



Nortel CS1000 Succession 4.0 with Cisco Unified Border Element for H323-to-H323 Calls

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Introduction

- This is an application note for connectivity of Nortel CS1000 Succession 4.0 with Cisco Unified Border Element via H.323 (10/100baseT).
- The network topology diagram (Figure 1) shows the test setup for end-to-end interoperability with the Cisco Unified Border Element (CUBE) connected to the IP PBX via H.323 (10/100baseT). Connectivity is achieved by using the H.323 protocol.
- This Application Note uses the c3845 IOS-voice-gateway, however other Cisco voice gateways are also an option to use since CUBE implementation does not depend on the platform. Here is a list of Cisco Products capable of CUBE functionality:

[Cisco 2800 Series Integrated Services Routers](#)

[Cisco 3800 Series Integrated Services Routers](#)

[Cisco AS5350XM Universal Gateway](#)

[Cisco AS5400XM Universal Gateway](#)



Network Topology

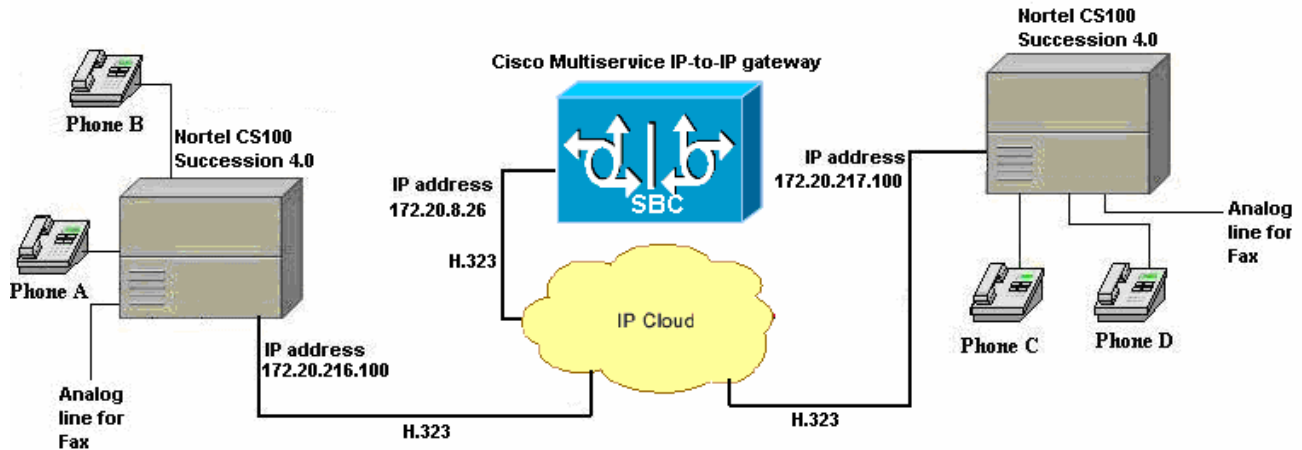


Figure 1. Network Topology or Test Setup

Limitations

- Connected Name is not presented to the originating (calling) Phone display. CUBE relays the "Connected Number" info in a method not understood by Nortel CS1000 PBX
- Basic Call using G.726 codec is not accepted on Nortel PBX.
- Call Transfer Network/External (Trombone), When phone A calls Phone C and Phone C xfers call to Phone B, call is dropped. Nortel PBX drops call.
- Call Conference Network/External , When Phone A calls Phone C and Phone C attempts to conference in Phone B, call is dropped. Nortel PBX drops call.
- Call Forward All and No Reply Network/External, when Phone C is set to CFA/B to Phone B and Phone A calls Phone C, the call is dropped. Nortel PBX drops call.
- Fax T.38 did not interoperate, when attempted to use T.38 for fax transmission the fax was unsuccessful. H245 terminalCapabilities negotiations were unsuccessful between the CUBE and the Nortel CS1000
- DTMF in-band signaling did not interoperate. Nortel PBX did not play in-band DTMF tones



System Components

Hardware Requirements

Cisco equipment

- Cisco 3845 (Cisco 3800 family routers)
- Cisco Catalyst 6500

Nortel equipment

- Nortel Communication System 1000 (which includes Call Server, Signaling Server and Media gateway)

Software Requirements

- PBX Software: Nortel Succession 4.0 Release
- Cisco IOS Release: c3845-ipvoice_ivs-mz.124-9.T

Features

Features Supported

- Basic call using G711u and A law, G729 and G723 codecs
- Local Call Transfer blind and Local Call Transfer supervised
- Local Call Conference
- Call on-hold
- Local Call Forward Busy and All
- Call Forward no reply (both local and external)
- Out-of-band DTMF signaling (H.245)
- FAX integrity (only using G.711)

Features Not Supported

- Connected Name
- Call Transfer Network/External (Trombone)
- Call Conference Network/External
- Call Forward All and No Reply Network/External
- Fax T.38
- DTMF in-band



Configuration

Configuration Sequence and Tasks

Configuration Menus and Commands

Nortel Configuration

Call Server Setup via SSC card console

1. LD 17 – Configure the 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 H.323 Virtual Trunks to the Signaling Server
4. LD 14 – Configure the Virtual Gateway Trunks
5. LD 16 – Configure the H.323 route
6. LD 86 – Configure the Route List Block for the Virtual Trunk route
7. LD 87 – Configure CDP steering codes
8. LD 11 – Configure Digital Stations

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 H323 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)

10. Configure the System Wide Settings
11. Configure the NRS Server Settings
12. Configure a Service Domain
13. Configure a L1 Domain (UDP)
14. Configure a L0 Domain (CDP)
15. Configure a H.323 gateway
16. Configure the Routing Entries

Call Server Setup:

1. LD 17 – Configure the 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
OVLN NO
OVLN 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 H.323 Virtual Trunks to the Signaling Server (One trunk = one line connection)



```
>ld 20
REQ: prt
TYPE: tnb
TN 63 0 0 0
DATE
PAGE
DES
```

→ H323 Virtual trunk to Signaling Server

```
DES H323_IP_VTRK
TN 063 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 11 1
CHID 101
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
```

4. LD 14 – Configure the Virtual Gateway Trunks (upto 32 trunks per MC-32)

```
>ld 20
REQ: prt
TYPE: tnb
TN 3
CDEN
CUST
DATE
PAGE
DES

DES
TN 003 0 00 00
TYPE VGW
CUST 0
```



XTRK MC32
ZONE 000

DES
TN 003 0 00 01
TYPE VGW
CUST 0
XTRK MC32
ZONE 000

5. LD 16 – Configure the H.323 route

>ld 21
PT1000

REQ: prt
TYPE: rdb
CUST 0
ROUT 11

TYPE RDB
CUST 00
DMOD
ROUT 11
DES H323_TIE
TKTP TIE
NPID_TBL_NUM 0
ESN NO
CNVT NO
SAT NO
RCLS EXT
VTRK YES
ZONE 000
PCID H323
CRID NO
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 2311
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 5 0
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 0 0
FRL 1 0
FRL 2 0
FRL 3 0
FRL 4 0
FRL 5 0
FRL 6 0
FRL 7 0
OHQ NO
OHQT 00
CBQ NO
AUTH NO
TTBL 0
ATAN NO
OHTD NO
PLEV 2
ALRM NO
ART 0
SGRP 0
AACR NO

6. LD 86 – Configure the Route List Block for the Virtual Trunk route

>ld 86
ESN000

MEM AVAIL: (U/P): 2854769 USED U P: 182454 59352 TOT: 3096575
DISK RECS AVAIL: 1152

REQ prt
CUST 0
FEAT rlb
RLI 11

RLI 11
ENTR 0

LTER NO

ROUT 11

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 0

FCI 0

FSNI 0

SBOC NRR

IDBB DBD



IOHQ NO
OHQ NO
CBQ NO

ISET 0
NALT 5
MFRL 0
OVLL 1

7. LD 87 – Configure CDP steering codes

>ld 87
ESN000

MEM AVAIL: (U/P): 2828167 USED U P: 200856 67552 TOT: 3096575
DISK RECS AVAIL: 1152
REQ prt
CUST 0
FEAT dsc

ESN009
FEAT cdp
TYPE dsc
DSC 533
DSC 533 =====> **Dial 533 number pattern goes out H.323**
FLEN 0
DSP LSC
RLI 11 =====> **H.323 Trunk**
NPA
NXX

MEM AVAIL: (U/P): 2828167 USED U P: 200856 67552 TOT: 3096575
DISK RECS AVAIL: 1152
REQ prt
CUST 0
FEAT cdp
TYPE dsc
DSC 54
DSC 54 =====> **Dial 533 number pattern goes out H.323**
FLEN 0
DSP LSC
RLI 11 =====> **H.323 Trunk**
NPA
NXX

17. LD 11 – Configure Digital Stations (Phones)

DES CS101A
TN 001 0 00 08
TYPE 2616



CDEN 8D
CUST 0
AOM 0
FDN 6001
TGAR 1
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
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 OCBF FLXD FTTC DNDY DNO3 MCBN CDMR
CPND_LANG ENG
RCO 0
EFD 6001
HUNT 6001
EHT 6001
LHK 0
PLEV 02
CSDN
AST
IAPG 0
AACN NO
ITNA NO
DGRP
MLWU_LANG 0
DNDR 0
KEY 00 SCR 2332 0 MARP
CPND
NAME ZEUS_2332
XPLN 9
DISPLAY_FMT FIRST, LAST
01
02
03 CFW 4 4103
04 AO6
05 TRN
06
07
08
09
10



11
12
13
14
15 RGA
DATE 7 MAR 2006

DES CS101A
TN 001 0 00 09
TYPE 2616
CDEN 8D
CUST 0
AOM 0
FDN 6001
TGAR 1
LDN NO
NCOS 0
SGRP 0
RNPG 0
SCI 0
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 OCBF FLXD FTTC DNDY DNO3 MCBN CDMR
CPND_LANG ENG
RCO 0
EFD 6001
HUNT 6001
EHT 6001
LHK 0
PLEV 02
CSDN
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
DNDR 0
KEY 00 SCR 2333 0 MARP
CPND
NAME ZEUS_2333
XPLN 9
DISPLAY_FMT FIRST, LAST



01
02
03 CFW 4 5332
04 AO6
05 TRN
06
07
08
09
10
11
12
13
14
15 RGA
DATE 7 MAR 2006

NACT

Signaling Server Setup:

Configure the Zones

Site: 172.20.218.101 > Configuration > Call Server Configuration > Zone List > Zone 0 >

Zone Basic Property and Bandwidth Management

Input Description	Input Value
Zone Number (ZONE):	<input type="text" value="0"/>
Intrazone Bandwidth (INTRA_BW):	<input type="text" value="10000"/>
Intrazone Strategy (INTRA_STGY):	Best Quality (BQ) ▾
Interzone Bandwidth (INTER_BW):	<input type="text" value="10000"/>
Interzone Strategy (INTER_STGY):	Best Quality (BQ) ▾
Resource Type (RES_TYPE):	Shared (SHARED) ▾
Branch Office Support (ZBRN):	<input type="checkbox"/>
Description (ZDES):	<input type="text"/>



Configure a new IP Telephony Node summary

Site: 172.20.218.101 > Configuration > IP Telephony Configuration >

Node Summary

New Node

Node ID	Node IP	Actions
101	172.20.218.100	<input type="button" value="Edit"/> <input type="button" value="Transfer / Status"/> <input type="button" value="Delete"/>

Voice LAN (TLAN) IP address: TN

Signaling Server
172.20.218.103

Pentium Card

Succession Media Card
172.20.218.102

30

Configure the Node section

Site: 172.20.218.101 > Configuration > IP Telephony Configuration > Node Summary > IP Telephony: Node ID 101 >

Edit

Node

Node ID: 101

Voice LAN (TLAN) Node IP address: 172.20.218.100 *

Management LAN (ELAN) gateway IP address: 172.20.218.1

Management LAN (ELAN) subnet mask: 255.255.255.0

Voice LAN (TLAN) subnet mask: 255.255.255.0

- SNMP
- VGW and IP phone codec profile
- QoS
- LAN configuration
- SNTP
- H323 GW Settings



Configure the VGW and IP phone codec profile section

- System Status
 - Call Server
 - IP Telephony
- Configuration
 - Call Server
 - IP Telephony
- Network Numbering Plan
 - Call Server
 - Network Routing Service
- Software Upgrade
- Patching
- System Utility
- Administration
- Support
- Tools
- Logout

VGW and IP phone codec profile

Enable Echo canceller

Echo canceller tail delay 128

Voice activity detection threshold -17 Range: -20 to +10

Idle noise level -65 Range: -327 to +327

DTMF Tone detection

Enable V.21 FAX tone detection

FAX maximum rate (bps) 14400

FAX payout nominal delay 100 Range: 0 to 300

FAX no activity timeout 20 Range: 10 to 32000

FAX packet size 30

Codec G711	Select <input checked="" type="checkbox"/>
Codec G729A	Select <input checked="" type="checkbox"/>
Codec G723.1	Select <input type="checkbox"/>
Codec T38 FAX	Select <input checked="" type="checkbox"/>
QoS	
LAN configuration	
SNTP	

- System Status
 - Call Server
 - IP Telephony
- Configuration
 - Call Server
 - IP Telephony
- Network Numbering Plan
 - Call Server
 - Network Routing Service
- Software Upgrade
- Patching
- System Utility
- Administration
- Support
- Tools
- Logout

Codec G711	Select <input checked="" type="checkbox"/>
Codec Name	G711
Voice payload size (ms/frame)	20
Voice payout (jitter buffer) nominal delay	40
Modifications may cause changes to dependent settings	
Voice payout (jitter buffer) maximum delay	80
Modifications may cause changes to dependent settings	
VAD	<input type="checkbox"/>
Codec G729A	Select <input checked="" type="checkbox"/>
Codec Name	G729A
Voice payload size (ms/frame)	20
Voice payout (jitter buffer) nominal delay	40
Modifications may cause changes to dependent settings	
Voice payout (jitter buffer) maximum delay	80
Modifications may cause changes to dependent settings	
VAD	<input type="checkbox"/>
Codec G723.1	Select <input type="checkbox"/>
Codec T38 FAX	Select <input checked="" type="checkbox"/>
Codec Name	T38 FAX



Configure the QoS section

- System Status
 - Call Server
 - IP Telephony
- Configuration
 - Call Server
 - IP Telephony
- Network Numbering Plan
 - Call Server
 - Network Routing Service
- Software Upgrade
- Patching
- System Utility
- Administration
- Support
- Tools
- Logout

Codec	G711	Select	<input checked="" type="checkbox"/>
Codec	G729A	Select	<input checked="" type="checkbox"/>
Codec	G723.1	Select	<input type="checkbox"/>
Codec	T38 FAX	Select	<input checked="" type="checkbox"/>
QoS			
Diffserv Codepoint(DSCP) Control packets	<input type="text" value="40"/>	Range: 0 to 63	
Diffserv Codepoint(DSCP) Voice packets	<input type="text" value="46"/>	Range: 0 to 63	
Enable 802.1Q support	<input type="checkbox"/>		
802.1Q Bits value (802.1p)	<input type="text" value="6"/>	Range: 0 to 7	
LAN configuration			
SNTP			
H323 GW Settings			
Firmware			
SIP GW Settings			
SIP URI Map			
SIP CD Services			
Cards			<input type="button" value="Add"/>
Signaling Servers			<input type="button" value="Add"/>



Configure LAN Configuration section

- ▼ System Status
 - ▶ Call Server
 - ▶ IP Telephony
- ▼ Configuration
 - ▶ Call Server
 - ▶ IP Telephony
- ▼ Network Numbering Plan
 - ▶ Call Server
 - ▶ Network Routing Service
- ▶ Software Upgrade
- ▶ Patching
- ▶ System Utility
- ▶ Administration
- ▶ Support
- ▶ Tools
- ▶ Logout

Codec T38 FAX		Select <input checked="" type="checkbox"/>
QoS		
Diffserv Codepoint(DSCP) Control packets	<input type="text" value="40"/>	Range: 0 to 63
Diffserv Codepoint(DSCP) Voice packets	<input type="text" value="46"/>	Range: 0 to 63
Enable 802.1Q support	<input type="checkbox"/>	
802.1Q Bits value (802.1p)	<input type="text" value="6"/>	Range: 0 to 7
LAN configuration		
Management LAN (ELAN) configuration		
Call server IP address	<input type="text" value="172.20.218.101"/>	
Survivable Succession Media Gateway IP address	<input type="text" value="0.0.0.0"/>	
Signaling port	<input type="text" value="15000"/>	Range: 1024 to 65535
Broadcast port	<input type="text" value="15001"/>	Range: 1024 to 65535
Voice LAN (TLAN) configuration		
Signaling port	<input type="text" value="5000"/>	Range: 1024 to 65535
Voice port	<input type="text" value="5200"/>	Range: 1024 to 65535
Routes		<input type="button" value="Add"/>
IP address	Subnet mask	
<input type="text" value="172.20.216.1"/>	<input type="text" value="255.255.255.0"/>	<input type="button" value="Remove"/>



Configure the H323 GW Setting section

<ul style="list-style-type: none">System Status<ul style="list-style-type: none">Call ServerIP TelephonyConfiguration<ul style="list-style-type: none">Call ServerIP TelephonyNetwork Numbering Plan<ul style="list-style-type: none">Call ServerNetwork Routing ServiceSoftware UpgradePatchingSystem UtilityAdministrationSupportToolsLogout	SNTP Server	Mode	active	
	Interval	256	Range: 1 to 2147483647	
	Port	20101		
	SNTP Client	Mode	passive	
	Interval	256	Range: 1 to 2147483647	
	Port	20101		
	SNTP server IP address	0.0.0.0		
	H323 GW Settings	Primary gatekeeper IP address	172.20.216.103	
	Alternate gatekeeper IP address	172.20.217.103		
	Primary Network Connect Server IP address	172.20.216.103		
	Primary Network Connect Server Port number	16500	Range: 1024 to 65535	
	Alternate Network Connect Server IP address	172.20.217.103		
	Alternate Network Connect Server Port number	16500	Range: 1024 to 65535	
	Primary Network Connect Server timeout	10	Range: 1 to 30	



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

The screenshot displays the Cisco configuration interface. On the left is a navigation tree with the following items: System Status, Call Server, IP Telephony, Configuration, Call Server, IP Telephony, Network Numbering Plan, Call Server, Network Routing Service, Software Upgrade, Patching, System Utility, Administration, Support, Tools, and Logout. The main content area shows the configuration for the 'Card 172.20.218.102 Properties' section. The 'Cards' section is expanded, and the 'Card 172.20.218.102 Properties' is selected. The configuration details are as follows:

Property	Value
Role	Follower
Management LAN (ELAN) IP address	172.20.218.102 *
Management LAN (ELAN) MAC address	00:11:F9:E4:D0:11 *
Voice LAN (TLAN) IP address	172.20.216.102 *
Voice LAN (TLAN) gateway IP address	172.20.216.1
Hostname	MG_Node101_3 *
Card TN	3 *
Card processor type	Succession Media Card ▾
H323 ID	MG_Node101
Enable set TPS	<input checked="" type="checkbox"/>
System name	MG_Node_101
System location	Dewey Lab
System contact	Fred McClintic



Configure the Signaling Server section

▼ Signaling Servers		Add
▼ Signaling Server 172.20.218.103 Properties		Remove
Role	Leader	
Management LAN (ELAN) IP address	<input type="text" value="172.20.218.103"/>	*
Management LAN (ELAN) MAC address	<input type="text" value="00:02:b3:f7:3a:86"/>	*
Voice LAN (TLAN) IP address	<input type="text" value="172.20.216.103"/>	*
Voice LAN (TLAN) gateway IP address	<input type="text" value="172.20.216.1"/>	
Hostname	<input type="text" value="SS_Node101_Ldr"/>	*
H323 ID	<input type="text" value="Gateway_Node101"/>	
Enable set TPS	<input checked="" type="checkbox"/>	
Enable virtual trunk TPS	<input type="text" value="H.323 and SIP"/>	
Enable SIP Proxy / Redirect Server	<input checked="" type="checkbox"/>	
SIP Transport Protocol	<input type="text" value="TCP"/>	
Local SIP Port	<input type="text" value="5060"/>	
SIP Domain name	<input type="text" value="birch.com"/>	
SIP Gateway Endpoint Name	<input type="text" value="Gateway_Node101"/>	
SIP Gateway Authentication Password	<input type="text" value="••••"/>	
Enable H323 Gatekeeper	<input checked="" type="checkbox"/>	
Network Routing Service Role	<input type="text" value="Primary"/>	
System name	<input type="text" value="SS_Node101_Ldr"/>	



Network Routing Server Setup:

Configure the System Wide Settings

Network Routing Service

Home Configuration Tools Reports Administration Help | Logout

Location: Home > System Wide Settings >

System Wide Settings

NRS Overview
=> System Wide Settings
NRS Server Settings

DB sync interval for alternate [Hours]

SIP registration time to live timer [Seconds]

H.323 gatekeeper registration time to live timer [Seconds]

H.323 alias name

Alternate NRS server is permanent

Auto backup time [HH:MM]

Auto backup to FTP site enabled

Auto backup FTP site IP address

Auto backup FTP site path

Auto backup FTP username

Auto backup FTP password



Configure the NRS Server Settings

Network Routing Service

Home | Configuration | Tools | Reports | Administration | Help | Logout

Location: Home > NRS Server Settings >

NRS Overview

System Wide Settings

[-> NRS Server Settings](#)

NRS Settings

Host name *

Primary IP (TLAN) *

Alternate IP (TLAN) *

Control priority

H.323 Gatekeeper Settings

Location request (LRQ) response timeout [Seconds]

SIP Server Settings

Mode

UDP transport enabled

UDP port

UDP maximum transmission unit (MTU)



Network Routing Service

[Home](#)[Configuration](#)[Tools](#)[Reports](#)[Administration](#)[Help](#) | [Logout](#)

SIP Server Settings

Mode UDP transport enabled UDP port UDP maximum transmission unit (MTU) TCP transport enabled TCP port TCP maximum transmission unit (MTU)

Network Connection Server (NCS) Settings

Primary NCS port Alternate NCS port Primary NCS timeout [Seconds] *Mandatory field indicator



Configure a Service Domain

Network Routing Service

Home **Configuration** Tools Reports Administration **Active DB view** (set Standby DB view) Help | Logout

Location: Configuration > Service Domains > View Service Domain Property >

View Service Domain Property

Domain name	<input type="text" value="birch.com"/> *
Domain description	<input type="text" value="required service domain"/>

** Mandatory field indicator*

- => Service Domains
- L1 Domains (UDP)
- L0 Domains (CDP)
- Gateway Endpoints
- User Endpoints
- Routing Entries
- Default Routes
- Collaborative Servers



Configure a L1 Domain (UDP)

Network Routing Service

Home **Configuration** Tools Reports Administration [Active DB view](#) (set Standby DB view) Help | Logout

View L1 Domain Property (birch.com)

Service Domains
=> **L1 Domains (UDP)**
L0 Domains (CDP)
Gateway Endpoints
User Endpoints
Routing Entries
Default Routes
Collaborative Servers

Domain name

Domain description

Endpoint authentication enabled

Authentication password

E.164 country code

E.164 area code

International dialing access code

L1 domain dialing access code

National dialing access code

Local dialing access code

Special number 1

Special number 2



Configure a L0 Domain (CDP)

Network Routing Service

Home **Configuration** Tools Reports Administration **Active DB view** (set Standby DB view) Help | Logout

View L0 Domain Property (birch.com / mcccmm.com)

Service Domains	Domain name	<input type="text" value="CDP"/>
L1 Domains (UDP)	Domain description	<input type="text" value="CDP (local extension) domain"/>
=> L0 Domains (CDP)	Special number label	<input type="text"/>
Gateway Endpoints	Unqualified number label	<input type="text"/>
User Endpoints	Endpoint authentication enabled	<input type="text" value="Authentication off"/>
Routing Entries	Authentication password	<input type="text"/>
Default Routes	E.164 country code	<input type="text" value="1"/>
Collaborative Servers	E.164 area code	<input type="text" value="314"/>
	International dialing access code	<input type="text" value="011"/>
	L1 domain dialing access code	<input type="text"/>
	National dialing access code	<input type="text"/>
	Local dialing access code	<input type="text"/>



Configure a H.323 gateway

Network Routing Service

Home Configuration Tools Reports Administration Active DB view (set Standby DB view) Help Logout

Location: Configuration > Gateway Endpoints > View Gateway Endpoint Property >

View Gateway Endpoint Property (pbxlab.org / rtp / interop)

Endpoint name	<input type="text" value="TonyIPIPGW"/>	*
Endpoint description	<input type="text" value="Tony B IPIPGW"/>	
Tandem endpoint name	<input type="text"/>	Look up
Endpoint authentication enabled	<input type="text" value="Not configured"/>	
Authentication password	<input type="text"/>	
E.164 country code	<input type="text"/>	
E.164 area code	<input type="text"/>	
International dialing access code	<input type="text"/>	
L1 domain dialing access code	<input type="text"/>	
National dialing access code	<input type="text"/>	
Local dialing access code	<input type="text"/>	
Special number 1	<input type="text"/>	
Special number 2	<input type="text"/>	
Static endpoint address type	<input type="text" value="IP version 4"/>	
Static endpoint address	<input type="text" value="172.20.8.26"/>	
H.323 Support	<input type="text" value="Not RAS H.323 endpoint"/>	
SIP support	<input type="text" value="Static SIP endpoint"/>	



Configure the Routing Entries

Network Routing Service

Home **Configuration** Tools Reports Administration [Active DB view](#) (set Standby DB view) [Help](#) | [Logout](#)

Location: Configuration > Routing Entries >

Routing Entries

Show Routing Entries for (Service Domain / L1 Domain / L0 Domain / Endpoint):

/ / / [Look up](#)

Showing 1 - 1 of 1 < Previous | Next >

#	DN Prefix	DN Type	Route Cost	SIP URI Phone Context
1	3	Level0 regional	1	CDP.mccomm.com



Cisco 3845 IOS Configuration

```
tony_3845#sh run
Building configuration...
```

```
Current configuration : 2286 bytes
```

```
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname tony_3845
!
boot-start-marker
boot system flash:c3845-ipvoice_ivs-mz.124-3.9.PI3d
boot-end-marker
!
logging buffered 10000000 debugging
no logging console
enable password cisco
!
no aaa new-model
!
resource policy
!
ip subnet-zero
ip cef
!
!
!
no ip domain lookup
voice-card 0
no dspfarm
!
!
!
voice service voip
allow-connections h323 to h323
allow-connections h323 to sip
allow-connections sip to h323
allow-connections sip to sip
fax protocol t38 ls-redundancy 0 hs-redundancy 0 fallback pass-through g711ulaw
h323
sip
!
!
!
voice class codec 1
codec preference 1 g711ulaw ==> Note: This is set to G.729 or G.723 to test voice quality and initiate T.38
!
!
!
```



```
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
interface GigabitEthernet0/0  
ip address 172.20.8.26 255.255.255.0  
duplex auto  
speed auto  
media-type rj45  
negotiation auto  
!  
interface GigabitEthernet0/1  
no ip address  
shutdown  
duplex auto  
speed auto  
media-type rj45  
negotiation auto  
!  
ip default-gateway 172.20.8.1  
ip classless  
ip route 0.0.0.0 0.0.0.0 172.20.8.1  
!  
ip http server  
!  
!  
!  
!  
control-plane  
!  
!  
!  
dial-peer voice 5330 voip  
destination-pattern 5...  
signaling forward unconditional  
voice-class codec 1  
session target ipv4:172.20.217.100  
dtmf-relay h245-alphanumeric  
no fax-relay sg3-to-g3  
no vad  
supplementary-service pass-through  
!  
dial-peer voice 2330 voip  
destination-pattern 2...  
signaling forward unconditional  
voice-class codec 1  
session target ipv4:172.20.216.100  
dtmf-relay h245-alphanumeric  
no fax-relay sg3-to-g3  
no vad  
supplementary-service pass-through
```



```
!  
!  
gatekeeper  
shutdown  
!  
!  
line con 0  
password cisco  
stopbits 1  
line aux 0  
stopbits 1  
line vty 0 4  
password cisco  
login  
!  
scheduler allocate 20000 1000  
!  
end  
  
tony_3845#
```



Acronyms

Acronym	Definitions
CUBE	Cisco Unified Border Element
Cisco IOS	Cisco Internetwork Operating System



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Printed in the USA