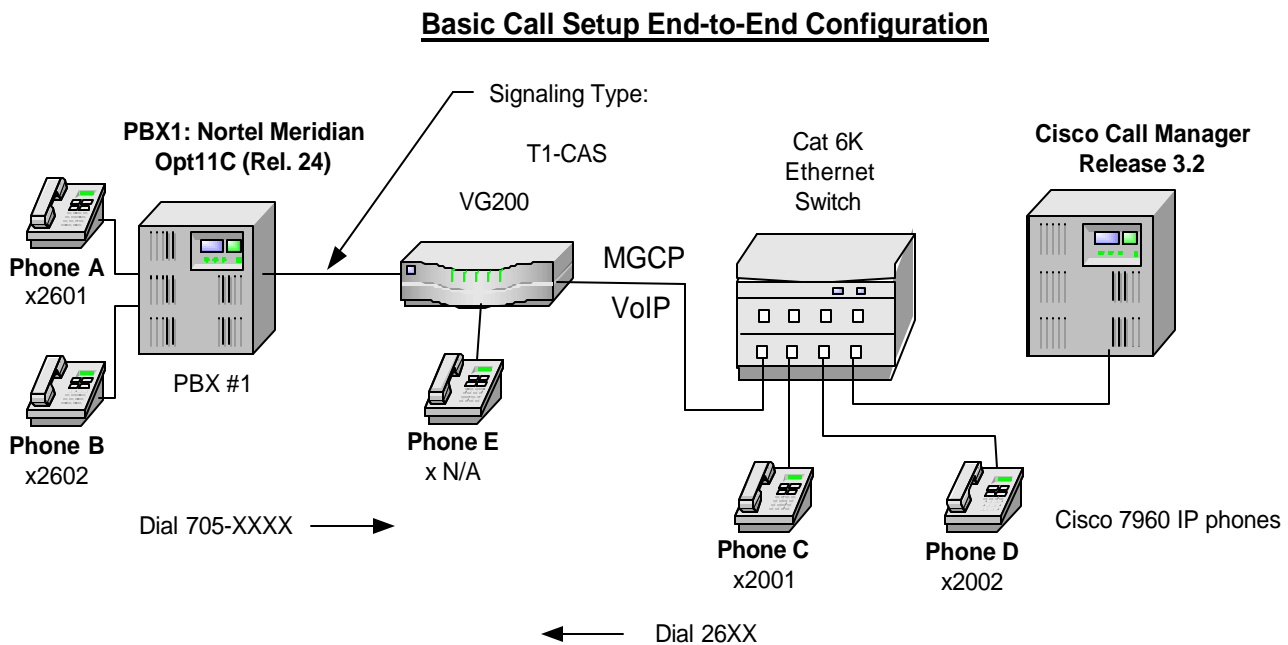


Cisco VG200 - PBX Interoperability: Nortel Meridian Opt11C Rel24 PBX with Cisco CallManager using T1 CAS as an MGCP Gateway

Introduction

This is an application note for connectivity of the Nortel Meridian Option11C Release 24 PBX with Cisco CallManager using the Cisco VG200-T1-CAS as an MGCP Gateway. This application supports E&M Wink-Start signaling and E&M Delay-Dial signaling.

Network Topology



As shown in the diagram above, a Nortel Meridian Opt 11C PBX was connected via a T1-CAS link to a Cisco VG200 Gateway, which in turn, was connected to an Ethernet switch. The interoperability testing involved basic call setup functionality between the Cisco CallManager and the Nortel PBX.

Limitations

E&M-Immediate-start signaling type is not supported on the Cisco CallManager Gateway configuration GUI.



System Components

Hardware Requirements

- Cisco VG200 Gateway with 2MFT T1 Port
- Cisco Catalyst 6000 switch
- Nortel Meridian Option 11C, NTAK09BA, 1.5 Mb DTI/PRI

Software Requirements

- Cisco IOS Software Release 12.2(2)XN
- Nortel Meridian Option 11C, Release 24
- Cisco CallManager Release 3.2

Configuration

Configuring the Nortel Meridian Opt11C PBX

Configure in the following sequence:

- Configure the common equipment.
- Configure the route data block.
- Configure the trunk.

Configuring Common Equipment

LD 22

PT2000

MARP NOT ACTIVATED

REQ PRT

TYPE CEQU

CEQU

MPED 8D

SUPL 000 004 008 012

016 032 036 040

044 048 064 068



072

XCT 000

CONF 029 030 031 062

094 095

DLOP NUM DCH FRM LCMT YALM T1TE TRSH

PRI 003 24 ESF B8S FDL - 00

004 24 ESF B8S FDL - 00

005 24 ESF B8S FDL - 00

006 24 ESF B8S FDL - 00

PRI2 07

DTI2

MISP

REQ ****

>

Configuring the Route Data Block

>LD 21

PT1000

REQ: PRT

TYPE: RDB

CUST 0

ROUT 105



TYPE RDB
CUST 00
DMOD
ROUT 105
DES T1_CAS
TKTP TIE
ESN NO
CNVT NO
SAT NO
RCLS EXT
DTRK YES
BRIP NO
DGTP DTI
ISDN NO
DSEL VCE
PTYP DTT
AUTO NO
DNIS NO
ICOG IAO
SRCH RRB
TRMB YES
STEP
ACOD 705
TARG 01
CLEN 1
BILN NO
OABS
INST
ANTK
SIGO STD



STYP SDAT

TIMR ICF 512

OGF 512

EOD 13952

DSI 34944

NRD 10112

DDL 70

ODT 4096

RGV 640

GRD 896

SFB 3

TFD 0

SST 5 0

NEDC **ETH**

FEDC **ETH**

CPDC NO

DLTN NO

HOLD 02 02 40

SEIZ 02 02

SVFL 02 02

DRNG NO

CDR NO

MUS NO

MANO NO

EQAR NO

OHQ NO

OHQT 00

CBQ NO

AUTH NO

TTBL 0

OHTD NO



PLEV 2

ALRM NO

ART 0

SGRP 0

AACR NO

REQ: ****

>

Configuring the Trunk (Wink-Start)

>ld 20

PT0000

MARP NOT ACTIVATED

REQ: PRT

TYPE: TNB

TN 5 1

DATE

PAGE

DES

TN 005 01

TYPE TIE

CUST 0



TRK DTI
PDCA 1
PCML MU
NCOS 0
RTMB 105 1
A/B BIT SIGNALING
TGAR 1
SIGL **EM4**
STRI/STRO **WNK WNK**
SUPN YES
AST NO
IAPG 0
CLS UNR DTN CND ECD WTA LPR APN THFD HKD
P10 VNL
TKID
DATE 4 APR 2002

NACT ****

>

Configuring the Trunk (Delay-Dial)

>ld 20

PT0000

MARP NOT ACTIVATED

REQ: PRT

TYPE: TNB



TN 5 1

DATE

PAGE

DES

TN 005 01

TYPE TIE

CUST 0

TRK DTI

PDCA 1

PCML MU

NCOS 0

RTMB 105 1

A/B BIT SIGNALING

TGAR 1

SIGL **EM4**

STRI/STRO **DDL DDL**

SUPN YES

AST NO

IAPG 0

CLS UNR DTN CND ECD WTA LPR APN THFD HKD

P10 VNL

TKID

DATE 4 APR 2002

NACT ****

>



Configuring Cisco CallManager

Vg200-MGCP Gateway Configuration

Cisco CallManager Administration
For Cisco IP Telephony Solutions

MGCP Configuration

[Back to Find/List Gateways](#)

Product: Cisco VG200
MGCP : VG200_MGCP

Status: Ready

MGCP Domain Name*

Description

Cisco CallManager Group*

| Installed Voice Interface Cards | | Endpoint Identifiers | |
|---------------------------------|---|--|--|
| Module in Slot 1 | <input type="text" value="NM-HDV"/> | | |
| Sub-Unit 0 | <input type="text" value="VVIC-2MFT-T1"/> | <input type="text" value="(1/0)TICS"/> | <input type="text" value="(1/1)TICS"/> |

Product Specific Configuration

Global ISDN Switch Type

Switchback Timing*

Switchback uptime-delay (min)

Switchback schedule (hh:mm)

* indicates required item

[Back to Find/List Gateways](#)



Digital Access T1-CAS Configuration

Cisco CallManager 3.2 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

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System Route Plan Service Feature Device User Application Help

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CISCO SYSTEMS

Gateway Configuration

[Back to MGCP Configuration](#)
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Ports

[Add a New Port](#)

- Port 1
- Port 2
- Port 3
- Port 4
- Port 5
- Port 6
- Port 7
- Port 8
- Port 9
- Port 10
- Port 11
- Port 12
- Port 13
- Port 14
- Port 15
- Port 16
- Port 17
- Port 18
- Port 19
- Port 20

Product : Cisco VG200
Gateway : S1/DS1-0@VG200_MGCP
Device Protocol: Digital Access T1
Registration: Registered with Cisco CallManager 10.1.1.2
IP Address: 10.1.1.210

Status: Ready

End-Point Name*

Description

Device Pool*

Media Resource Group List

Network Hold Audio Source

User Hold Audio Source

Calling Search Space

Location

Load Information

Port Selection Order*

Digit Sending*

Network Locale

Product Specific Configuration

Done Local intranet



Cisco CallManager 3.2 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Address { -4FCC-9C88-72254C1BF9CB } Go Links >>

Product Specific Configuration i

| | | | |
|-----|---------|--------------|----------|
| E&M | Port 21 | Line Coding* | B8ZS |
| E&M | Port 22 | framing* | ESF |
| E&M | Port 23 | Clock* | External |
| E&M | Port 24 | | |

* indicates required item

[Back to MGCP Configuration](#)
[Back to Find/List Gateways](#)

Local intranet



T1-CAS Port Configuration

Cisco CallManager 3.2 Administration - Port Configuration - Microsoft Internet Explo...

Port Configuration

S1/DS1-0@VG200_MGCP Port Type: E&M Port Number: 1
Status: Ready

New Update Update and Close Delete Cancel Changes

Port Details

| | |
|--------------------------|------------|
| Port Direction* | Bothways |
| Calling Party Selection* | Originator |
| Caller ID Type* | ANI |
| Caller ID DN | |
| Prefix DN | |
| Num Digits* | 4 |
| Expected Digits* | 4 |

Product Specific Configuration

| | |
|-----------------|------------|
| Signaling Type* | Delay Dial |
|-----------------|------------|

* indicates required item

Done Local intranet



Route Pattern Configuration

Cisco CallManager 3.2 Administration - Route Pattern Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

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CISCO SYSTEMS

Route Pattern Configuration

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

Route Pattern: 26XX
Status: Ready
Note: Any update to this route pattern automatically resets the associated gateway/route list

Copy Update Delete Cancel Changes

Pattern Definition

| | |
|---|--|
| Route Pattern* | 26XX |
| Partition | < None > |
| Numbering Plan* | North American Numbering Plk |
| Route Filter | < None > |
| Gateway/Route List* | S1/DS1-0@VG200_MGCP (Edit) |
| Route Option | <input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern |
| <input checked="" type="checkbox"/> Provide Outside Dial Tone | <input type="checkbox"/> Urgent Priority |

Calling Party Transformations

Use Calling Party's External Phone Number Mask

| | |
|--------------------------------|--|
| Calling Party Transform Mask | |
| Prefix Digits (Outgoing Calls) | |

Called Party Transformations

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

* indicates required item.

Done Local intranet



Configuring the Cisco VG200

```
VG200_MGCP# show running config
```

```
Building configuration...
```

```
Current configuration : 1301 bytes
```

```
!  
version 12.2  
no parser cache  
no service single-slot-reload-enable  
no service pad  
service timestamps debug uptime  
service timestamps log uptime  
no service password-encryption  
!  
hostname VG200_MGCP  
!  
logging rate-limit console 10 except errors  
!  
voice-card 1  
!  
ip subnet-zero  
!  
no ip dhcp-client network-discovery  
mgcp  
mgcp call-agent 10.1.1.2 2427 service-type mgcp version 0.1  
mgcp dtmf-relay voip codec all mode out-of-band  
mgcp rtp unreachable timeout 1000 action notify  
mgcp modem passthrough voip mode cisco  
mgcp sdp simple
```



```
mgcp package-capability rtp-package
mgcp package-capability sst-package
no mgcp timer receive-rtcp
no mgcp explicit hookstate
call rsvp-sync
!
!
!
!
!
ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server 10.1.1.2
ccm-manager config
!
controller T1 1/0
    framing esf
    linecode b8zs
    ds0-group 1 timeslots 1-24 type e&m-delay-dial
!
controller T1 1/1
    framing esf
    linecode b8zs
!
!
interface FastEthernet0/0
    ip address 10.1.1.210 255.255.255.0
    duplex auto
    speed auto
!
ip classless
```



```
no ip http server
!
!
voice-port 1/0:1
!
dial-peer voice 100 pots
  application mgcpapp
!
dial-peer voice 200 pots
  application mgcpapp
!
dial-peer voice 999101 pots
  application mgcpapp
  port 1/0:1
!
!
line con 0
line aux 0
line vty 0 4
  login
line vty 5 15
  login
!
end
```

VG200_MGCP#



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