

Cisco CallManager Release 4.0-PBX Interoperability: Cisco 3660 Multiservice Platform to an Etradeal Switch using E1 Q.SIG as a MGCP Gateway

Integration Description

This is an application note for connectivity of the Etradeal Switch with Cisco CallManager Release 4.0 using a Cisco 3660 Multiservice Platform with E1 Q.SIG.

Names on the Etradeal platform cannot be restricted as they are either configured "on" for a line or not configured. When the Etradeal system receives a name and number during call connection, it will only display the name by design.

Key Features Supported

- Incoming and outgoing line identification
- Q.SIG supplementary services
- Multiple call forwarding
- Message waiting indicator

Key Features not Supported

- The Etradeal platform does not support CLIR on a call by call basis. Names are either an On/Off configuration parameter within the switch.
- The Etradeal system does not support Call Forward on Busy diverts.

System Components

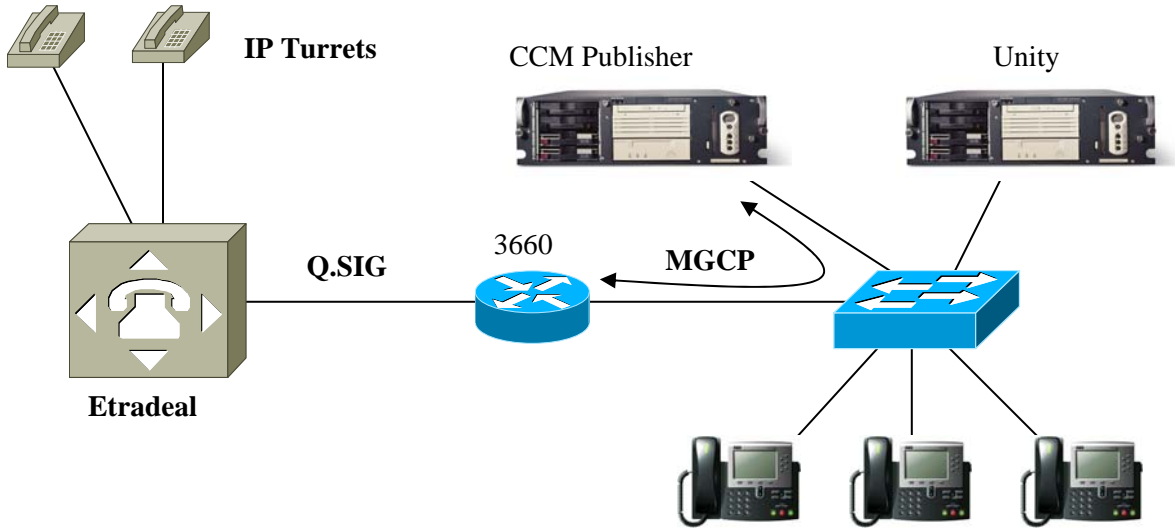
Hardware

1. Cisco 3660 Multiservice Platform with NM-HDV-E1 module
2. Etradeal Switch
3. Cisco CallManager Server

Software

1. Cisco CallManager Release 4.0
2. Cisco IOS Release 12.2(11)T8
3. PBX Software: 33

Topology



Limitations

Names on the Etradeal platform cannot be restricted as they are either configured “on” for a line or not configured. When the Etradeal system receives a name and number during call connection, it will only display the name by design.

Configuring the Etradeal Switch

Modification: E1/T1 channels

E1/T1 prefix

System Préfix

Physical parameters (Level 1 and 2)

Network Cable length Link with CRC

Dialog parameters (level 3)

Outgoing calls parameters	Incomming calls parameters
Block dialing <input checked="" type="checkbox"/>	
Inter-digit delay <input type="text" value="4s"/>	
Tone <input type="text" value="Network"/>	DID length <input type="text" value="4"/>
Release Time-out <input type="text" value="4s"/>	Transmit. DID <input type="text" value="4"/>
Prefix + CPN <input type="checkbox"/>	
Identifying code <input type="text" value="Private Subscriber"/>	

Additional parameters

QSIG parameters	ETSI parameters
Channel used <input type="text" value="First"/>	No malicious call <input type="checkbox"/>
ECMA <input type="text" value="ECMA3 (INTEGER)"/>	
Transmit. name <input checked="" type="checkbox"/>	
Auto recall <input type="checkbox"/>	
Join. transfer <input checked="" type="checkbox"/>	
Rerout. transfer <input type="checkbox"/>	
Voice mail transfer <input checked="" type="checkbox"/>	
<div style="border: 1px solid gray; padding: 5px; margin: 5px auto; width: 80%;"> <p>Name(s) filtering</p> <div style="border: 1px solid gray; height: 100px; width: 100%;"></div> <p style="text-align: center;"><input type="button" value="Edit"/></p> </div>	

Configuring Cisco CallManager

Partition and Calling Search Space Description

Partitions: NonPrivatePhones, PrivatePhones

Calling Search Space: Global, Restricted, Gateway

Global = (1st) NonPrivatePhones + (2nd) PrivatePhones

Restricted = PrivatePhones

Gateway= NonPrivatePhones

Cisco CallManager Device Allocation

All Lines bar one are in the NonPrivatePhones partition with Calling Search Space = Global

One line is in the PrivatePhones partition with Calling Search Space = Global

Translation Pattern is in the NonPrivatePhones partition with Calling Search Space = Restricted. It has Connected Line & Name Presentations set to restricted. When the turret extensions dial the translation pattern, they should not receive connected call information.

Translation Pattern *.123 and *.456 are in the NonPrivatePhones partition with Calling Search Space = Global. It has Line/Name presentations set to restricted. When an IP Phone line dials *.123 or *.456 Line & Name restrictions are passed to the Turrets via the Q.Sig trunk.

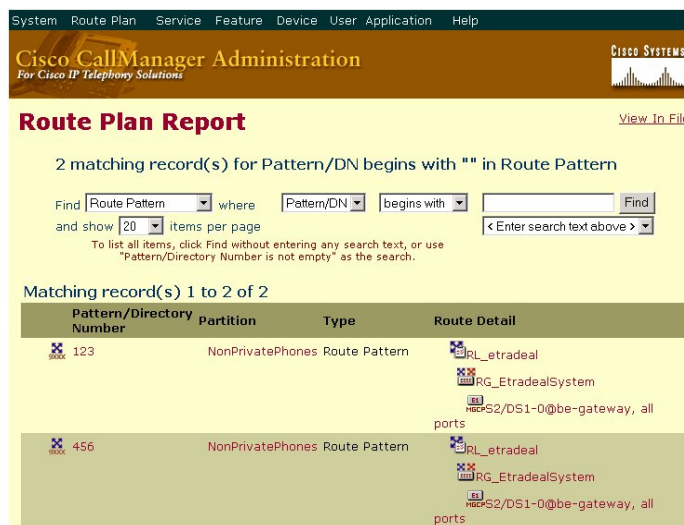
Translation Pattern *.2XX is in the NonPrivatePhones partition with Calling Search Space = Global. It has Line/Name presentations set to restricted. When a IP Phone line dials *.2XX Line & Name restrictions are seen on the target IP Phone.

The Q.SIG Gateway is configured with Calling Search Space = Gateway.

All Route Patterns are in the NonPrivatePhones partition.

222 is the VM pilot number and is configured in the Global Calling Search Space.

Route Plan



The screenshot shows the Cisco CallManager Administration interface. At the top, there is a navigation menu with options: System, Route Plan, Service, Feature, Device, User, Application, and Help. Below the menu is the page title "Cisco CallManager Administration" and the Cisco Systems logo. The main heading is "Route Plan Report" with a "View In File" link. The report indicates "2 matching record(s) for Pattern/DN begins with "" in Route Pattern". A search filter is applied: "Route Pattern" where "Pattern/DN" begins with "". The search results are displayed in a table with columns: Pattern/Directory Number, Partition, Type, and Route Detail. Two records are shown: one for pattern 123 and one for pattern 456, both in the NonPrivatePhones partition and of type Route Pattern. The Route Detail for both includes: URL_etradeal, RG_EtradealSystem, and SIP/S2/DS1-0@be-gateway, all ports.

Pattern/Directory Number	Partition	Type	Route Detail
123	NonPrivatePhones	Route Pattern	<ul style="list-style-type: none"> URL_etradeal RG_EtradealSystem SIP/S2/DS1-0@be-gateway, all ports
456	NonPrivatePhones	Route Pattern	<ul style="list-style-type: none"> URL_etradeal RG_EtradealSystem SIP/S2/DS1-0@be-gateway, all ports

Sample Translation Patterns

Translation Pattern	<input type="text" value="*.456"/>
Partition	<input type="text" value="NonPrivatePhones"/>
Description	<input type="text"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="< None >"/>
Calling Search Space	<input type="text" value="Global"/>
MLPP Precedence	<input type="text" value="Default"/>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="— Not Selected —"/>
<input type="checkbox"/> Provide Outside Dial Tone	<input checked="" type="checkbox"/> Urgent Priority
Calling Party Transformations	
<input type="checkbox"/> Use Calling Party's External Phone Number Mask	
Calling Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>
Calling Line ID Presentation	<input type="text" value="Restricted"/>
Calling Name Presentation	<input type="text" value="Restricted"/>
Connected Party Transformations	
Connected Line ID Presentation	<input type="text" value="Restricted"/>
Connected Name Presentation	<input type="text" value="Restricted"/>
Called Party Transformations	
Discard Digits	<input type="text" value="PreDot"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

Translation Pattern	<input type="text" value="^2XX"/>
Partition	<input type="text" value="NonPrivatePhones"/>
Description	<input type="text"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="< None >"/>
Calling Search Space	<input type="text" value="Global"/>
MLPP Precedence	<input type="text" value="Default"/>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="-- Not Selected --"/>
<input type="checkbox"/> Provide Outside Dial Tone	<input checked="" type="checkbox"/> Urgent Priority
Calling Party Transformations	
<input type="checkbox"/> Use Calling Party's External Phone Number Mask	
Calling Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>
Calling Line ID Presentation	<input type="text" value="Restricted"/>
Calling Name Presentation	<input type="text" value="Restricted"/>
Connected Party Transformations	
Connected Line ID Presentation	<input type="text" value="Restricted"/>
Connected Name Presentation	<input type="text" value="Restricted"/>
Called Party Transformations	
Discard Digits	<input type="text" value="PreDot"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

Translation Pattern	*123
Partition	NonPrivatePhones
Description	
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
Calling Search Space	Global
MLPP Precedence	Default
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern — Not Selected —
<input type="checkbox"/> Provide Outside Dial Tone	<input checked="" type="checkbox"/> Urgent Priority
Calling Party Transformations	
<input type="checkbox"/> Use Calling Party's External Phone Number Mask	
Calling Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation	Restricted
Calling Name Presentation	Restricted
Connected Party Transformations	
Connected Line ID Presentation	Restricted
Connected Name Presentation	Restricted
Called Party Transformations	
Discard Digits	PreDot
Called Party Transform Mask	
Prefix Digits (Outgoing Calls)	

CallManager Q.SIG Gateway Configuration

Device Information	
End-Point Name*	<input type="text" value="S2/DS1-0@be-gateway"/>
Description	<input type="text" value="S2/DS1-0@be-gateway"/>
Device Pool*	<input type="text" value="Default"/>
Network Locale	<input type="text" value="< None >"/>
Media Resource Group List	<input type="text" value="< None >"/>
Location	<input type="text" value="< None >"/>
AAR Group	<input type="text" value="< None >"/>
Load Information	<input type="text"/>
Multilevel Precedence and Preemption (MLPP) Information	
MLPP Domain (e.g., "0000FF")	<input type="text"/>
MLPP Indication	Not available on this device
MLPP Preemption	Not available on this device
Interface Information	
PRI Protocol Type*	<input type="text" value="PRI ISO QSIG E1"/>
Protocol Side*	<input type="text" value="Network"/>
Channel Selection Order*	<input type="text" value="Bottom Up"/>
Channel IE Type*	<input type="text" value="Use Number when 1B"/>
PCM Type*	<input type="text" value="A-law"/>
Delay for first restart (1/8 sec ticks)	<input type="text" value="32"/>
Delay between restarts (1/8 sec ticks)	<input type="text" value="4"/>

<input checked="" type="checkbox"/>	Inhibit restarts at PRI initialization
<input type="checkbox"/>	Enable status poll
Call Routing Information	
Inbound Calls	
Significant Digits*	All
Calling Search Space	Gateways
AAR Calling Search Space	< None >
Prefix DN	
Outbound Calls	
Calling Line ID Presentation*	Default
Calling Party Selection*	Originator
Called party IE number type unknown*	Cisco CallManager
Calling party IE number type unknown*	Cisco CallManager
Called Numbering Plan*	Cisco CallManager
Calling Numbering Plan*	Cisco CallManager
Number of digits to strip*	0
Caller ID DN	
SMDI Base Port*	0
PRI Protocol Type Specific Information	
<input checked="" type="checkbox"/>	Display IE Delivery

<input checked="" type="checkbox"/>	Redirecting Number IE Delivery - Outbound
<input checked="" type="checkbox"/>	Redirecting Number IE Delivery - Inbound
<input checked="" type="checkbox"/>	Send Extra Leading Character In DisplayIE***
<input type="checkbox"/>	Setup non-ISDN Progress Indicator IE Enable****
<input type="checkbox"/>	MCDN Channel Number Extension Bit Set to Zero**
<input type="checkbox"/>	Send Calling Name In Facility IE
<input type="checkbox"/>	Interface Identifier Present**
Interface Identifier Value**	<input type="text" value="0"/>
Connected Line ID Presentation (QSIG Inbound Call)*	<input type="text" value="Default"/>
Connected PBX Model	<input type="text" value="None"/>
Product Specific Configuration	
Line Coding*	<input type="text" value="HDB3"/>
Framing*	<input type="text" value="CRC4"/>
Clock*	<input type="text" value="Internal"/>
Echo Cancellation Enable*	<input type="text" value="Enable"/>
Echo Cancellation Coverage (ms)*	<input type="text" value="Default"/>
* indicates required item	
** applicable to DMS-100 protocol only	
*** applicable to DMS-100 protocol and DMS-250 protocol only	
**** may be required to force ringback from some PBXs	

Unity Configuration Note

By default Unity does not deliver a MWI on indication over the Q.Sig trunk for each message that is left in the Trader's VM account. To change this behaviour, the following had to be configured on the Unity server:

Edit the switch .INI file being used (CISCO0002.INI). This file can be found in the \commserver\intlib directory
 In the section "[MIW Default]" add the line "UpdateDisplay = yes"
 Reboot the server

Cisco 3660 Multiservice Platform Configuration

If the Cisco E1 provides 30 B channels, the timeslots settings must be **1-31**

```

ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server 192.168.99.1
ccm-manager config
!
controller E1 2/0
clock source internal
pri-group timeslots 1-12,16 service mgcp

interface Serial2/0:15
no ip address
no logging event link-status
isdn switch-type primary-qsig
isdn protocol-emulate network
  
```

```
isdn incoming-voice voice
no isdn T309-enable
isdn bind-13 ccm-manager
no cdp enable

voice-port 2/0:15
!
mgcp
mgcp call-agent 192.168.99.1 2427 service-ty
mgcp dtmf-relay voip codec all mode out-of-b
mgcp rtp unreachable timeout 1000 action not
mgcp modem passthrough voip mode nse
mgcp package-capability rtp-package
mgcp package-capability sst-package
no mgcp timer receive-rtcp
mgcp sdp simple
mgcp fax t38 inhibit
mgcp rtp payload-type g726r16 static
mgcp profile default

dial-peer voice 2015 pots
application mgcpapp
port 2/0:15
```

Important Information

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