP site IP address	
		Auto backup FTP site path	<u>^</u>
		Auto backup FTP username	
		Auto backup FTP password	
	Save		



20. Configure the NRS Server Settings

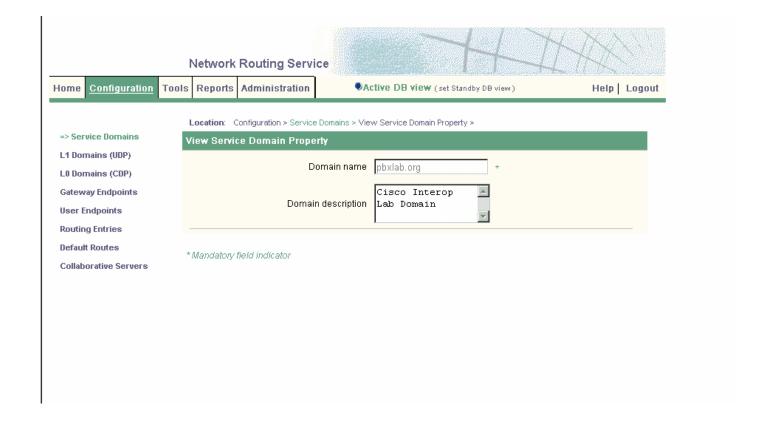
Home Configuration Too	Network Routing Service	Help Log
NRS Overview System Wide Settings	Location: Home > NRS Server Settings > NRS Settings	
=> NRS Server Settings	Host name	SS_Node101_Ldr *
	Primary IP (TLAN)	
	Alternate IP (TLAN)	172.20.217.103 *
	Control priority	40
	H.323 Gatekeeper Settings	
	Location request (LRQ) response timeout [Seconds]	3 🔻
	SIP Server Settings	
	Mode	Redirect 💌
	UDP transport enabled	V
	UDP port	5060



Home Configuration 1	Network Routing Service		Help Logout
	SIP Server Settings		
NRS Overview System Wide Settings		Mode Redirect 💌	
=> NRS Server Settings	UD	P transport enabled 🔽	
		UDP port 5060	
	UDP maximum trans	smission unit (MTU) 1500	
	тс	P transport enabled 📝	
		TCP port 5060	
	TCP maximum trans	smission unit (MTU) 1500	
	Network Connection Server (NCS)) Settings	
		Primary NCS port 16500	
		Alternate NCS port 16500	
	Primary NC	S timeout [Seconds]	
	Save		
	#Mandator field indicator		



21. Configure a Service Domain





22. Configure a L1 Domain (UDP)

	Network Routing Servi	ice Para A-Z	
Home Configuration To	ools Reports Administration	●Active DB view (set Standby DB view)	Help Logout
	Location: Configuration > L1 Dorr	nains (UDP) > View L1 Domain Property >	
Service Domains	View L1 Domain Property (p	obxlab.org)	
=> L1 Domains (UDP)		Domain name rtp *	
L0 Domains (CDP)		RTP Site	
Gateway Endpoints		Domain description	
User Endpoints	Endnoi	nt authentication enabled Authentication off	
Routing Entries		<u> </u>	
Default Routes		Authentication password	
Collaborative Servers		E.164 country code 1	
		E.164 area code 919	
	Internati	onal dialing access code	
	L1 dor	main dialing access code	
	Nati	onal dialing access code	
	L	ocal dialing access code	
		Special number 1	
		Special number 2	

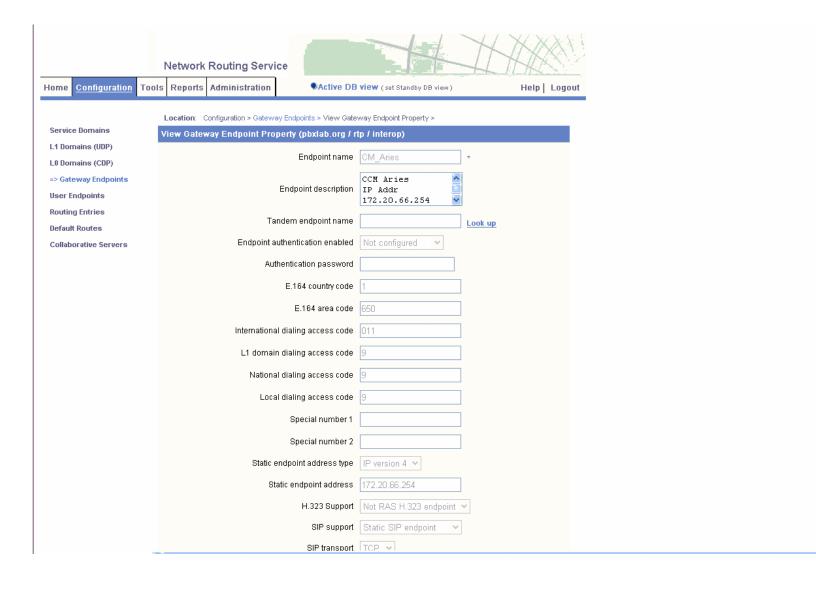


23. Configure a L0 Domain (CDP)

	Network Routing Service		
Home Configuration Too	ols Reports Administration	●Active DB view (set Standby DB view)	Help Logout
	Location: Configuration > L0 Domain	ns (CDP) > View L0 Domain Property >	
Service Domains	View LO Domain Property (pb:	dab.org / rtp)	
L1 Domains (UDP)		Domain name interop *	
=> L0 Domains (CDP)		CDP	
Gateway Endpoints		Domain description	
User Endpoints		Special number label	
Routing Entries Default Routes			
Collaborative Servers	Un	qualified number label	
	Endpoint	authentication enabled Not configured	
	Αι	uthentication password	
		E.164 country code 1	
		E.164 area code 919	
	Internation	al dialing access code 011	
	L1 doma	in dialing access code 9	
	Nation	al dialing access code 9	
	Loc	al dialing access code 9	



24. Configure a SIP gateway

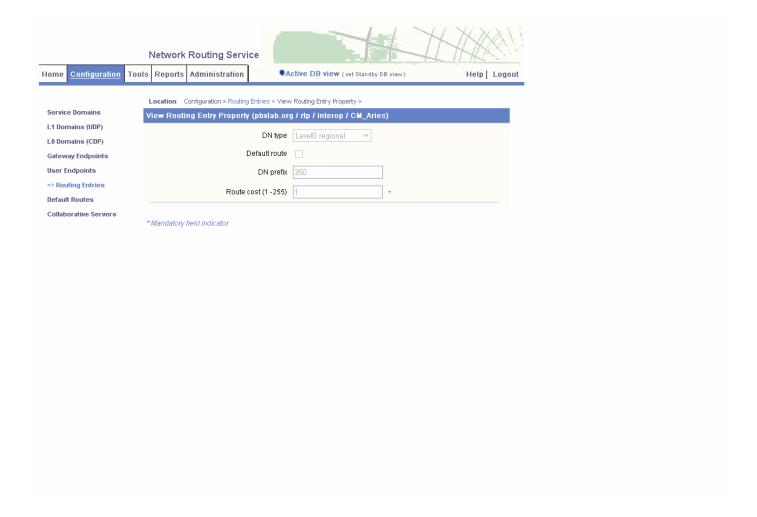




	Network R	outing Servi	ce			U
Home Configuration Tool	Is Reports A	dministration		view (set Standby DB view)	Help Log	jout
			Επαροιπι ασσυπριιοπ	172.20.66.254		
Service Domains		Ta	ndem endpoint name	Le	ook up	
L1 Domains (UDP)		Endpoint a	uthentication enabled	Not configured 🕶		
L0 Domains (CDP)		Aut	thentication password			
=> Gateway Endpoints User Endpoints			E.164 country code	4		
Routing Entries						
Default Routes			E.164 area code	650		
Collaborative Servers		Internationa	al dialing access code	011		
		L1 domai	n dialing access code	9		
		Nationa	al dialing access code	9		
		Loca	al dialing access code	9		
			Special number 1			
			Special number 2			
		04-6-		ID : 4		
			endpoint address type			
		St	atic endpoint address			
			H.323 Support	Not RAS H.323 endpoint		
			SIP support	Static SIP endpoint		
			SIP transport	TCP Y		
			SIP port	5060		
		Network Conn	ection Server enabled			
	* Mandatory field	ld indicator				



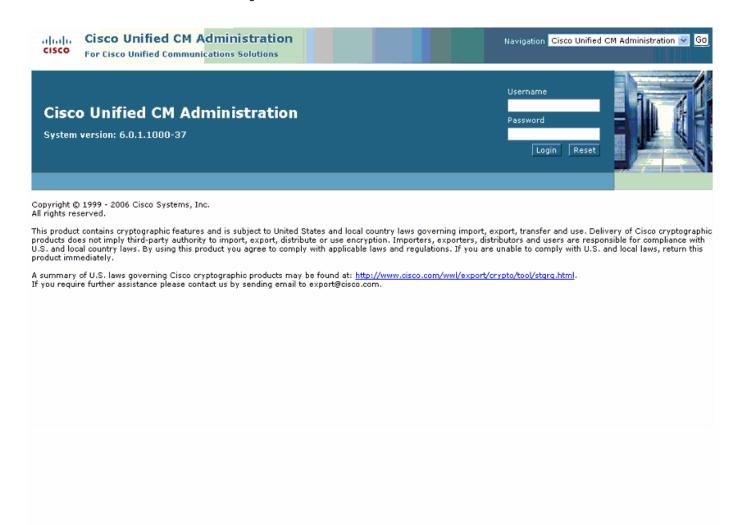
25. Configure the Routing Entries





Configuring Cisco Unified Communications Manager

Cisco Unified Communications Manager Software Version





Cisco Unified Communications Manager Group Configuration

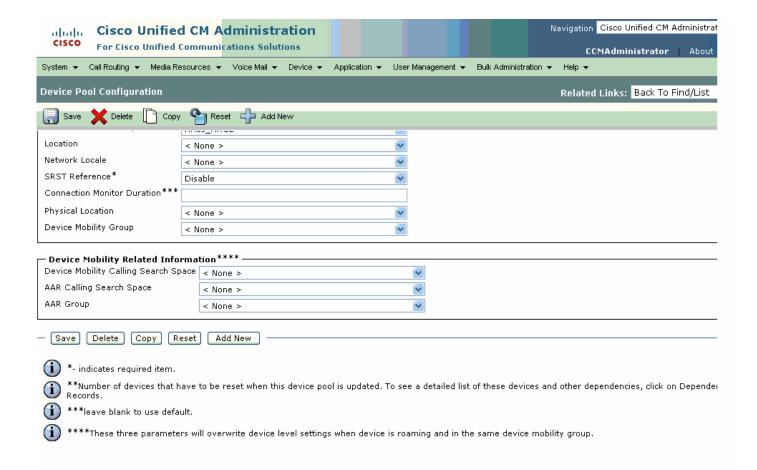
Cisco Unified CM Administration CISCO For Cisco Unified Communications Solutions CCMAdministrator	iinistra About
System ▼ Call Routing ▼ Media Resources ▼ Voice Mail ▼ Device ▼ Application ▼ User Management ▼ Bulk Administration ▼ Help ▼	
Cisco Unified CM Group Configuration Related Links: Back To Find	/List
Save X Delete Copy Preset Add New	
Cisco Unified Communications Manager Group Information Cisco Unified Communications Manager Group: Default (used by 24 devices)	_
Cisco Unified Communications Manager Group Settings	
Name* Default	
✓ Auto-registration Cisco Unified Communications Manager Group	
Cisco Unified Communications Manager Group Members Available Cisco Unified Communications Managers Selected Cisco Unified Communications Managers* CM-Aries	
- Save Delete Copy Reset Add New *- indicates required item.	



Cisco Unified Communications Manager Default Device Pool Configuration

CISCO Unified						Navigation Cisco Unified CM Administra CCMAdministrator About
System ▼ Call Routing ▼ Media Re	sources 🔻 Vo	ice Mail ▼ Device ▼	Application ▼	User Management ▼	Bulk Administration	on ▼ Help ▼
Device Pool Configuration						Related Links: Back To Find/List
Save X Delete Copy	Reset [Add New				
Device Pool Information Device Pool: Default (20 mem	bers**)					
Device Pool Settings						
Device Pool Name*		Default				
Cisco Unified Communications Ma	nager Group*	Default		~		
Calling Search Space for Auto-re	gistration	< None >		~		
Reverted Call Focus Priority		Default		~		
Roaming Sensitive Settings						
Date/Time Group*	CMLocal			~		
Region*	Default			~		
Media Resource Group List	Aries_MRGL			~		
Location	< None >			~		
Network Locale	< None >			~		
SRST Reference*	Disable			~		
Connection Monitor Duration***						
Physical Location	< None >			▽		
Device Mobility Group	< None >			▽		





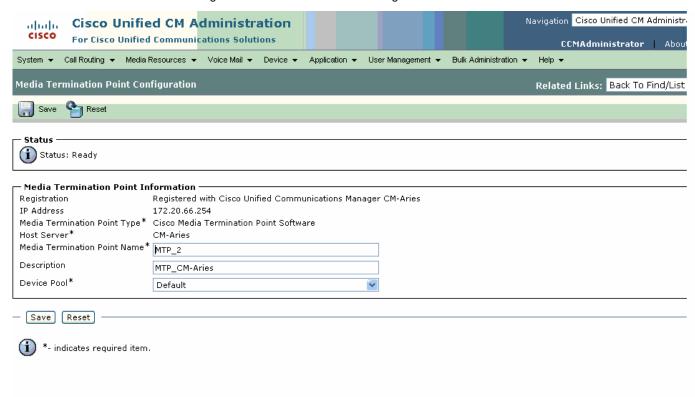


Cisco Unified Communications Manager Enterprise Parameters (Organization Top Level Domain) Configuration

Cisco Unified CM Administra For Cisco Unified Communications Solution		Navigation Cisco Unified CM Administration CCMAdministrator About
System ▼ Call Routing ▼ Media Resources ▼ Voice Mail ▼	Device ▼ Application ▼ User Management ▼ Bulk Administra	tion ▼ Help ▼
Enterprise Parameters Configuration		
🔚 Save 🧀 Set to Default 睯 Reset		
User Management Parameters		
Effective Access Privileges For Overlapping User Groups and roles *	Maximum	Maximum
Service Manager TCP ports parameters		
Service Manager TCP Server communication port number	8888	8888
Service Manager TCP Client communication port number *	8889	8889
CDC Application Demonstrate		
CRS Application Parameters Auto Attendant Installed *	false	
IPCC Express Installed *	false	
Clusterwide Descrip Configuration		
Clusterwide Domain Configuration Organization Top Level Domain	pbxlab.org	7
Cluster Fully Qualified Domain Name		
Denial-of-Service Protection Denial-of-Service Protection Flaq *	True	True
Cisco Support Use		
Cisco Support Use 1		



Cisco Unified Communications Manager Media Termination Point Configuration





Cisco Unified Communications Manager Media Resource Group Configuration

System Call Routing Media Resource Group Configuration Related Links: Back To Find/List Save Delete Copy Reset Add New Media Resource Group Status Media Resource Group: Aries_MRG (used by 20 devices) Media Resource Group Information Name Aries_MRG Description Aries Media Resource Group Available Media Resources**	CICCO	fied CM Administration lied Communications	n		M	Javigation Cisco Unified CM Administra CCMAdministrator About
Save Delete Copy Reset Add New - Media Resource Group Status Media Resource Group: Aries_MRG (used by 20 devices) - Media Resource Group Information Name* Aries_MRG Description Aries Media Resource Group - Devices for this Group	System ▼ Call Routing ▼ Med	dia Resources ▼ Voice Mail ▼ Devic	e ▼ Application ▼	User Management ▼	Bulk Administration 🔻	Help ▼
- Media Resource Group Status Media Resource Group: Aries_MRG (used by 20 devices) - Media Resource Group Information Name* Aries_MRG Description Aries Media Resource Group - Devices for this Group	Media Resource Group Cor	nfiguration				Related Links: Back To Find/List
Media Resource Group: Aries_MRG (used by 20 devices) — Media Resource Group Information Name* Aries_MRG Description Aries Media Resource Group — Devices for this Group	Save Delete	Copy Preset Add New				
Name* Aries_MRG Description Aries Media Resource Group — Devices for this Group	-					
Description Aries Media Resource Group — Devices for this Group		ıformation —				
— Devices for this Group —	Alles_Inko		_			
	Description Aries Media Reso	ource Group				
Selected Media Resources* ANN_2 (ANN) CFB_2 (CFB) MOH_2 (MOH) MTP_2 (MTP)	Available Media Resources**	ANN_2 (ANN) CFB_2 (CFB) MOH_2 (MOH)				
Use Multicast for MOH Audio (If at least one multicast MOH resource is available)	Use Multicast for MOH Aud	 dio (If at least one multicast MOH re	source is available)		
— Save Delete Copy Reset Add New	— Save Delete Copy	Reset Add New				
*- indicates required item.	*- indicates required ite	·m.				



Cisco Unified Communications Manager Media Resource Group List Configuration

cisco		d CM Administ			N	avigation Cisco Unified CM Administra CCMAdministrator About
System ▼	Call Routing ▼ Media Re	esources 🔻 Voice Mail 🔻	 Device ▼ Application ▼ 	User Management ▼	Bulk Administration ▼	Help ▼
Media Res	source Group List Co	nfiguration				Related Links: Back To Find/List
Save	Delete Copy	Reset 🔓 Add	New			
Status -	ıs: Ready					
	esource Group List St ource Group List: Aries		vices)			
	esource Group List Ir ries_MRGL	nformation —				
	esource Groups for tl					
Available	Media Resource Groups					
Selected M	Media Resource Groups	Aries_MRG			*	
— Save	Delete Copy Re	eset Add New —				



Cisco Unified Communications Manager SIP Phone Security Profile Configuration

CICCO	Unified CM Administration Navigation Cisco Unified CM Administra O Unified Communications Solutions
	CCMAdministrator About
System ▼ Call Routing	▼ Media Resources ▼ Voice Mail ▼ Device ▼ Application ▼ User Management ▼ Bulk Administration ▼ Help ▼
Phone Security Prof	ile Configuration Related Links: Back To Find/List
Copy Preset	Add New
Phone Security Pro	
Product Type: Device Protocol:	Cisco 7961 SIP
Name*	
	Cisco 7961 - Standard SIP Non-Secure Profile
Description	Cisco 7961 - Standard SIP Non-Secure Profile
Nonce Validity Time*	600
Device Security Mode	Non Secure
Transport Type*	TCP+UDP V
Enable Digest Auth	nentication
TFTP Encrypted Co	onfig
Exclude Digest Cre	edentials in Configuration File
Phone Security Pro	ofile CAPF Information
Key Size (Bits)*	By Null String
, , ,	1024
Note: These fields are	related to the CAPF Information settings on the Phone Configuration page.
┌─ Parameters used i	n Phone —
SIP Phone Port* 5060	
	



Cisco Unified Communications Manager SIP Trunk Security Profile Configuration

	fied CM Administration		Navigation Cisco Unified CM Administra
CISCO For Cisco Unif	ied Communications Solutions		CCMAdministrator About
System ▼ Call Routing ▼ Me	dia Resources ▼ Voice Mail ▼ Device ▼ Application	▼ User Management ▼ Bulk Administration	▼ Help ▼
SIP Trunk Security Profile	e Configuration		Related Links: Back To Find/List
Save Delete	Copy 🎥 Reset 👍 Add New		
— SIP Trunk Security Profi	le Information ————————————————————————————————————		
Name*	CS101		
Description	CS1000 Node 1		
Device Security Mode	Non Secure	~	
Incoming Transport Type*	TCP+UDP	~	
Outgoing Transport Type	TCP	~	
Enable Digest Authenticat	tion		
Nonce Validity Time (mins)*	600		
X.509 Subject Name			
Incoming Port*	5060		
Enable Application Level	Authorization		
Accept Presence Subscrip	otion		
Accept Out-of-Dialog REF	ER		
Accept Unsolicited Notific	ation		
Accept Replaces Header			
— Save Delete Copy	Reset Add New -		
*- indicates required its	em.		



Cisco Unified Communications Manager SCCP Security Profile Configuration

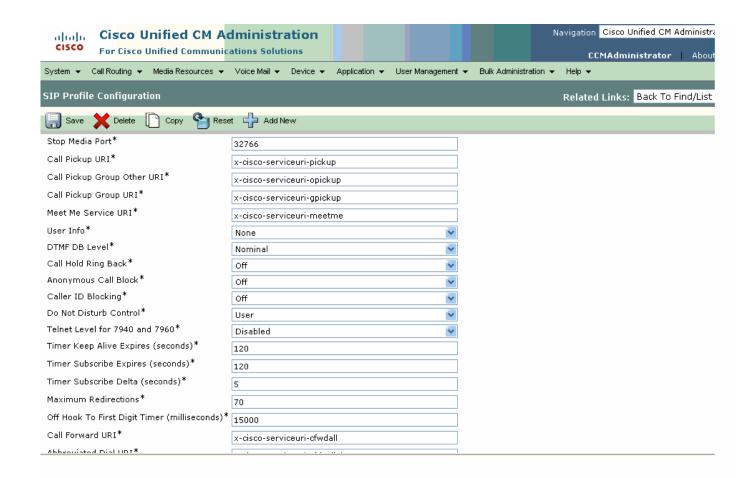
CICCO	Co Unified CM Administration Cisco Unified Communications Solutions CCMAdministrator About
System ▼ Call Rou	ting ▼ Media Resources ▼ Voice Mail ▼ Device ▼ Application ▼ User Management ▼ Bulk Administration ▼ Help ▼
Phone Security	Profile Configuration Related Links: Back To Find/List
Copy 🍨 R	eset 🖧 Add New
— Status —	
Status: Read	ly
— Phone Security	y Profile Information —
Product Type:	Cisco 7960
Device Protocol	
Name*	Cisco 7960 - Standard SCCP Non-Secure Profile
Description	Cisco 7960 - Standard SCCP Non-Secure Profile
Device Security M	10de Non Secure
	y Profile CAPF Information
Authentication Mo	By Null String
Key Size (Bits)*	1024
Note: These fields	s are related to the CAPF Information settings on the Phone Configuration page.
— <mark>Copy Reset</mark>	Add New —
*- indicates	required item.



Cisco Unified Communications Manager SIP Profile for Nortel CS1000M PBX Configuration

որորը Cisco Unified CM A				'	Navigation Cisco Unified CM Administra
CISCO For Cisco Unified Communic	ations Solutions				CCMAdministrator About
System ▼ Call Routing ▼ Media Resources ▼	Voice Mail ▼ Device ▼	Application ▼	User Management ▼	Bulk Administration ▼	Help ▼
SIP Profile Configuration					Related Links: Back To Find/List
Save X Delete Copy Page Res	et 🔓 Add New				
— Status i Status: Ready					
— SIP Profile Information —————					
Name*	CUCM Profile				
Description	CUCM Profile				
Default MTP Telephony Event Payload Type	101				
Redirect by Application					
Disable Early Media on 180					
— Parameters used in Phone ————					
Timer Invite Expires (seconds)*	180				
Timer Register Delta (seconds)*	5				
Timer Register Expires (seconds)*	3600				
Timer T1 (msec)*	500				
Timer T2 (msec)*	4000				
Retry INVITE*	6				
Retry Non-INVITE*	10				
Start Media Port*	12001				







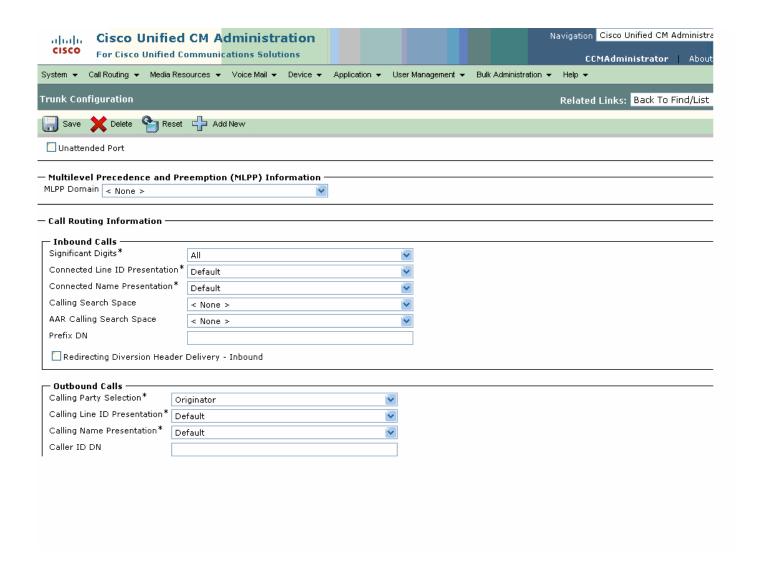
Cisco Unified CM Ac				r		Cisco Unified CM Ac	lministr.
For cisco officea communica						CMAdministrator	About
System Call Routing Media Resources	Voice Mail ▼ Device ▼ Applic	ication 🕶	User Management ▼	Bulk Administration ▼	Help ▼		
SIP Profile Configuration					Related	d Links: Back To Fi	nd/List
Save X Delete Copy Prese	t 🔓 Add New						
Telnet Level for 7940 and 7960*	Disabled		~				
Timer Keep Alive Expires (seconds)*	120						
Timer Subscribe Expires (seconds)*	120						
Timer Subscribe Delta (seconds)*	5						
Maximum Redirections*	70						
Off Hook To First Digit Timer (milliseconds)*	15000						
Call Forward URI*	x-cisco-serviceuri-cfwdall						
Abbreviated Dial URI*	x-cisco-serviceuri-abbrdial						
✓ Conference Join Enabled							
RFC 2543 Hold							
✓ Semi Attended Transfer							
☐ Enable VAD							
Stutter Message Waiting							
Call Stats							
- Save Delete Copy Reset Add	l New						



Cisco Unified Communications Manager SIP Trunk Configuration to Nortel CS1000M PBX Configuration

41540	ed CM Administration d Communications Solutions Cisco Unified CM Ad Communications Solutions	dministra About
System ▼ Call Routing ▼ Media	Resources ▼ Voice Mail ▼ Device ▼ Application ▼ User Management ▼ Bulk Administration ▼ Help ▼	HDOGC
- 10 % "		
Trunk Configuration	Related Links: Back To Fir	nd/List
Save X Delete PRe	eset 🔓 Add New	
- Status		
i Status: Ready		
— Device Information ———		
	SIP Trunk	
	SIP	
Device Name*	CS101	
Description	SIP Trunk to Nortel CS101	
Device Pool*	Default 💌	
Common Device Configuration	< None >	
Call Classification*	Use System Default	
Media Resource Group List	Aries_MRGL 💌	
Location*	Hub_None	
AAR Group	< None >	
Packet Capture Mode*	None 💌	
Packet Capture Duration	0	
✓ Media Termination Point Red	quired	
☑ Retry Video Call as Audio		
Transmit UTF-8 for Calling F	Party Name	
_		



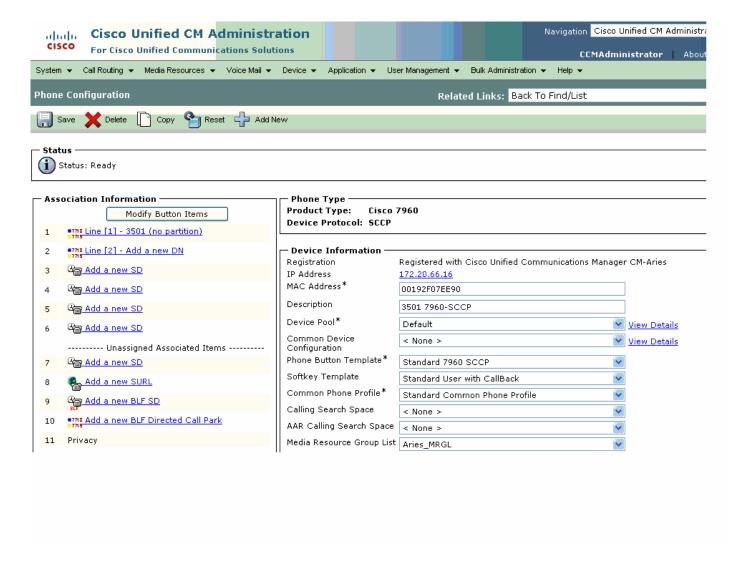




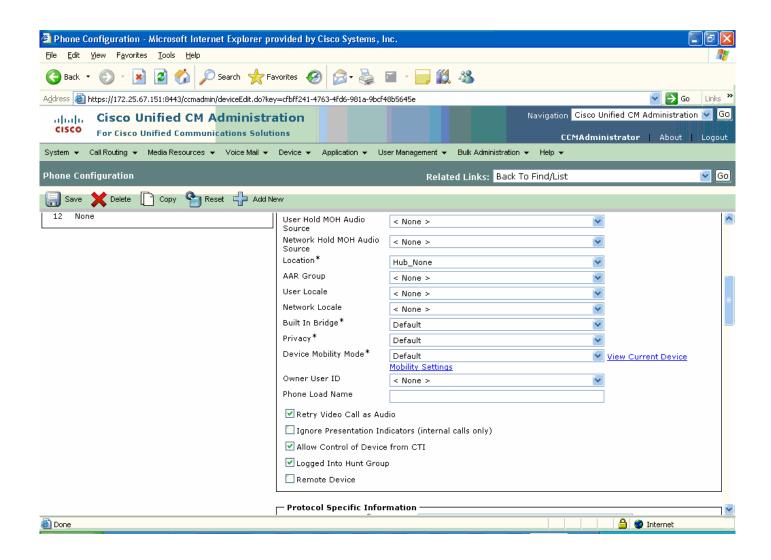
Caller Name ✓ Redirecting Diversion Header Delivery - Outbound SIP Information Destination Address* 172.20.216.100 ☐ Destination Address is an SRV Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw ✓ Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Werouting Calling Search Space None > ✓ Out-Of-Dialog Refer Calling Search Space < None > ✓ SUBCRIBE Calling Search Space < None > ✓ SIP Profile* CUCM Profile No Preference Save Delete Reset Add New	cisco Unified CM A				Navigation Cisco Unified CM Administr
Caller Name ✓ Redirecting Diversion Header Delivery - Outbound SIP Information Destination Address* 172.20.216.100 Destination Address is an SRV Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Rerouting Calling Search Space None > Out-Of-Dialog Refer Calling Search Space < None > SUBSCRIBE Calling Search Space < None > SIP Profile* CUCM Profile DTMF Signaling Method* No Preference	System ▼ Call Routing ▼ Media Resources ▼	- Voice Mail ▼ Device ▼ Aβ	pplication 🔻 User Manag	gement 🔻 🛮 Bulk Administration	n ▼ Help ▼
Caller Name Redirecting Diversion Header Delivery - Outbound SIP Information	Trunk Configuration				Related Links: Back To Find/List
SIP Information Destination Address* 172.20.216.100 Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw V Presence Group* Standard Presence group V SIP Trunk Security Profile* CS101 V Rerouting Calling Search Space < None > V Out-Of-Dialog Refer Calling Search Space < None > V SIBSCRIBE Calling Search Space < None > V SIP Profile* CUCM Profile V DTMF Signaling Method* No Preference V	Save X Delete PReset A	dd New			
SIP Information Destination Address* 172.20.216.100 Destination Address is an SRV Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw	Caller Name				
Destination Address is an SRV Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Rerouting Calling Search Space None > Out-Of-Dialog Refer Calling Search Space None > SUBSCRIBE Calling Search Space None > SIP Profile* CUCM Profile DTMF Signaling Method* No Preference Save Delete Reset Add New	Redirecting Diversion Header Delivery	- Outbound			
Destination Address * 172.20.216.100 Destination Address is an SRV Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Rerouting Calling Search Space None >					
Destination Port* 5060 MTP Preferred Originating Codec* 711ulaw Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Rerouting Calling Search Space < None > Out-Of-Dialog Refer Calling Search Space < None > SUBSCRIBE Calling Search Space < None > SIP Profile* CUCM Profile DTMF Signaling Method* No Preference		172.20.216.100			
MTP Preferred Originating Codec* 711ulaw Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Rerouting Calling Search Space < None > Out-Of-Dialog Refer Calling Search Space < None > SUBSCRIBE Calling Search Space < None > SIP Profile* CUCM Profile DTMF Signaling Method* No Preference Save Delete Reset Add New	Destination Address is an SRV				
Presence Group* Standard Presence group SIP Trunk Security Profile* CS101 Rerouting Calling Search Space < None > SUBSCRIBE Calling Search Space < None > SIP Profile* CUCM Profile DTMF Signaling Method* No Preference Save Delete Reset Add New	Destination Port*	5060			
SIP Trunk Security Profile* CS101 Rerouting Calling Search Space	MTP Preferred Originating Codec*	711ulaw		V	
Rerouting Calling Search Space	Presence Group*	Standard Presence group		▽	
Out-Of-Dialog Refer Calling Search Space < None > SUBSCRIBE Calling Search Space < None > SIP Profile* CUCM Profile DTMF Signaling Method* No Preference Save Delete Reset Add New	SIP Trunk Security Profile*	CS101		•	
SUBSCRIBE Calling Search Space < None > SIP Profile* DTMF Signaling Method* No Preference Save Delete Reset Add New	Rerouting Calling Search Space	< None >		•	
SIP Profile* CUCM Profile DTMF Signaling Method* No Preference Save Delete Reset Add New	Out-Of-Dialog Refer Calling Search Space	< None >		~	
DTMF Signaling Method* No Preference Save Delete Reset Add New	SUBSCRIBE Calling Search Space	< None >		•	
— Save Delete Reset Add New	SIP Profile*	CUCM Profile		▽	
	DTMF Signaling Method*	No Preference		•	
	— Save Delete Reset Add New *- indicates required item.]			



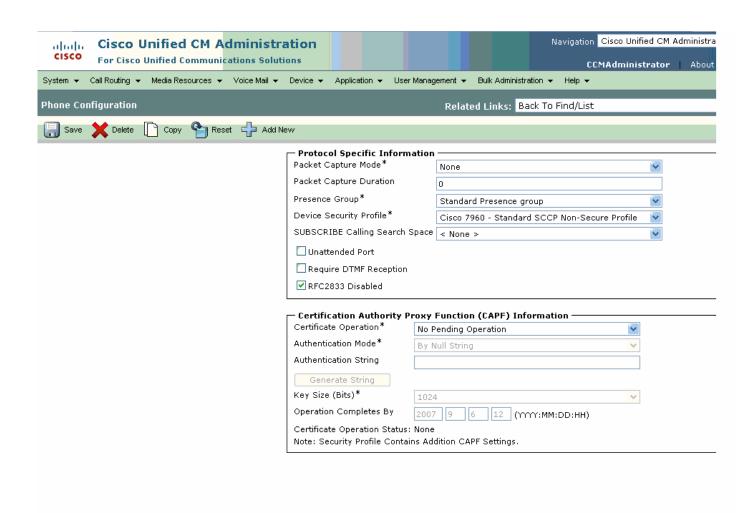
Cisco Unified Communications Manager SCCP Phone Level Configuration







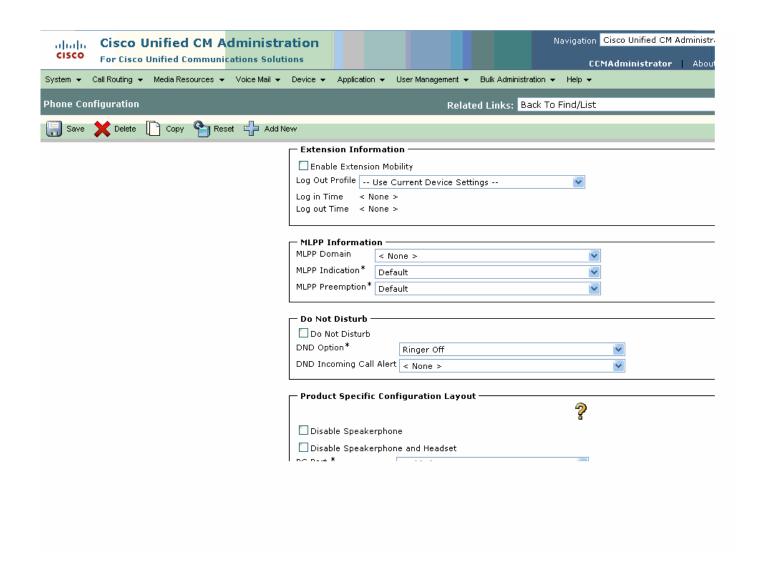




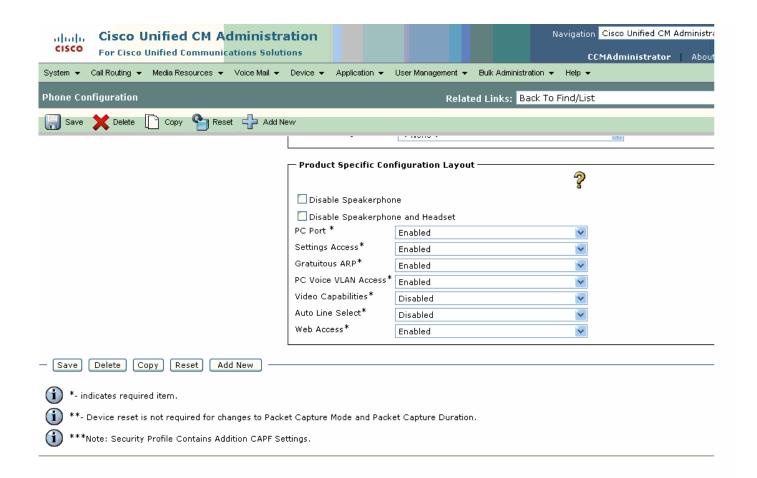


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System ▼	Call Routing ▼	Media Resources ▼	Voice Mail ▼	Device ▼	Application ▼	User Management ▼	Bulk Administrat		
Phone Con	nfiguration					Rela	ted Links: Bac	ck To Find/List	
Save	Delete [Copy 🔓 Re:	set 👍 Add No	ew					
				┌─ Expans	ion Module I	nformation ——			
				Module 1	4	None >		~	•
				Module 1	Load Name				
				Module 2		None >		\	•
				Module 2	Load Name				
				Informati		tions Information	(Leave blank	to use default)	
				Directory	. [
				Messages	5				
				Services					
				Authentic	ation Server				
				Proxy Se	rver				
				Idle	Ī				
				Idle Time	er (seconds)				
				Extensi	ion Informat	ion ———			
				1	e Extension M				
				Log Out F	Profile Use	Current Device Set	tings	~	



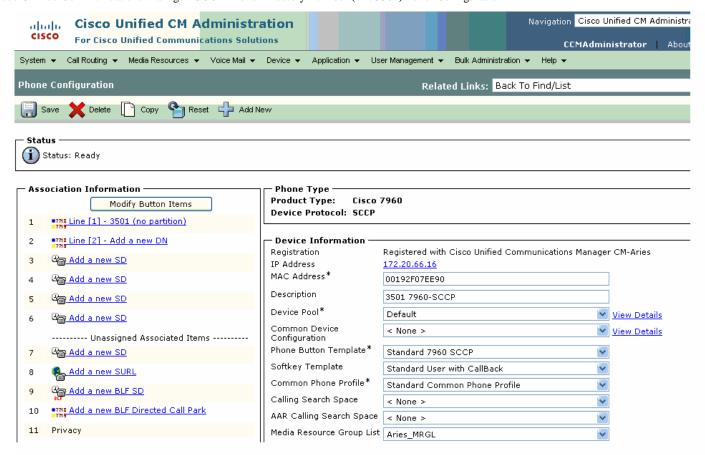




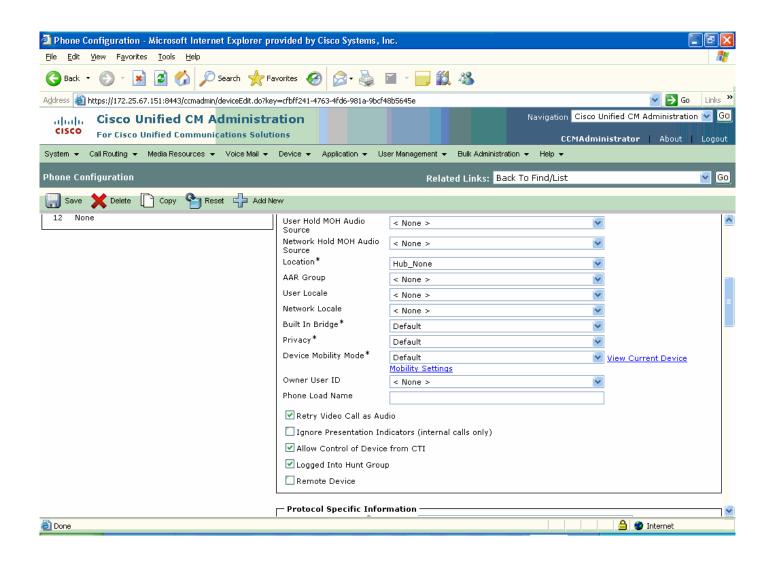




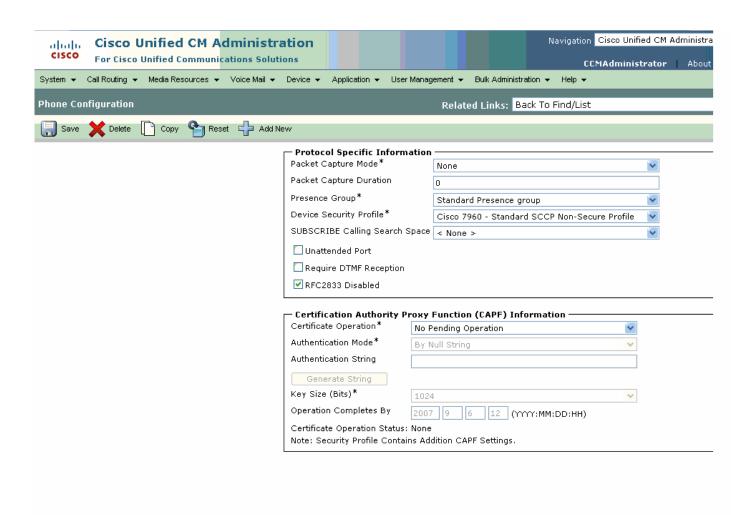
Cisco Unified Communications Manager SCCP Phone Directory Number (Ext 3501) Level Configuration







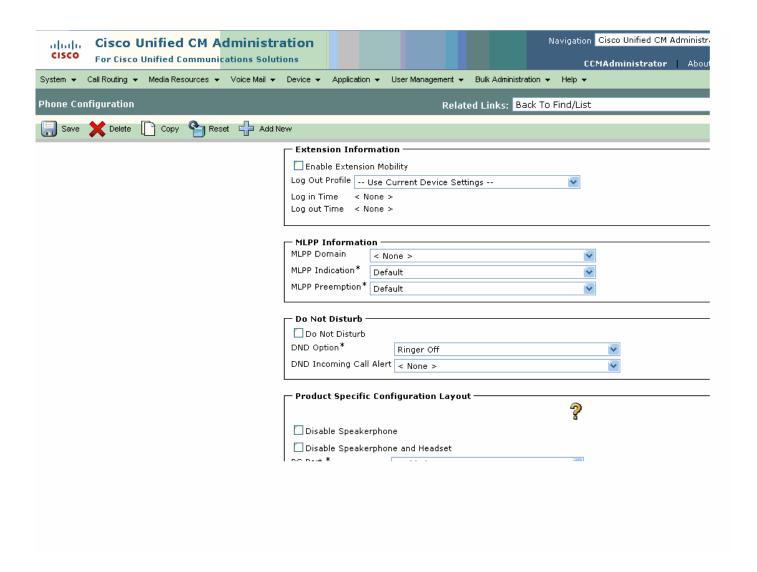




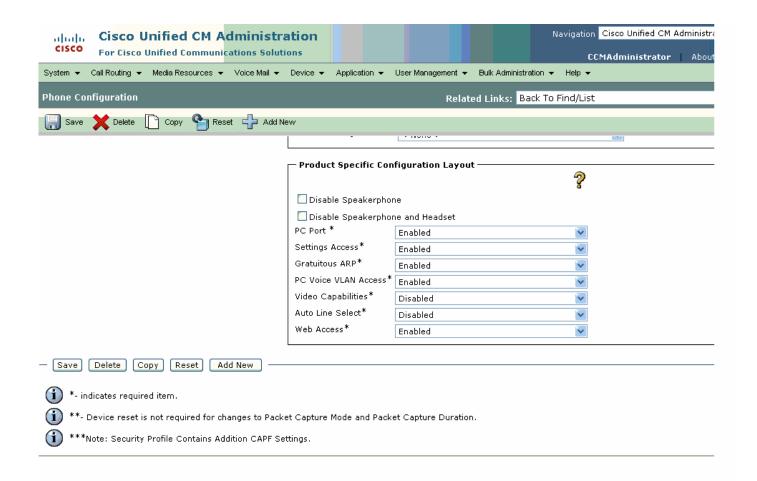


cisco					isco Unified CM Administra Administrator About
System ▼	Call Routing ▼ Media Resources ▼ Voice Mail ▼	Device ▼ Application ▼	User Management ▼	Bulk Administration ▼ Help ▼	
Phone Co	onfiguration		Relate	ed Links: Back To Find/List	
Save	Delete Copy Peset Add N	ew			
		Expansion Module Module 1	Information	•]
		Module 1 Load Name			
		Module 2	< None >	•	
		Module 2 Load Name]
		External Data Local Information Directory Messages Services Authentication Server Proxy Server Idle Idle Timer (seconds)		(Leave blank to use default)	
		Extension Information Informat	Mobility	ings	











Cisco Unified Communications Manager SCCP Phone Directory Number (Ext 3501) Level Configuration

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System ▼ 0	Call Routing	▼ Media Re	sources 🔻	Voice Mail ▼	Device ▼ A	Application •	· User Management	▼ Bulk Administrati	ion ▼ Help ▼		
Directory N	Number C	onfigurati	on					Related Lir	nks: Configure De	evice (SEP00192	F07EE
Save	X Delete	Rese	t 🛟 Ad	d New							
— Directory	y Number	Informatio	on ——								
Directory N	lumber*	3501									
Route Parti	tion	< None >				~					
Description	ı										
Alerting Na	me	One Aries									
ASCII Alert	ting Name	One Aries									
✓ Allow C	ontrol of D	evice from	CTI								
Associated	Devices	SEP00192F	07EE90								
						<u>_</u>	dit Device				
							Edit Line Appea	rance			
		ı	~^								
Dissociate I	Devices										
_ Directory		Settings –									
Voice Mail F			< None >				(Choose < N	lone> to use syste	m default)		
Calling Sea			< None >				~				
Presence G	•		Standard	Presence grou	JP		~				
User Hold N	MOH Audio	Source	< None >				v				



	esources 🔻 Voice Mail		lk Administration ▼ Help ▼
irectory Number Configurat	ion	F	Related Links: Configure Device (SEP00192F0
] Save 💢 Delete 睯 Resi	et 🕂 Add New		
Iser Hold MOH Audio Source	< None >	₩	
letwork Hold MOH Audio Source	< None >	₩	
uto Answer*	Auto Answer Off	₩	
AAR Settings			
_	Voice Mail	AAR Destination Mask	AAR Group
_	e call forwarding	AAR Destination Mask	AAR Group < None >
AAR □ or ☑ or ☑ Retain this destination in the history	e call forwarding	AAR Destination Mask Destination	
AAR □ or ☑ or ☑ Retain this destination in the history	e call forwarding o Settings Voice Mail		< None >
AAR or Retain this destination in the history Call Forward and Call Pickul Calling Search Space Activation	e call forwarding o Settings Voice Mail		< None > Calling Search Space
AAR or Retain this destination in the history Call Forward and Call Picku	o Settings Voice Mail Policy		< None > Calling Search Space Use System Default
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation Forward All	o Settings Voice Mail Policy		Calling Search Space Use System Default < None >
AAR or Retain this destination in the history Call Forward and Call Pickul Calling Search Space Activation Forward All Secondary Calling Search Space	Settings Voice Mail Policy or The for Forward All		Calling Search Space Use System Default < None > < None >
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation Forward All Secondary Calling Search Space Forward Busy Internal	Secul forwarding Settings Voice Mail Policy or or or or		Calling Search Space Use System Default < None > < None > < None >
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation Forward All Secondary Calling Search Space Forward Busy Internal Forward Busy External	Settings Voice Mail Policy or For Forward All or		Calling Search Space Use System Default < None > < None > < None > < None >

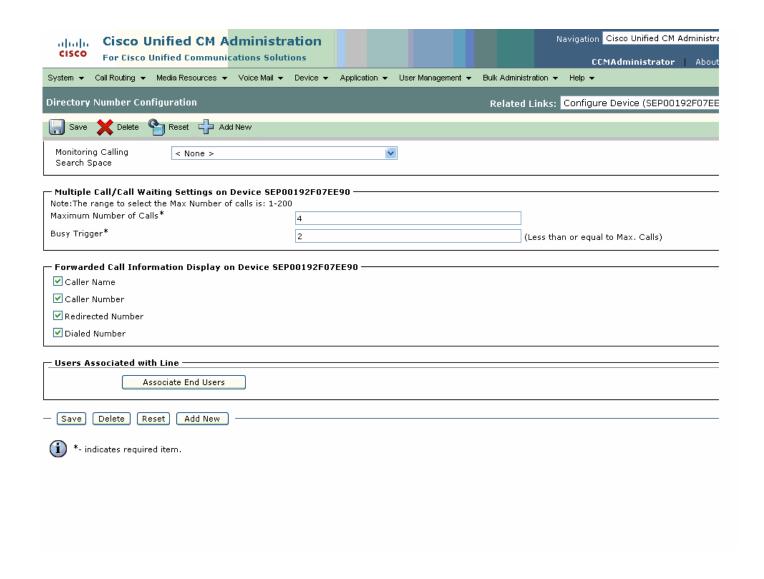


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		 Voice Mail ▼ Device ▼ 	Application ▼	User Manageme	nt ▼ Bulk Ad	ministration	CCMAdministrator About ▼ Help ▼
,							
Directory Number Configu	ıration				Rela	ted Links	: Configure Device (SEP00192F07EE
Save X Delete	Reset 👍 A	dd New					
Forward No Coverage Exter	mal 🔲 or					< None >	
Forward on CTI Failure	or					< None >	
Forward Unregistered Inter	nal 🧾 or					< None >	
Forward Unregistered Exter	nal 🦳 or					< None >	
No Answer Ring Duration (se	conds)						
Call Pickup Group	< No	ne >		V			
─ MLPP Alternate Party Se	ttings ———						
Target (Destination)	cuings						
MLPP Calling Search Space	Ï	< None >		~			
MLPP No Answer Ring Durati	on (seconds)						
Line Settings for All Dev Hold Reversion Ring Duration					1		
Hold Reversion Notification I	•				1		sion Ring Duration to zero will disable the
(seconds)	1101 741	feature			Setting the I	iold Revers	sion Notification Interval to zero will disal
Line 1 on Device SEP001	92FN7FF90 :						
Display (Internal Caller	One Aries			Display text f	or a line appo	arance is i	intended for displaying text such as a nai
ID)	instead of a	directory number for inter	nal calls. If you				a call may not see the proper identity o



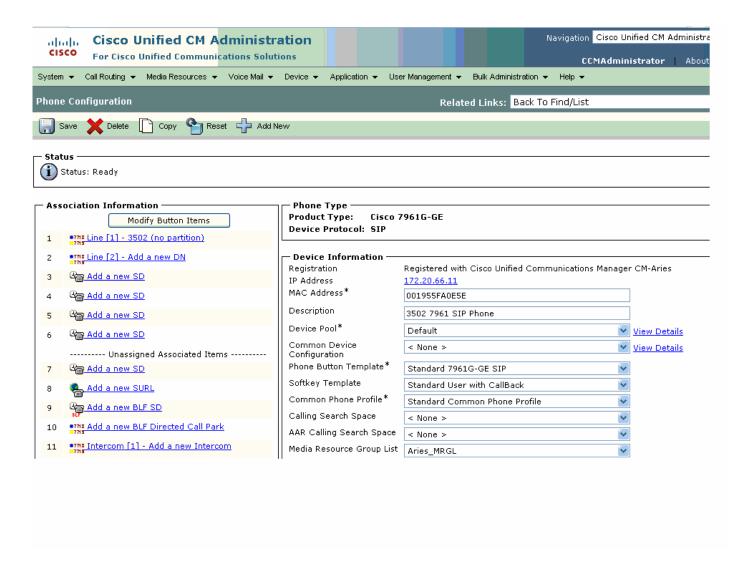
CICCO	fied CM Administration fied Communications Solutions	Navigation Cisco Unified CM Administra CCMAdministrator About
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Directory Number Config	uration	Related Links: Configure Device (SEP00192F07EE
Save X Delete	Reset 🔓 Add New	
Line 1 on Device SEP001	192F07EE90	
Display (Internal Caller	One Aries	Display text for a line appearance is intended for displaying text such as a nai
ID)	instead of a directory number for internal calls. If you caller.	specify a number, the person receiving a call may not see the proper identity o
ASCII Display (Internal Caller ID)	One Aries	
Line Text Label	One Aries	
ASCII Line Text Label	One Aries	
External Phone Number Mask		
Visual Message Waiting Indicator Policy*	Use System Policy	
Ring Setting (Phone Idle)*	Ring	
Ring Setting (Phone Active)	Use System Default	Applies to this line when any line on the phone has a call in progress.
Call Pickup Group Audio Alert Setting(Phone Idle)	Use System Default	
Call Pickup Group Audio Alert Setting(Phone Active)	Use System Default	
Monitoring Calling Search Space	< None >	
I		



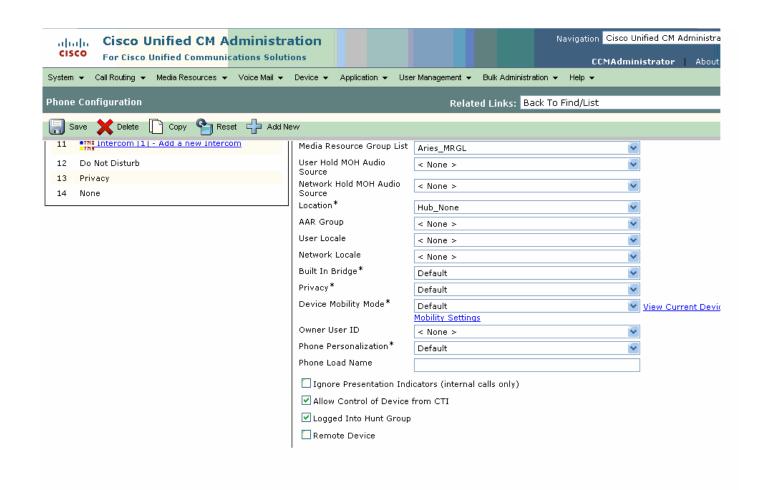




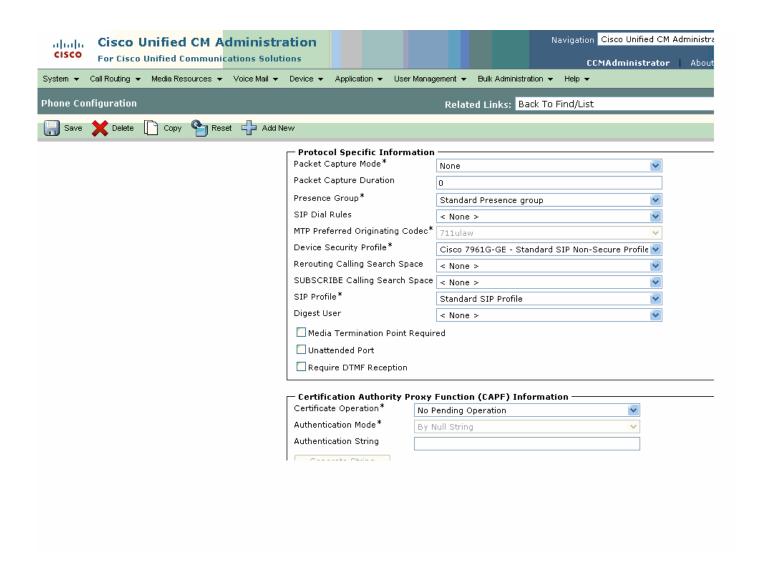
Cisco Unified Communications Manager SIP Phone Level Configuration







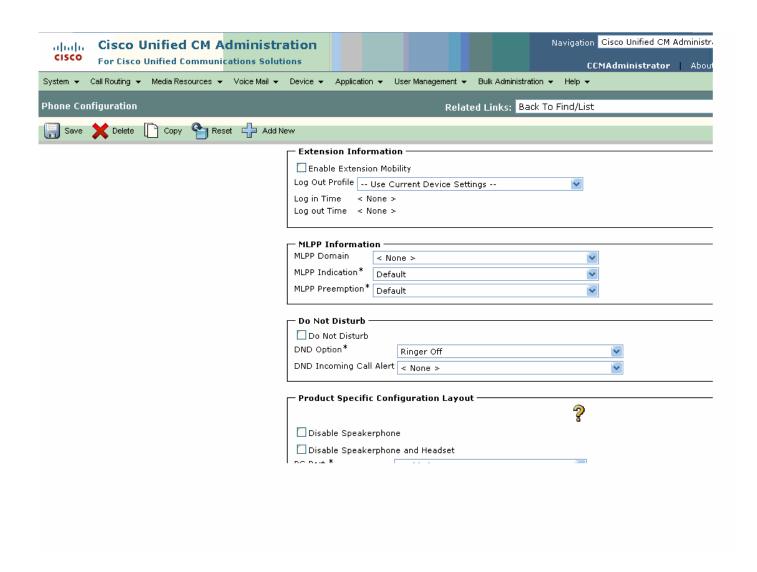




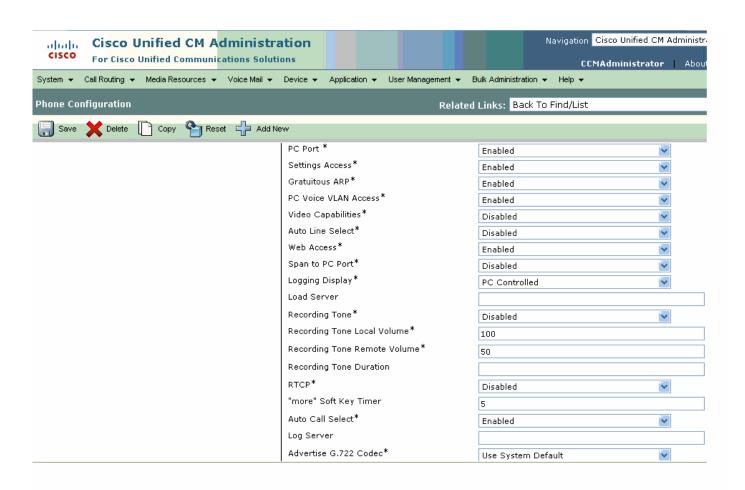


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Phone Configuration	Related Links: Back To Find/List
Save 🗶 Delete 🗋 Copy 👇 Reset 🕂 Add N	ew .
	Generate String Key Size (Bits)* Operation Completes By Certificate Operation Status: None Note: Security Profile Contains Addition CAPF Settings.
	External Data Locations Information (Leave blank to use default) Information Directory Messages Services Authentication Server Proxy Server Idle Idle Timer (seconds)
	☐ Enable Extension Mobility
	Log Out Profile Use Current Device Settings Log in Time < None >

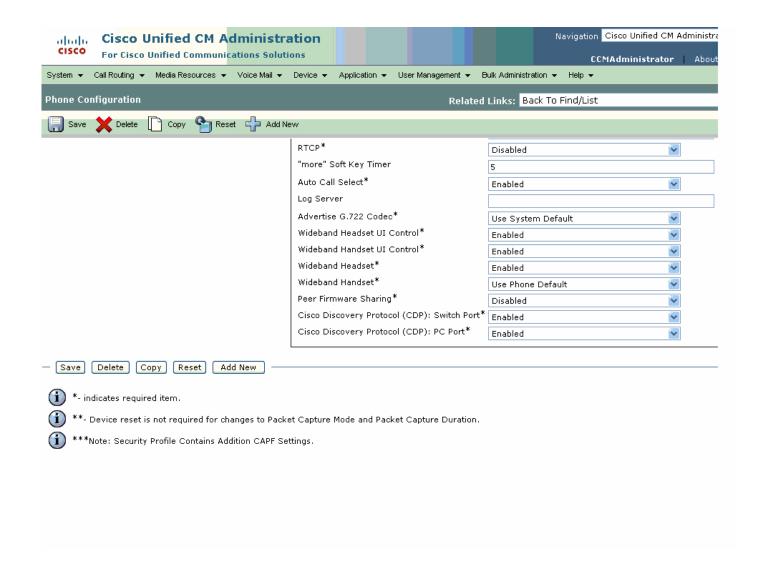






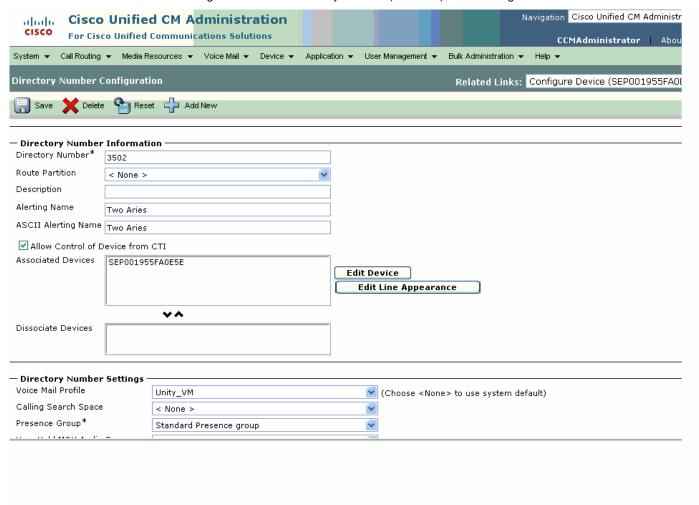








Cisco Unified Communications Manager SIP Phone Directory Number (Ext 3502) Level Configuration





ystem ▼ Call Routing ▼ Media Ro			Application ▼ l	lser Management ▼	Bulk Administration	
irectory Number Configurati	ion				Related Links	Configure Device (SEP001955F
] Save 🗶 Delete 睯 Rese	et 👍 Add New					
. osonoo oroap	Stanuaru Presence	groap .		<u> </u>		
ser Hold MOH Audio Source	< None >			~		
letwork Hold MOH Audio Source	< None >			~		
uto Answer*	Auto Answer Off			~		
-	Voice Mail		AAR Destina	tion Mask		AAR Group
AAR □ or ☑ or ☑ Retain this destination in the history	call forwarding		AAR Destina	tion Mask	< None	•
AAR □ or ☑ Retain this destination in the history	call forwarding		AAR Destination	tion Mask	< Non	•
AAR ☐ or ☑ Retain this destination in the history Call Forward and Call Pickup	call forwarding Settings Voice Mail			tion Mask		· • >
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation	call forwarding Settings Voice Mail			tion Mask		e > Calling Search Space
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation	Settings Voice Mail Policy			tion Mask	Use Syste	e > Calling Search Space
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation Forward All Secondary Calling Search Space	Settings Voice Mail Policy			tion Mask	Use Syste	e > Calling Search Space
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation Forward All Secondary Calling Search Space Forward Busy Internal	o Settings Voice Mail Policy or e for Forward All			tion Mask	Use Syste < None >	e > Calling Search Space
AAR or Retain this destination in the history Call Forward and Call Pickup Calling Search Space Activation Forward All Secondary Calling Search Space Forward Busy Internal	Settings Voice Mail Policy or e for Forward All			tion Mask	Use Syste < None > < None > < None >	e > Calling Search Space
AAR or	Policy or or or or			tion Mask	Use Syste < None > < None > < None > < None >	e > Calling Search Space



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Directory Number Configuration	1						Rela	ated Links	Configu	re Device (9	SEP00195	55FA0E
Save X Delete P Reset	d Ad	ld New										
Forward No Coverage Internal	or							< None >				
Forward No Coverage External	or							< None >				
Forward on CTI Failure	or							< None >				
Forward Unregistered Internal	or	2215						< None >				
Forward Unregistered External	or	2215						< None >				
No Answer Ring Duration (seconds)	I											
Call Pickup Group	< Non	e >			~							
Man Altana ta Barta Callia												
— MLPP Alternate Party Settings Target (Destination)												
MLPP Calling Search Space	Ī.	< None >				~						
MLPP No Answer Ring Duration (sec	conds)											
Line Settings for All Devices — Hold Reversion Ring Duration (seco	nds)					Se	etting the I	Hold Revers	ion Rina D	uration to ze	ro will disa	able the
Hold Reversion Notification Interval							-		_	ation Interva		
(seconds)		feature										
Line 1 on Device SEP001955F												
2	IOLUL				_							



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Directory Number Configu	uration	Related Links: Configure Device (SEP001955FA0E
Save 🗶 Delete 跲	Reset 🔓 Add New	
Line 1 on Device SEP001	1955FA0E5E	
Display (Internal Caller ID)		Display text for a line appearance is intended for displaying text such as a nai pecify a number, the person receiving a call may not see the proper identity o
ASCII Display (Internal Caller ID)	Two Aries	
Line Text Label	Two Aries	
ASCII Line Text Label	Two Aries	
External Phone Number Mask		
Visual Message Waiting Indicator Policy*	Use System Policy	
Audible Message Waiting Indicator Policy*	off 🐷	
Ring Setting (Phone Idle)*	Use System Default	
Ring Setting (Phone Active)	Use System Default	Applies to this line when any line on the phone has a call in progress.
Call Pickup Group Audio Alert Setting(Phone Idle)	Use System Default	
Call Pickup Group Audio Alert Setting(Phone Active)	Use System Default	
Recording Option*	Call Recording Disabled	



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Directory Number Config	uration			Related Links:	Configure Device (SEP001955FA0E
Save X Delete	Reset 🔓 Add New				
Recording Option↑	Call Recording Disabled	¥			
Recording Profile	< None >	¥			
Monitoring Calling Search Space	< None >	V			
	L	4 2		(Less th	ian or equal to Max. Calls)
— Forwarded Call Informa ✓ Caller Name	tion Display on Device SEPO	01955FA0E5E			
Caller Number					
Redirected Number					
✓ Dialed Number					
— Users Associated with L	ine ————				
Assoc	siate End Users				
— Save Delete Reset	Add New				



Cisco Unified Communications Manager Route Pattern (22XX) to Nortel PBX extensions Configuration

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Route Pattern Confi	figuration		Related Links: Back To Find/
Save Delete	te Copy 🔓 Add New		
Pattern Definition	n ————————————————————————————————————		
Route Pattern*	22XX		
Route Partition	< None >		
Description			
Numbering Plan	Not Selected		
Route Filter	< None >		
MLPP Precedence*	Default		
Gateway/Route List*	CS101 (I	Edit)	
Route Option	Route this pattern		
	O Block this pattern No Error		
Call Classification*	OnNet	▽	
Allow Device Over	erride 🔲 Provide Outside Dial Tone 🔲 Allow Overlap Send	ding Urgent Priority	
Require Forced Au	authorization Code		
Authorization Level*	0		
Require Client Ma	atter Code		
Calling Party Tran	nsformations -		
_	's External Phone Number Mask		
Calling Party Transfo			
<u> </u>			



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Route Pattern Configuration				Related Links: Bac	k To Find _/
Save X Delete Copy Add Ne	w				
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* Default		~			
Connected Name Presentation* Default		~			
Called Party Transformations					
Discard Digits < None >		~			
Called Party Transform Mask					
Prefix Digits (Outgoing Calls)					
─ ISDN Network-Specific Facilities Inform	ation Element —				
Network Service Protocol Not Selected	V				
Carrier Identification Code					
Network Service	Service Parameter Name		Service Parameter	Value	



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Route Pattern Configurat	tion	Related Links: Back To Find/L
Save X Delete	Copy 🔓 Add New	
Calling Name Presentation*	* Default ▽	
Connected Party Transf	formations —	
Connected Line ID Presenta	ation* Default	
Connected Name Presentat	cion* Default	
Called Party Transform	ations —	
Discard Digits	< None >	
Called Party Transform Mas	sk	
Prefix Digits (Outgoing Calls	s)	
— ISDN Network-Specific	Facilities Information Element	
Network Service Protocol	Not Selected	
Carrier Identification Code		
Network Service	Service Parameter Name	Service Parameter Value
Not Selected	< Not Exist >	
— Save Delete Copy *- indicates required i		



Acronyms

Acronym	Definitions
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
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
СТ	Call Transfer
CUCM	Cisco Unified Communications Manager
DNS	Domain Name Server
FQDN	Fully Qualified Domain Name
MWI	Message Waiting Indicator
PSTN	Public Switched Telephone Network
SIP	Session Initiated Protocol

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Test Results

Testing was performed by Filli Cruz (August 2007)

Table 1. Basic Calls (Enbloc Sending)

Calls Made	Call Comp.?	Calling Number Displayed on Final Destination?	Calling Name Displayed on Final Destination?	Called Number Displayed on Orig. Side?	Called Name Displayed on Orig. Side?
Phone A1 to Phone C1	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone A1 to Phone C2	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone C1 to Phone A1	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone C2 to Phone A1	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone A2 to Phone C1	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone A2 to Phone C2	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone C1 to Phone A2	Yes	Yes ¹	Yes ¹	Yes ²	No
Phone C2 to Phone A2	Yes	Yes ¹	Yes ¹	Yes ²	No

 $^{^{1}}$ Nortel use P-Asserted-Id (PAI) field to pass the name and number information across SIP Trunk while Cisco Unified Communications Manager (CUCM) uses the Remote-Party-Id (RPID). ² Original calling party phone display dialed number



Table 2. Basic Calls with Calling Name and Number Restrictions

Calls Made	Call Comp.?	Calling Number Restriction was honored at Final Destination?	Calling Name Restriction was honored at Final Destination?	Called Number Displayed on Orig. Side?	Called Name Displayed on Orig, Side?
Phone A1 to Phone C1					
Phone A1 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone A1 to Phone C2					
Phone A1 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone C1 to Phone A1					
Phone C1 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone C2 to Phone A1					
Phone C2 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone A2 to Phone C1					
Phone A2 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone A2 to Phone C2					
Phone A2 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone C1 to Phone A2					
Phone C1 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					
Phone C2 to Phone A2					
Phone C2 restricting Calling	Yes	Yes ³	Yes ³	Yes ²	No
Name and Number					

For Nortel PBX name and number restriction, change the phone CLS setting to DDGD and NAMD under LD11. For CUCM name and number restriction, this is done on the SIP trunk.

³ Nortel use P-Asserted-Id (PAI) field to pass the name and number information across SIP Trunk while Cisco Unified Communications Manager (CUCM) uses the Remote-Party-Id (RPID). When retricting calling and name and number, the Nortel sets privacy parameter in PAI field as USER versus NONE when name and number is allowed. On the other hand, CUCM sets privacy parameter in its RPID field as FULL when restricting name and number versus OFF when name and number is allowed. Due to this difference, both systems extracted the calling party name and number information from the SIP From header of the incoming SIP INVITE message which has <sip:anonymous@anonymous.invalid> from Nortel and <sip:anonymous@anonymous.ip address> .from CUCM.



Table 3. Basic Calls with Connected Name and Number Restrictions

Calls Made	Call Comp.?	Calling Number Displayed on Final Destination?	Calling Name Displayed on Final Destination?	Connected Number Restriction was honored at Orig. Side?	Connected Name Restriction was honored at Orig. Side?	Notes
Phone A1 to Phone C1				4		
Phone C1 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone A1 to Phone C2						
Phone C2 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone C1 to Phone A1						
Phone A1 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone C2 to Phone A1						
Phone A1 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone A2 to Phone C1						
Phone C1 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone A2 to Phone C2						
Phone C2 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone C1 to Phone A2						
Phone A2 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						
Phone C2 to Phone A2						
Phone A2 restricting	Yes	Yes	Yes	No ⁴	No ⁴	
Connected Name and Number						

⁴ CUCM restriction is set under the SIP Trunk configuration. RPID privacy parameter is set to FULL. (Note: When name and number is allowed, privacy parameter is set to OFF). Nortel restriction is set under the phone CLS setting to DDGD and NAMD under LD11. PAI privacy parameter is set to USER. (Note: When name and number is allowed, privacy parameter is set to NONE). Due to the difference in the name and number delivery method, connected name and number restriction is not honored between the two systems.



Table 4. Alerting Name

Calls Made	Call Setup Comp.?	Alerting Name was sent by Final Destination during Alerting (ringing)?	Alerting Name was displayed on Orig. Side during Alerting (ringing)?
Phone A1 to Phone C1	Yes	Yes	No ¹
Phone C1 does not answer			
Phone A1 to Phone C2	V	V	No ¹
Phone C2 does not answer	Yes	Yes	
Phone C1 to Phone A1	.,	5	No ¹
Phone A1 does not answer	Yes	No ⁵	
Phone C2 to Phone A1	.,	5	No ¹
Phone A1 does not answer	Yes	No ⁵	
Phone A2 to Phone C1	V	Yes	No ¹
Phone C1 does not answer	Yes		
Phone A2 to Phone C2	V	V	No ¹
Phone C2 does not answer	Yes	Yes	
Phone C1 to Phone A2	V	N - 5	No ¹
Phone A2 does not answer	Yes	No ⁵	
Phone C2 to Phone A2	V	N - 5	No ¹
Phone A2 does not answer	Yes	No⁵	-

⁵ Nortel does NOT send PAI information in its 180 Ringing packet back to CUCM



Table 5. Call Transfers (Attended Local Transfers)

Calls Made	Call Comp?	Orig. Calling Number Displayed on Final Dest. Phone?	Orig. Calling Name Displayed on Final Dest. Phone?	Called Number Display on Orig. phone Updated After Transfer?	Called Name Display on Orig. Phone Updated After Transfer?
Phone C1 to Phone A1 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C1 to Phone A1 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone C2 to Phone A1 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C2 to Phone A1 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone C1 to Phone A2 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C1 to Phone A2 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone C2 to Phone A2 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C2 to Phone A2 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone D2	Yes	Yes	Yes	No	No



Table 6. Call Transfers (Early Attended Local Transfers)

Calls Made	Call Comp?	Orig. Calling Number Displayed on Final Dest. Phone?	Orig. Calling Name Displayed on Final Dest. Phone?	Called Number Display on Orig. phone Updated After Transfer?	Called Name Display on Orig. Phone Updated After Transfer?
Phone C1 to Phone A1 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C1 to Phone A1 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone C2 to Phone A1 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C2 to Phone A1 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone C1 to Phone A2 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C1 to Phone A2 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone C2 to Phone A2 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone C2 to Phone A2 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone D2	Yes	Yes	Yes	No	No



Table 7. Call Transfers (Blind Local)

Calls Made	Call Comp?	Orig. Calling Number Displayed on Final Dest. Phone?	Orig. Calling Name Displayed on Final Dest. Phone?	Called Number Display on Orig. phone Updated After Transfer?	Called Name Display on Orig. Phone Updated After Transfer?
Phone C1 to Phone A1 Xfr to Phone B1	N/A ⁶				
Phone C1 to Phone A1 Xfr to Phone B2	N/A ⁶				
Phone C2 to Phone A1 Xfr to Phone B1	N/A ⁶				
Phone C2 to Phone A1 Xfr to Phone B2	N/A ⁶				
Phone C1 to Phone A2 Xfr to Phone B1	N/A ⁶				
Phone C1 to Phone A2 Xfr to Phone B2	N/A ⁶				
Phone C2 to Phone A2 Xfr to Phone B1	N/A ⁶				
Phone C2 to Phone A2 Xfr to Phone B2	N/A ⁶				
Phone A1 to Phone C1 Xfr to Phone D1	N/A ⁶				
Phone A1 to Phone C1 Xfr to Phone D2	N/A ⁶				
Phone A1 to Phone C2 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 Xfr to Phone D2	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 Xfr to Phone D1	N/A ⁶				
Phone A2 to Phone C1 Xfr to Phone D2	N/A ⁶				
Phone A2 to Phone C2 Xfr to Phone D1	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone D2	Yes	Yes	Yes	No	No

⁶ Nortel does not support Blind Call Transfer feature



Table 8. Call Transfers (Attended Network/External)

Calls Made	Call Comp.?	Orig. Calling Number Displayed on Final Dest. Phone?	Orig. Calling Name Displayed on Final Dest. Phone?	Called Number Display on Orig. Phone Updated After Transfer?	Called Name Display on Orig. Phone Updated After Transfer?
Phone C1 to Phone A1 Xfr to Phone D1	Yes	No	No	No	No
Phone C1 to Phone A1 Xfr to Phone D2	Yes	No	No	No	No
Phone C2 to Phone A1 Xfr to Phone D1	Yes	No	No	No	No
Phone C2 to Phone A1 Xfr to Phone D2	Yes	No	No	No	No
Phone C1 to Phone A2 Xfr to Phone D1	Yes	No	No	No	No
Phone C1 to Phone A2 Xfr to Phone D2	Yes	No	No	No	No
Phone C2 to Phone A2 Xfr to Phone D1	Yes	No	No	No	No
Phone C2 to Phone A2 Xfr to Phone D2	Yes	No	No	No	No
Phone A1 to Phone C1 Xfr to Phone B1	Yes	No	No	No	No
Phone A1 to Phone C1 Xfr to Phone B2	Yes	No	No	No	No
Phone A2 to Phone C1 Xfr to Phone B1	Yes	No	No	No	No
Phone A2 to Phone C1 Xfr to Phone B2	Yes	No	No	No	No
Phone A1 to Phone C2 Xfr to Phone B1	Yes	No	No	No	No
Phone A1 to Phone C2 Xfr to Phone B2	Yes	No	No	No	No
Phone A2 to Phone C2 Xfr to Phone B1	Yes	No	No	No	No
Phone A2 to Phone C2 Xfr to Phone B2	Yes	No	No	No	No



Table 9. Call Transfers (Early Attend Network/External)

Calls Made	Call Comp.?	Orig. Calling Number Displayed on Final Dest. Phone?	Orig. Calling Name Displayed on Final Dest. Phone?	Called Number Display on Orig. Phone Updated After Transfer?	Called Name Display on Orig. Phone Updated After Transfer?
Phone C1 to Phone A1 Xfr to Phone D1	Yes	No	No	No	No
Phone C1 to Phone A1 Xfr to Phone D2	Yes	No	No	No	No
Phone C2 to Phone A1 Xfr to Phone D1	Yes	No	No	No	No
Phone C2 to Phone A1 Xfr to Phone D2	Yes	No	No	No	No
Phone C1 to Phone A2 Xfr to Phone D1	Yes	No	No	No	No
Phone C1 to Phone A2 Xfr to Phone D2	Yes	No	No	No	No
Phone C2 to Phone A2 Xfr to Phone D1	Yes	No	No	No	No
Phone C2 to Phone A2 Xfr to Phone D2	Yes	No	No	No	No
Phone A1 to Phone C1 Xfr to Phone B1	Yes	No	No	No	No
Phone A1 to Phone C1 Xfr to Phone B2	Yes	No	No	No	No
Phone A2 to Phone C1 Xfr to Phone B1	Yes	No	No	No	No
Phone A2 to Phone C1 Xfr to Phone B2	Yes	No	No	No	No
Phone A1 to Phone C2 Xfr to Phone B1	Yes	No	No	No	No
Phone A1 to Phone C2 Xfr to Phone B2	Yes	No	No	No	No
Phone A2 to Phone C2 Xfr to Phone B1	Yes	No	No	No	No
Phone A2 to Phone C2 Xfr to Phone B2	Yes	No	No	No	No



Table 10. Call Transfers (Blind Network/Network)

Calls Made	Call Comp.?	Orig. Calling Number Displayed on Final Dest. Phone?	Orig. Calling Name Displayed on Final Dest. Phone?	Called Number Display on Orig. Phone Updated After Transfer?	Called Name Display on Orig. Phone Updated After Transfer?
Phone C1 to Phone A1 Xfr to Phone D1	N/A ⁶				
Phone C1 to Phone A1 Xfr to Phone D2	N/A ⁶				
Phone C2 to Phone A1 Xfr to Phone D1	N/A ⁶				
Phone C2 to Phone A1 Xfr to Phone D2	N/A ⁶				
Phone C1 to Phone A2 Xfr to Phone D1	N/A ⁶				
Phone C1 to Phone A2 Xfr to Phone D2	N/A ⁶				
Phone C2 to Phone A2 Xfr to Phone D1	N/A ⁶				
Phone C2 to Phone A2 Xfr to Phone D2	N/A ⁶				
Phone A1 to Phone C1 Xfr to Phone B1	N/A ⁶				
Phone A1 to Phone C1 Xfr to Phone B2	N/A ⁶				
Phone A2 to Phone C1 Xfr to Phone B1	N/A ⁶				
Phone A2 to Phone C1 Xfr to Phone B2	N/A ⁶				
Phone A1 to Phone C2 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 Xfr to Phone B2	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone B1	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 Xfr to Phone B2	Yes	Yes	Yes	No	No



Table 11. Call Forward Unconditional (Local)

Calls Made	Call Comp.?	Original Calling Number Displayed on Final Dest.?	Original Calling Name Displayed on Final Dest.?	Forwarding Called Number Displayed on Final Dest.?	Forwarding Called Name Displayed on Final Dest.?	Final Dest. Connected Number Updated at orig. Side?	Final Dest. "Connected Name" Updated at Orig. Side?
Phone C1 to Phone A1 -CFU to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C1 to Phone A1 -CFU to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C2 to Phone A1 -CFU to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C2 to Phone A1 -CFU to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C1 to Phone A2 -CFU to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C1 to Phone A2 -CFU to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C2 to Phone A2 -CFU to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C2 to Phone A2 -CFU to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone A1 to Phone C1 -CFU to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 -CFU to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 -CFU to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 -CFU to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 -CFU to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 -CFU to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 -CFU to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 -CFU to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No



Table 12. Call Forward Busy (Local)

Calls Made	Call Comp.?	Original Calling Number Displayed on Final Dest.?	Original Calling Name Displayed on Final Dest.?	Forwarding Called Number Displayed on Final Dest.?	Forwarding Called Name Displayed on Final Dest.?	Final Dest. Connected Number Updated at orig. Side?	Final Dest. "Connected Name" Updated at Orig. Side?
Phone C1 to Phone A1 –CFB to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C1 to Phone A1 –CFB to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C2 to Phone A1 –CFB to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C2 to Phone A1 –CFB to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C1 to Phone A2 –CFB to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C1 to Phone A2 –CFB to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C2 to Phone A2 –CFB to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C2 to Phone A2 –CFB to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone A1 to Phone C1 –CFB to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 –CFB to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 –CFB to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 –CFB to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 –CFB to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 –CFB to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 –CFB to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 -CFB to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No



Table 13. Call Forward No Answer (Local)

Calls Made	Call Comp.?	Original Calling Number Displayed on Final Dest.?	Original Calling Name Displayed on Final Dest.?	Forwarding Called Number Displayed on Final Dest.?	Forwarding Called Name Displayed on Final Dest.?	Final Dest. Connected Number Updated at orig. Side?	Final Dest. "Connected Name" Updated at Orig. Side?
Phone C1 to Phone A1 -CFNA to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C1 to Phone A1 –CFNA to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C2 to Phone A1 –CFNA to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C2 to Phone A1 –CFNA to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C1 to Phone A2 –CFNA to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C1 to Phone A2 -CFNA to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone C2 to Phone A2 –CFNA to Phone B1	Yes	Yes	Yes	Yes	No	No	No
Phone C2 to Phone A2 –CFNA to Phone B2	Yes	Yes	No	Yes	Yes	No	No
Phone A1 to Phone C1 –CFNA to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C1 –CFNA to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 -CFNA to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A1 to Phone C2 –CFNA to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 –CFNA to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C1 –CFNA to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 –CFNA to Phone D1	Yes	Yes	Yes	Yes	Yes	No	No
Phone A2 to Phone C2 –CFNA to Phone D2	Yes	Yes	Yes	Yes	Yes	No	No



Table 14. Call Forward Unconditional (Network/External)

Calls Made	Call Comp.?	Original Calling Number Displayed on Final Dest.?	Original Calling Name Displayed on Final Dest.?	Forwardin g Called Number Displayed on Final Dest.?	Forwardin g Called Name Displayed on Final Dest.?	Final Dest. Connected Number Updated at Orig. Side?	Final Dest. Connected Name Updated at Orig. Side?
Phone C1 to Phone A1 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A1 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A1 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A1 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A2 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A2 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A2 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A2 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C1 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C1 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C1 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C1 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C2 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C2 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C2 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C2 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No



Table 15. Call Forward Busy (Network/External)

Calls Made	Call Comp.?	Original Calling Number Displayed on Final Dest.?	Original Calling Name Displayed on Final Dest.?	Forwardin g Called Number Displayed on Final Dest.?	Forwardin g Called Name Displayed on Final Dest.?	Final Dest. Connected Number Updated at Orig. Side?	Final Dest. Connected Name Updated at Orig. Side?
Phone C1 to Phone A1 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A1 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A1 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A1 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A2 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A2 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A2 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A2 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C1 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C1 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C1 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C1 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C2 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C2 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C2 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C2 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No



Table 16. Call Forward No Reply by join (Network/External)

Calls Made	Call Comp.?	Original Calling Number Displayed on Final Dest.?	Original Calling Name Displayed on Final Dest.?	Forwardin g Called Number Displayed on Final Dest.?	Forwardin g Called Name Displayed on Final Dest.?	Final Dest. Connected Number Updated at Orig. Side?	Final Dest. Connected Name Updated at Orig. Side?
Phone C1 to Phone A1 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A1 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A1 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A1 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A2 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C1 to Phone A2 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A2 -CFU to Phone D1	Yes	Yes	Yes	No	No	No	No
Phone C2 to Phone A2 -CFU to Phone D2	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C1 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C1 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C1 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C1 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C2 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A1 to Phone C2 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C2 -CFU to Phone B1	Yes	Yes	Yes	No	No	No	No
Phone A2 to Phone C2 -CFU to Phone B2	Yes	Yes	Yes	No	No	No	No



Table 17. Hold and Resume with MoH

Calls Made	Hold Work?	MoH Heard ?	Resume Work?
Phone C1 to Phone A1 A1 perform Hold/Resume	Yes	No ⁷	Yes
Phone C1 to Phone A2 A2 perform Hold/Resume	Yes	No ⁷	Yes
Phone C2 to Phone A1 A1 perform Hold/Resume	Yes	No ⁷	Yes
Phone C2 to Phone A2 A2 perform Hold/Resume	Yes	No ⁷	Yes
Phone A1 to Phone C1 C1 perform Hold/Resume	Yes	Yes	Yes
Phone A1 to Phone C2 C2 perform Hold/Resume	Yes	Yes	Yes
Phone A2 to Phone C1 C1 perform Hold/Resume	Yes	Yes	Yes
Phone A2 to Phone C2 C2 perform Hold/Resume	Yes	Yes	Yes

⁷ Nortel PBX used is not equipped with MoH source



Table 18. Call Conferencing (Local)

Calls Made	Call Sustained?	Number Updated on the Remaining Parties When the Conferencing Phone Drops Out?	Name Updated on the Remaining Parties When the Conferencing Phone Drops Out?
Phone C1 call Phone A1, Phone A1 conf Phone B1	Yes	No ⁸	No ⁸
Phone C1 call Phone A2, Phone A2 conf Phone B2	Yes	No ⁸	No ⁸
Phone C2 call Phone A1, Phone A1 conf Phone B2	Yes	No ⁸	No ⁸
Phone C2 call Phone A2, Phone A2 conf Phone B1	Yes	No ⁸	No ⁸
Phone A1 call Phone C1, Phone C1 conf Phone D1	Yes	No ⁸	No ⁸
Phone A1 call Phone C2, Phone C2 conf Phone D2	Yes	No ⁸	No ⁸
Phone A2 call Phone C1, Phone C1 conf Phone D2	Yes	No ⁸	No ⁸
Phone A2 call Phone C2, Phone C2 conf Phone D1	Yes	No ⁸	No ⁸

⁸ Name and number display updated on the conferenced party but not on original party display



Table 19. Call Conferencing (Network/External)

Calls Made	Call Sustained?	Number Updated on the Remaining Parties When the Conferencing Phone Drops Out?	Name Updated on the Remaining Parties When the Conferencing Phone Drops Out?
Phone C1 call Phone A1, Phone A1 conf Phone D1	Yes	No	No
Phone C1 call Phone A2, Phone A2 conf Phone D2	Yes	No	No
Phone C2 call Phone A1, Phone A1 conf Phone D2	Yes	No	No
Phone C2 call Phone A2, Phone A2 conf Phone D1	Yes	No	No
Phone A1 call Phone C1, Phone C1 conf Phone B1	Yes	No	No
Phone A1 call Phone C2, Phone C2 conf Phone B2	Yes	No	No
Phone A2 call Phone C1, Phone C1 conf Phone B2	Yes	No	No
Phone A2 call Phone C2, Phone C2 conf Phone B1	Yes	No	No



Table 20. VoiceMail Access, leave a message and SIP MWI Activate

Calls Made	Able to leave VM ?	MWI Message Sent?	MWI lamp turned ON?
Phone A1 call Phone C1 – CFU to Unity			
Phone A1 leaves a message for C1	Yes	Yes	Yes
Unity send MWI activate message to user C1			
Phone A1 call Phone C2 – CFU to Unity			
Phone A1 leaves a message for C2	Yes	Yes	Yes
Unity send MWI activate message to user C2			
Phone C1 call Phone A1 – CFU to Unity			
Phone C1 leaves a message for A1	No ⁹ , ¹⁰	No ^{9, 10}	No ^{9, 10}
Unity send MWI activate message to user A1			
Phone C1 call Phone A2 – CFU to Unity			
Phone C1 leaves a message for A2	No ^{9, 10}	No ^{9, 10}	No ^{9, 10}
Unity send MWI activate message to user A2			
Phone A1 call Phone D1 – CFU to 3 rd party VM system			
Phone A leaves a message for D1	No ^{9, 10}	No ^{9, 10}	No ^{9, 10}
3 rd party VM send MWI activate message to user D1 Phone A1 call Phone D2 – CFU to 3 rd party VM system			
Phone A leaves a message for D2	No ^{9, 10}	No ^{9, 10}	No ^{9, 10}
3 rd party VM send MWI activate message to user D2			
Phone C2 call Phone B1 – CFU to 3 rd party VM system			
Phone C2 leaves a message for B1	Yes	Yes	Yes
3 rd party VM send MWI activate message to user B1			
Phone C2 call Phone B2 – CFU to 3 rd party VM system			
Phone C2 leaves a message for B2	Yes	Yes	Yes
3 rd party VM send MWI activate message to user B2			

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⁹ There is a difference in the method used by both systems in passing the REDIRECTING information across the SIP trunk.CUCM uses the SIP Diversion header whereas Nortel uses the History-Info field instead. Since the redirect information is not recognized, the caller will not get the called party personal greeting to leave a voice message. Due to this difference, Cisco Unity or Nortel Call Pilot will not work as a centralized voice mail system for both Cisco Unified CallManager and Nortel CS1000M subscribers. That is, each system's phone users can not be subscribed to the other system's voice mail system using the SIP Trunk. For example, Cisco Unity can be a message center for the Cisco Unified CallManager users but it can not be a message center for Nortel CS1000M users.

¹⁰ There is a difference in the method used by both systems to relay DTMF. CUCM uses RFC2833 or KPML to transmit digits while the Nortel uses SIP INFO message for DTMF relay.



Table 21. VoiceMail Access, retrieve the message and SIP MWI Deactivate

Calls Made	Able to retrieve VM ?	MWI Message Sent?	MWI lamp turned OFF?
Phone C1 retrieve voice message from Unity	Yes	Yes	Yes
Unity send MWI de-activate message to user C1			
Phone C2 retrieve voice message from Unity	Yes	Yes	Yes
Unity send MWI de-activate message to user C2	103	163	103
Phone A1 retrieve voice message from Unity	No ^{9, 10}	No ^{9, 10}	No ^{9, 10}
Unity send MWI de-activate message to user A1			
Phone A2 retrieve voice message from Unity	No ^{9, 10}	9 10	9 10
Unity send MWI de-activate message to user A2		No ^{9, 10}	No ^{9, 10}
Phone D1 retrieve the message from 3 rd party VM system	No ^{9, 10}	No ^{9, 10}	No ^{9, 10}
3 rd party VM send MWI de-activate message to user D1	NO	NO	NO
Phone D2 retrieve the message from 3 rd party VM system	No ^{9, 10}	No ^{9, 10}	No ^{9, 10}
3 rd party VM send MWI de-activate message to user D2	NO		
Phone B1 retrieve the message from 3 rd party VM system	Yes	Yes	Yes
3 rd party VM send MWI de-activate message to user B1	1.00	. 35	. 33
Phone B2 retrieve the message from 3 rd party VM system	Yes	Yes	Yes
3 rd party VM send MWI de-activate message to user B2	. 55		.33