

Lucent/Avaya Definity G3si V9 PBX with CallManager using the Cisco VG200-T1 CAS as an MGCP Gateway

This application note discusses the integration of the Lucent/Avaya Definity G3si V9 PBX with CallManager using the Cisco VG200-T1 CAS as an MGCP Gateway.

Integration Description

Connectivity is achieved by using the T1-CAS signaling protocol type on the MGCP gateway and the Lucent/Avaya PBX. The figure below shows the general network layout for the integration.

Network Layout

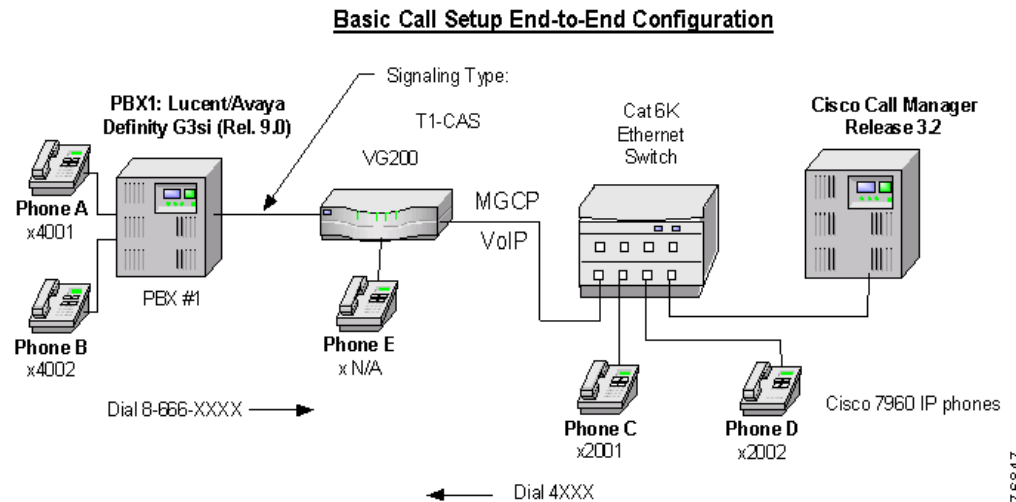
Features

Key features supported:

- E&M Wink-Start signaling
- E&M Delay-Dial signaling

Key features not supported:

- E&M Immediate-Start signaling not supported on CCM



Cisco Systems Equipment Needed

- Hardware (Gateway): Cisco VG200 Gateway with 2MFT T1 Port
- Software: CallManager Release 3.2, Cisco IOS image vg200-i6s-mz.122-2.XN

PBX Hardware and Software Requirements

- Hardware: TN464F, DS1 INTFC 24/32
- Software: Version V9



Configuring the Lucent/Avaya Definity G3si PBX

To configure the Lucent/Avaya Definity G3si PBX, do the following:

- Step 1.** Add the new circuit pack.
- Step 2.** Add the new signaling group.
- Step 3.** Add the new trunk group.
- Step 4.** Add the Uniform Dialing Plan.

Circuit Pack

The following figures show the configuration of the DS1 circuit pack.

DS1 Circuit Pack

The screenshot shows the 'DEFINITY Site Administration - [AvayaV9 GEDI]' window. The main area is titled 'DS1 CIRCUIT PACK' and contains the following configuration fields:

| | | | |
|-----------------------|------------|--------------------|--------|
| Location: | 01A14 | Name: | T1 CAS |
| Bit Rate: | 1.544 | Line Coding: | b8zs |
| Line Compensation: | 1 | Framing Mode: | esf |
| Signaling Mode: | robbed-bit | | |
| Interface Companding: | mulaw | | |
| Idle Code: | 11111111 | | |
| Slip Detection? | n | Near-end CSU Type: | other |

At the bottom of the window, there is a status bar with the text 'Right-click in a field to see a list of valid entries or help text', 'Ready', and a 'NUM' button. The number '76848' is visible in the bottom right corner of the window frame.



DS1 Circuit Pack—ESF Data Link Options

The screenshot shows a window titled "DEFINITY Site Administration - [AvayaV9 GEDI]". The menu bar includes File, Edit, View, System, Action, Tools, Window, and Help. The toolbar contains various icons for file operations and navigation. The main area displays the following configuration options:

```
change ds1 a14 | send (return) | help (f5) | cancel (esc) | enter (f3) | schedule (f9) | next (f7) | previous (f6) | next f
```

1 2

DS1 CIRCUIT PACK

ESF DATA LINK OPTIONS

Network Management Protocol: tabs

Send ANSI-T1.403 One-Second Performance Reports? b

Far-end CSU Address: b

Right-click in a field to see a list of valid entries or help text

Ready NUM

76849



Trunk Group

The following figures show the configuration of the trunk group.

Trunk Group for Wink-Start Signaling

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

change trunk-group 14 send (return) help (F5) cancel (esc) enter (F3) schedule (F9) next (F7) previous (F8) next (F9)

1 2 3 4 5 6 7 8 9 10 11

TRUNK GROUP

Group Number: 14 Group Type: **tanden** CDR Reports: y

Group Name: T1-CAS COR: 1 TN: 1 TAC: 669

Direction: two-way Outgoing Display? y Trunk Signaling Type:

Dial Access? y Busy Threshold: 99 Night Service:

Queue Length: 0 Incoming Destination:

Comm Type: voice

TRUNK PARAMETERS

Trunk Type (in/out): wink/wink Incoming Rotary Timeout(sec):

Outgoing Dial Type: tone Incoming Dial Type: tone

Wink Timer(nsec): 400 Disconnect Timing(nsec):

Digit Treatment: Digits:

Analog Loss Group: 9 Sig Bit Inversion: none

Incoming Dial Tone? y Digital Loss Group: 13

Disconnect Supervision - In? y Out? n

Answer Supervision Timeout: 0 Receive Answer Supervision? y

Right-click in a field to see a list of valid entries or help text

Ready NUM

76890



Trunk Group—Trunk Features

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

AvayaV9

change trunk-group 14 send (return) help (F5) cancel (esc) enter (F3) schedule (F9) next (F7) previous (F8) next (F9)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|----|----|

TRUNK FEATURES

ACA Assignment? Measured: Maintenance Tests?

Data Restriction? Glare Handling:

Used for DCS? Hop Dgt?

Suppress # Outpulsing? Seize When Maintenance Busy:

Incoming Tone (DTMF) ANI: Per Call CPN Blocking Code:

Per Call CPN Unblocking Code:

Ds1 Echo Cancellation?

Right-click in a field to see a list of valid entries or help text

Ready

NUM

76851



Trunk Group—Administrable Times

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

change trunk-group 14 send (return) help (f5) cancel (esc) enter (f3) schedule (f3) next (f7) previous (f8) next (f9)

1 2 3 4 5 6 7 8 9 10 11

ADMINISTRABLE TIMERS

| | | | |
|------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|
| Incoming Disconnect(msec): | <input type="text" value="500"/> | Outgoing Disconnect(msec): | <input type="text" value="500"/> |
| Incoming Dial Guard(msec): | <input type="text" value="70"/> | Outgoing Dial Guard(msec): | <input type="text" value="1600"/> |
| Incoming Glare Guard(msec): | <input type="text" value="1500"/> | Outgoing Glare Guard(msec): | <input type="text" value="1500"/> |
| Programmed Dial Pause(msec): | <input type="text" value="1500"/> | Outgoing Seizure Response(sec): | <input type="text" value="5"/> |
| | | Disconnect Signal Error(sec): | <input type="text" value="240"/> |
| | | Incoming Incomplete Dial Alarm(sec): | <input type="text" value="255"/> |

END TO END SIGNALING

| | | | |
|-------------|----------------------------------|--------------|----------------------------------|
| Tone(msec): | <input type="text" value="350"/> | Pause(msec): | <input type="text" value="150"/> |
|-------------|----------------------------------|--------------|----------------------------------|

OUTPULSING INFORMATION

| | | | | | |
|------|---------------------------------|-------------|---------------------------------|--------------|---------------------------------|
| PPS: | <input type="text" value="10"/> | Make(msec): | <input type="text" value="40"/> | Break(msec): | <input type="text" value="60"/> |
|------|---------------------------------|-------------|---------------------------------|--------------|---------------------------------|

Right-click in a field to see a list of valid entries or help text

Ready

76852



Trunk Group—ATMS Thresholds

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

AvayaV9

change trunk-group 14 send (return) help (F5) cancel (esc) enter (F3) schedule (F9) next (F7) previous (F8) next (F9)

1 2 3 4 5 6 7 8 9 10 11

ATMS THRESHOLDS

TTL Type: 105-w-r1 Far End Test No:

TTL Vendor: TTL Contact:

Trunk Vendor: Trunk Contact:

Trunk Length:

| | MARGINAL | | UNACCEPTABLE | |
|--------------------------|----------|------|--------------|------|
| | Min | Max | Min | Max |
| 1004 Hz Loss: | -2 | 21 | -2 | 21 |
| | -Dev | +Dev | -Dev | +Dev |
| 404 Hz Loss: | 9 | 9 | 9 | 9 |
| 2804 Hz Loss: | 9 | 9 | 9 | 9 |
| Maximum C Message Noise: | 55 | | 55 | |
| Maximum C Notched Noise: | 74 | | 74 | |
| Minimum SRL-HI: | 0 | | 0 | |
| Minimum SRL-LO: | 0 | | 0 | |
| Minimum ERL: | 0 | | 0 | |

Allow ATMS Busyout, Error Logging and Alarming?

Right-click in a field to see a list of valid entries or help text

Ready NUM

76853



Trunk Group—Group Member Assignments

The screenshot shows a software window titled "DEFINITY Site Administration - [AvayaV9 GEDI]". The window has a menu bar (File, Edit, View, System, Action, Tools, Window, Help) and a toolbar with various icons. Below the toolbar is a command line with the text "change trunk-group 14" and several function key shortcuts. The main area displays a table of "GROUP MEMBER ASSIGNMENTS" for a "TRUNK GROUP". The table has columns for Port, Code, Sfx, Name, Night, Mode, Type, and Ans Delay. The rows are numbered 1 through 15. The first row (Port 01A1401) is highlighted. Below the table, there is a status bar with the text "Right-click in a field to see a list of valid entries or help text" and "Ready".

TRUNK GROUP
Administered Members (min/max): 1/24
Total Administered Members: 24

| | Port | Code | Sfx | Name | Night | Mode | Type | Ans Delay |
|-----|---------|-------|-----|------|-------|------|---------|-----------|
| 1: | 01A1401 | TN464 | F | | | e&n | t1-stan | |
| 2: | 01A1402 | TN464 | F | | | e&n | t1-stan | |
| 3: | 01A1403 | TN464 | F | | | e&n | t1-stan | |
| 4: | 01A1404 | TN464 | F | | | e&n | t1-stan | |
| 5: | 01A1405 | TN464 | F | | | e&n | t1-stan | |
| 6: | 01A1406 | TN464 | F | | | e&n | t1-stan | |
| 7: | 01A1407 | TN464 | F | | | e&n | t1-stan | |
| 8: | 01A1408 | TN464 | F | | | e&n | t1-stan | |
| 9: | 01A1409 | TN464 | F | | | e&n | t1-stan | |
| 10: | 01A1410 | TN464 | F | | | e&n | t1-stan | |
| 11: | 01A1411 | TN464 | F | | | e&n | t1-stan | |
| 12: | 01A1412 | TN464 | F | | | e&n | t1-stan | |
| 13: | 01A1413 | TN464 | F | | | e&n | t1-stan | |
| 14: | 01A1414 | TN464 | F | | | e&n | t1-stan | |
| 15: | 01A1415 | TN464 | F | | | e&n | t1-stan | |

Right-click in a field to see a list of valid entries or help text
Ready NUM

76854



Trunk Group—Group Member Assignments Continued

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

change trunk-group 14 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8) next f

1 2 3 4 5 6 7 8 9 10 11

TRUNK GROUP
Administered Members (min/max): 1/24
Total Administered Members: 24

GROUP MEMBER ASSIGNMENTS

| | Port | Code | Sfx | Name | Night | Mode | Type | Ans Delay |
|-----|---------|-------|-----|------|-------|------|---------|-----------|
| 16: | 01A1416 | TN464 | F | | | e&n | t1-stan | |
| 17: | 01A1417 | TN464 | F | | | e&n | t1-stan | |
| 18: | 01A1418 | TN464 | F | | | e&n | t1-stan | |
| 19: | 01A1419 | TN464 | F | | | e&n | t1-stan | |
| 20: | 01A1420 | TN464 | F | | | e&n | t1-stan | |
| 21: | 01A1421 | TN464 | F | | | e&n | t1-stan | |
| 22: | 01A1422 | TN464 | F | | | e&n | t1-stan | |
| 23: | 01A1423 | TN464 | F | | | e&n | t1-stan | |
| 24: | 01A1424 | TN464 | F | | | e&n | t1-stan | |
| 25: | | | | | | | | |
| 26: | | | | | | | | |
| 27: | | | | | | | | |
| 28: | | | | | | | | |
| 29: | | | | | | | | |
| 30: | | | | | | | | |

Right-click in a field to see a list of valid entries or help text

Ready NUM

76855



Trunk Group for Delay-Dial Signaling

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

AvayaV9

change trunk-group 14 send (return) help (F5) cancel (esc) enter (F3) schedule (F9) next (F7) previous (F8) next (F9)

1 2 3 4 5 6 7 8 9 10 11

TRUNK GROUP

Group Number: 14 Group Type: tandem CDR Reports:

Group Name: T1-CAS CDR: 1 TN: 1 TAC: 669

Direction: two-way Outgoing Display? Trunk Signaling Type:

Dial Access? Busy Threshold: 99 Night Service:

Queue Length: 0 Incoming Destination:

Comm Type: voice

TRUNK PARAMETERS

Trunk Type (in/out): delay/delay Incoming Rotary Timeout(sec):

Outgoing Dial Type: tone Incoming Dial Type: tone

Wink Timer(msec): 400 Disconnect Timing(msec):

Digit Treatment: Digits:

Analog Loss Group: 9 Sig Bit Inversion: none

Incoming Dial Tone? Digital Loss Group: 13

Disconnect Supervision - In? Out?

Answer Supervision Timeout: 0 Receive Answer Supervision?

Right-click in a field to see a list of valid entries or help text

Ready NUM

76856



Uniform Dialing Plan

The following figures show the configuration of the uniform dialing plan.

Dial Plan Record

The screenshot shows the 'DEFINITY Site Administration - [AvayaV9 GEDI]' window. The 'DIAL PLAN RECORD' section is active, displaying the following configuration:

- Local Node Number: 1
- ETA Node Number: []
- ETA Routing Pattern: []
- Uniform Dialing Plan: 4-digit
- UDP Extension Search Order: udp-table-first

The 'FIRST DIGIT TABLE' is shown below:

| First Digit | - 1 - | - 2 - | - 3 - | - 4 - | - 5 - | - 6 - |
|-------------|-------|-------|-------|-----------|-------|-------|
| 1: | [] | [] | [] | [] | [] | [] |
| 2: | [] | [] | [] | extension | [] | [] |
| 3: | [] | [] | [] | extension | [] | [] |
| 4: | [] | [] | [] | extension | [] | [] |
| 5: | [] | [] | [] | extension | [] | [] |
| 6: | [] | [] | fac | [] | [] | [] |
| 7: | [] | [] | [] | [] | [] | [] |
| 8: | fac | [] | [] | [] | [] | [] |
| 9: | fac | [] | [] | [] | [] | [] |
| 0: | attd | [] | [] | [] | [] | [] |
| *: | [] | [] | fac | [] | [] | [] |
| #: | [] | [] | [] | [] | [] | [] |

Right-click in a field to see a list of valid entries or help text
Ready NUM

76857



Pattern Number

DEFINITY Site Administration - [AvayaV9 GEDI]

File Edit View System Action Tools Window Help

AvayaV9

change route-pattern 2 send (return) help (F5) cancel (esc) enter (F3) schedule (F9) next (F7) previous (F8) next (F6)

1

Pattern Number: 2

| Grp. No. | FRL | NPA | Pfx | Hop | Toll | No. Del | Inserted Digits | IXC |
|----------|-----|-----|-----|-----|------|---------|-----------------|------|
| 1: | 14 | 0 | 401 | 1 | | 3 | | user |
| 2: | | | | | | | | user |
| 3: | | | | | | | | user |
| 4: | | | | | | | | user |
| 5: | | | | | | | | user |
| 6: | | | | | | | | user |

| Grp. No. | BCC VALUE | | | | | TSC CA-TSC Request | ITC | BCIE | Service/Feature | BAND | No. Dgts | Numbering Format | LAR Subaddress |
|----------|-----------|---|---|---|---|--------------------|------|------|-----------------|------|----------|------------------|----------------|
| | 0 | 1 | 2 | 3 | 4 | | | | | | | | |
| 1: | y | y | y | y | n | n | rest | | | | | none | |
| 2: | y | y | y | y | n | n | rest | | | | | none | |
| 3: | y | y | y | y | n | n | rest | | | | | none | |
| 4: | y | y | y | y | n | n | rest | | | | | none | |
| 5: | y | y | y | y | n | n | rest | | | | | none | |
| 6: | y | y | y | y | n | n | rest | | | | | none | |

Right-click in a field to see a list of valid entries or help text

Ready

NUM

76858



Configuring Cisco CallManager

To configure Cisco CallManager, do the following:

- Step 1.** Configure the gateway.
- Step 2.** Configure the route pattern.

Gateway Configuration

The following figures show the configuration of the VG200 MGCP Gateway.

Cisco VG200 MGCP Gateway Configuration

The screenshot shows the Cisco CallManager 3.2 Administration interface for MGCP Configuration. The browser window title is "Cisco CallManager 3.2 Administration - MGCP Configuration - Microsoft Internet Explorer". The address bar shows "4FCC-9C88-72254C18F9CB". The page content includes:

- MGCP Configuration** header with a "Back to Find/List Gateways" link.
- Product: Cisco VG200
- MGCP : VG200_MGCP
- Status: Ready
- Buttons: Update, Delete, Reset Gateway, Cancel Changes
- MGCP Domain Name*: VG200_MGCP
- Description: VG200 MGCP GATEWAY
- Cisco CallManager Group*: Default
- Installed Voice Interface Cards** section with a table:

| Module in Slot 1 | Sub-Unit | Card | Ports |
|------------------|----------|--------------|-------------|
| NM-HDV | 0 | VWIC-2MFT-T1 | (1/0) ports |
| | | | (1/1) ports |
- Product Specific Configuration** section with fields:
 - Global ISDN Switch Type: NI2
 - Switchback Timing*: Graceful
 - Switchback uptime-delay (min): 10
 - Switchback schedule (hh:mm): 12:00
- * indicates required item
- Bottom right: "Back to Find/List Gateways" link and "76859" vertical text.



Digital Access T1-CAS Configuration

The screenshot displays the Cisco CallManager 3.2 Administration interface for Gateway Configuration. The browser window title is "Cisco CallManager 3.2 Administration - Gateway Configuration - Microsoft Internet Explorer". The address bar shows a URL starting with "4FCC-9C88-72254C1BF9CB". The page header includes "System Route Plan Service Feature Device User Application Help" and the Cisco CallManager Administration logo. The main heading is "Gateway Configuration" with links to "Back to MGCP Configuration" and "Back to Find/List Gateways".

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

Update Delete Reset Gateway Cancel Changes

End-Point Name* S1/DS1-0@VG200_MGCP

Description S1/DS1-0@VG200_MGCP

Device Pool* Default

Media Resource Group List <None >

Network Hold Audio Source <None >

User Hold Audio Source <None >

Calling Search Space <None >

Location <None >

Load Information

Port Selection Order* Top Down

Digit Sending* DTMF

Network Locale United States

Product Specific Configuration

76860



Digital Access T1-CAS Configuration Continued

The screenshot shows the 'Product Specific Configuration' page for a gateway in Cisco CallManager 3.2. The browser window title is 'Cisco CallManager 3.2 Administration - Gateway Configuration - Microsoft Internet Explorer'. The address bar shows a URL starting with '4FCC-9C88-72254C18F9CB'. On the left, there is a tree view with 'E&M' icons for Port 21, Port 22, Port 23, and Port 24. The main content area is titled 'Product Specific Configuration' and contains three dropdown menus: 'Line Coding*' set to 'B8ZS', 'framing*' set to 'ESF', and 'Clock*' set to 'External'. A red asterisk note states '* indicates required item'. At the bottom right, there are two red links: 'Back to MGCP Configuration' and 'Back to Find/List Gateways'. The status bar at the bottom shows 'Local intranet' and the number '76861'.

T1-CAS Port Configuration

The screenshot shows the 'Port Configuration' page for a specific port in Cisco CallManager 3.2. The browser window title is 'Cisco CallManager 3.2 Administration - Port Configuration - Microsoft Internet Explorer'. The page header shows 'S1/DS1-0@VG200_MGCP Port Type: E&M Port Number: 1' and 'Status: Ready'. Below the header are buttons for 'New', 'Update', 'Update and Close', 'Delete', and 'Cancel Changes'. The 'Port Details' section contains several fields: 'Port Direction*' (Bothways), 'Calling Party Selection*' (Originator), 'Caller ID Type*' (ANI), 'Caller ID DN', 'Prefix DN', 'Num Digits*' (4), and 'Expected Digits*' (4). The 'Product Specific Configuration' section contains a 'Signaling Type*' dropdown set to 'Wink Start'. A red asterisk note states '* indicates required item'. The status bar at the bottom shows 'Done' and 'Local intranet' with the number '76862'.



Route Pattern Configuration

The following figure shows the configuration of the route pattern.

Route Pattern Configuration

Cisco CallManager Administration - Route Pattern Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Address -4D13-8C1E-ABC72E186041 Go Links

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Route Pattern Configuration

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

Route Pattern: 4XXX
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* 4XXX

Partition <None>

Numbering Plan* North American Numbering Plan

Route Filter <None>

Gateway/Route List* S1/DS1-0@VG200_MGCP (Edit)

Route Option
 Route this pattern Block this pattern

Provide Outside Dial Tone Urgent Priority

Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Called Party Transformations

Discard Digits <None>

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

* indicates required item.

Done Local intranet 76863

Considerations

E&M-Immediate-Start Signaling

E&M-Immediate-start Signaling type is not supported on CCM Gateway configuration GUI.

E&M-Delay-Dial Signaling

E&M-Delay-Dial signaling is not functional when the default timer setting (300msec) for the Delay-Start parameter is used on the Gateway. Because this timer parameter cannot be changed by the CCM Gateway configuration GUI, the Wink Timer trunk parameter on the Lucent/Avaya PBX must be changed from the default of 300 msec to 400msec for the Delay-Dial signaling type to work properly.



Note: The Delay-Dial signaling type is a delayed version of a Wink-Start Signaling, therefore the Wink Timer on the PBX needs to be set to a greater value than the Delay-Start timer on the Gateway.

Wink-Start signaling is best choice for reliability.

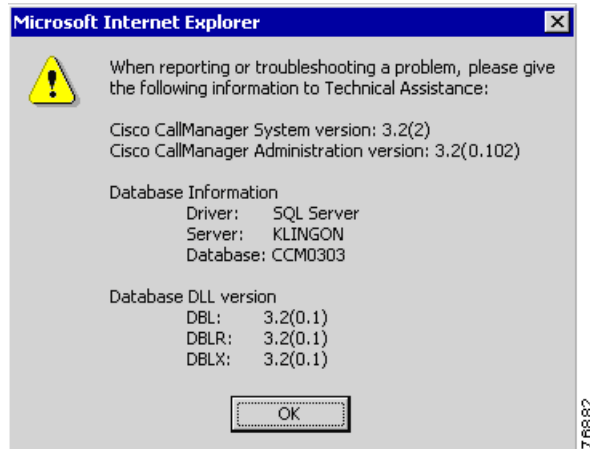
Integration Testing

This section contains information about the setup used in testing the integration of the Lucent/Avaya Definity G3si V9 PBX with CallManager using the Cisco VG200 as an MGCP Gateway.

CallManager Software Release:

The following figure shows the information about the release of CallManager being used.

CallManager Software Release



Lucent/Avaya Definity G3si Software Release

The following release of the Lucent/Avaya Definity G3si was used:

- System: G3siV6
- Software Version: G3V9i.02.0.033.2

Cisco 3640 Router Configuration

The following shows the configuration of the Cisco 3640 router.

```
VG200_MGCP#show version
```

```
Cisco Internetwork Operating System Software  
IOS (tm) VG200 Software (VG200-I6S-M), Version 12.2(2)XN, EARLY DEPLOYMENT RELEA  
SE SOFTWARE (fc2)
```

```
TAC Support: http://www.cisco.com/tac
```

```
Copyright (c) 1986-2002 by cisco Systems, Inc.
```

```
Compiled Fri 01-Mar-02 08:20 by eaarmas
```

```
Image text-base: 0x80008088, data-base: 0x8087FC2C
```

```
ROM: System Bootstrap, Version 12.1(1r) [phanguye 1r], RELEASE SOFTWARE (fc1)
```



ROM: VG200 Software (VG200-I6S-M), Version 12.2(2)XN, EARLY DEPLOYMENT RELEASE SOFTWARE (fc2)

VG200_MGCP uptime is 1 week, 2 days, 1 minute
System returned to ROM by power-on
System image file is "flash:vg200-i6s-mz.122-2.XN"

cisco VG200 (MPC860) processor (revision 0x102) with 26624K/6144K bytes of memory.

Processor board ID JAB04400CNJ (0)
M860 processor: part number 0, mask 49
Primary Rate ISDN software, Version 1.1.
1 FastEthernet/IEEE 802.3 interface(s)
2 Channelized T1/PRI port(s)
32K bytes of non-volatile configuration memory.
8192K bytes of processor board System flash (Read/Write)

Configuration register is 0x2102

VG200_MGCP#

VG200_MGCP#**show diag**

Slot 0:

VG200 1FE Mainboard Port adapter, 1 port
Port adapter is analyzed
Port adapter insertion time unknown
EEPROM contents at hardware discovery:
Hardware Revision : 1.2
PCB Serial Number : JAB04400CNJ (0)
Part Number : 73-4742-01
RMA History : 00
RMA Number : 0-0-0-0
Board Revision : A0
Deviation Number : 0-0
EEPROM format version 4
EEPROM contents (hex):
0x00: 04 FF 40 00 94 41 01 02 C1 0F 4A 41 42 30 34 34
0x10: 30 30 43 4E 4A 20 28 30 29 82 49 12 86 01 04 00
0x20: 81 00 00 00 00 42 41 30 80 00 00 00 00 FF FF FF
0x30: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
0x40: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
0x50: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
0x60: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
0x70: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

Slot 1:

High Density Voice Port adapter
Port adapter is analyzed
Port adapter insertion time unknown
EEPROM contents at hardware discovery:
Hardware Revision : 1.0
Top Assy. Part Number : 800-03567-01
Board Revision : A0
Deviation Number : 0-0
Fab Version : 02



```
PCB Serial Number      : JAB034004D1
RMA Test History       : 00
RMA Number             : 0-0-0-0
RMA History            : 00
EEPROM format version 4
EEPROM contents (hex):
 0x00: 04 FF 40 00 CC 41 01 00 C0 46 03 20 00 0D EF 01
 0x10: 42 41 30 80 00 00 00 00 02 02 C1 8B 4A 41 42 30
 0x20: 33 34 30 30 34 44 31 03 00 81 00 00 00 00 04 00
 0x30: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
 0x40: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
 0x50: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
 0x60: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
 0x70: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
```

```
VIC Slot 0:
T1 (2 Port) Multi-Flex Trunk WAN Daughter Card
Hardware revision 1.0          Board revision B0
Serial number 19766455        Part number 800-04615-01
Test history 0x0              RMA number 00-00-00
Connector type PCI
```

```
EEPROM format version 1
EEPROM contents (hex):
 0x20: 01 22 01 00 01 2D 9C B7 50 12 07 01 00 00 00 00
 0x30: 58 00 00 00 00 04 19 00 FF FF FF FF FF FF FF FF
```

```
HDV firmware: Compiled Fri 23-Mar-01 00:20 by miriyala
HDV memory size 524280 heap free 197609
```

```
VG200_MGCP#show controllers t1 1/0
T1 1/0 is up.
  Applique type is Channelized T1
  Cablelength is long gain36 odb
  No alarms detected.
  alarm-trigger is not set
  Version info Firmware: 20010315, FPGA: 15
  Framing is ESF, Line Code is B8ZS, Clock Source is Line.
  Data in current interval (78 seconds elapsed):
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
VG200_MGCP#
```



```
VG200_MGCP#show running
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-wink-start
!
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
```



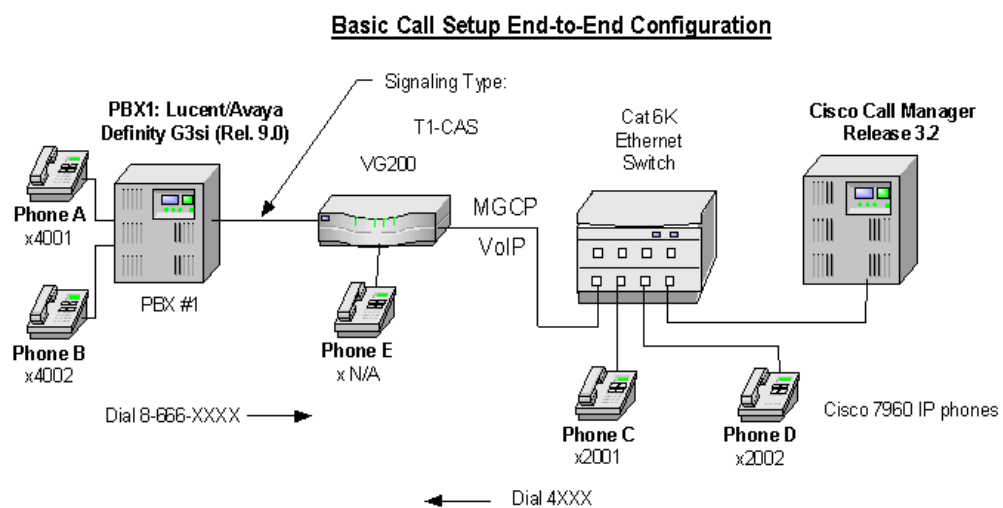
```
!  
ip classless  
no ip http server  
!  
!  
voice-port 1/0:1  
!  
dial-peer voice 100 pots  
  application mgcpapp  
!  
dial-peer voice 200 pots  
  application mgcpapp  
!  
dial-peer voice 999101 pots  
  application mgcpapp  
  port 1/0:1  
!  
!  
line con 0  
line aux 0  
line vty 0 4 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

VG200_MGCP#

Test Configuration

The following figure represents the various configurations used for testing.

Testbed Network Configuration





As shown in the figure above, a Lucent/Avaya Definity G3si 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 CCM and the Lucent/Avaya PBX.

The objective was to test the VG200 Digital T1 interface over the T1-CAS signaling options on the Lucent/Avaya Definity G3si PBX by testing basic call setup functionality to verify the voice path in both directions of the call between the CCM and the Lucent/Avaya Definity G3si PBX

Test Results

Testing was performed by Test Engineer(s): Samir Batio, June 17, 2002

Test 1

In test 1:

- The PBX1 signaling type was set to Wink/Wink.
- The Cisco VG200 Gateway signaling type was set to E&M-Wink-Start.

The results are shown in the following table..

Table 1 Basic Calls (E&M-Wink-Start, verify call path)

| Calls Made | Call Comp? | Confirm voice path? | Comments |
|--------------------|------------|---------------------|---|
| Phone A to Phone C | Yes | Yes | No problem dialing through the PBX using this signaling type. |
| Phone C to Phone A | Yes | Yes | No problem dialing through the PBX using this signaling type. |

Test 2

In test 2:

- The PBX1 signaling type was set to Delay/Delay.
- The Cisco VG200 Gateway signaling type was set to E&M-Delay-Dial.

The results are shown in the following table..

Table 2 Basic Calls (E&M-Delay-Dial, verify call path)

| Calls Made | Call Comp? | Confirm voice path? | Comments |
|--------------------|------------|---------------------|--|
| Phone A to Phone C | Yes | Yes | Wink Timer on PBX should be set to 400 msec. |
| Phone C to Phone A | Yes | Yes | Wink Timer on PBX should be set to 400 msec. |

