

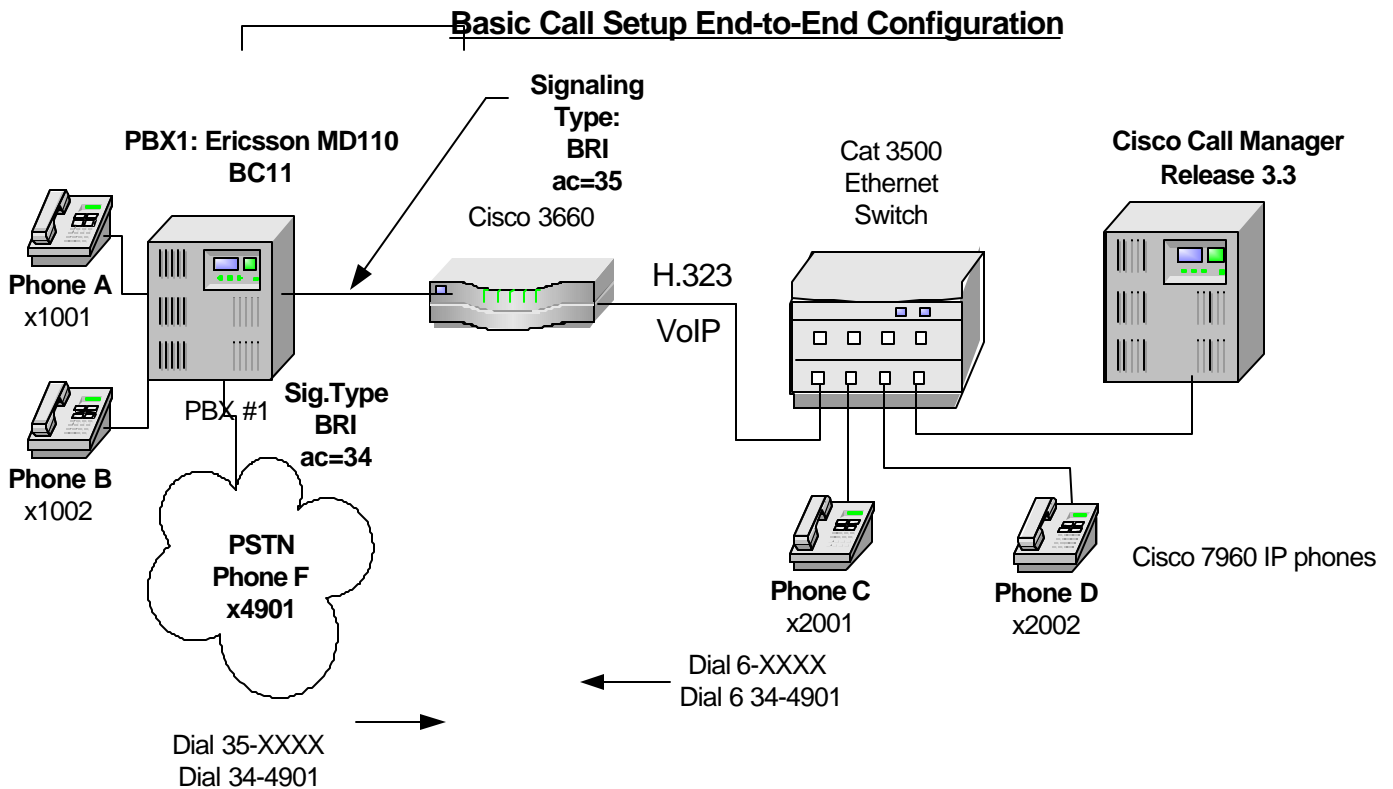
# Cisco 3660 Gateway-PBX Interoperability: Ericsson MD110 v.BC11 to Cisco Call Manager with H.323 using BRI

## Introduction

- This note describes the connectivity for the Ericsson MD110 v.BC11 PBX with Cisco CallManager using Cisco 3660 with 2BRI VIC and a H323 link to the Call Manager.
- The network topology diagram shows the set up for end-to-end interoperability between the Cisco CallManager connected to the PBX using BRI and H.323.
- Trunk-to-trunk (tandem) to an analog station connected to an FXS port on the router is also supported.

**Note:** The dial peer configuration for the router pointing to the Ethernet H.323 link must include one of the G.711 codec types. Otherwise, the conferencing features work in one direction only.

## Network Topology





## Limitations

- Calling name is not supported.
- Codec type (G711) must be specified for the dial peer pointing to the H323 link to support network conferencing.
- Call forwarding could not be made to work with the Net3 ISDN protocol on the Ericsson Switch.

## System Components

### Hardware Requirements

- Cisco Hardware:
  - Cisco 3660 gateway with 2 BRI interfaces
  - Cisco Catalyst 3500 switch
  - Cisco CallManager 3.3
- Ericsson MD110 v.BC11  
Hardware: TLU79 R 7D BRI ISDN

### Software Requirements

- IOS software releases .c3660-jsx-mz.122-10b.bin
- PBX Software Release BC11
- Cisco CallManager Release 3.3

## Configuration

### Configuring the Ericsson MD110 PBX

#### BRI Trunks

```
ROUTE CATEGORY DATA
ROU SEL      TRM SERV  NODG DIST DISL TRAF  SIG      BCAP
40 211000000070001 5 0010000011 0 30 128 00151515 111110000031 001100
```

```
STATUS INFORMATION AT 15:30:19 29JAN03
ROU TRU  TYPE  TRAFFIC STATE/PTR  LINE STATE/PTR  ADD INFO
40 001-1  TL60  IDLE      #00D1 FREE      #00C0
40 001-2  TL60  IDLE      #00D0 FREE      #00C1
END
```

```
<RODAP:ROU=ALL;
ROUTE DATA
ROU TYPE VARC  VARI  VARO  FILTER
1  SL60 H'00001310 H'15440000 H'06400010 NO
6  TL30          H'00000036 H'00002016 NO
8  TL30 H'00000000 H'00002232 H'00002016 NO
39 SL60 H'00000310 H'05400000 H'06400000 NO
40 SL60 H'00000A14 H'3A820000 H'46414000 NO
41 SL60 H'00000A14 H'3A820000 H'46414000 NO

END
```



ROUTE EQUIPMENT DATA

ROU	TRU	EQU	SQU	INDDAT	CNTRL
1	001-1	001-0-30-01		H'000000000000	
1	001-2	001-0-30-02		H'000000000000	
1	001-3	001-0-30-03		H'000000000000	
1	001-4	001-0-30-04		H'000000000000	
1	001-5	001-0-30-05		H'000000000000	
1	001-6	001-0-30-06		H'000000000000	
1	001-7	001-0-30-07		H'000000000000	
1	001-8	001-0-30-08		H'000000000000	
1	001-9	001-0-30-09		H'000000000000	
1	001-10	001-0-30-10		H'000000000000	
1	001-11	001-0-30-11		H'000000000000	
1	001-12	001-0-30-12		H'000000000000	
1	001-13	001-0-30-13		H'000000000000	
1	001-14	001-0-30-14		H'000000000000	
1	001-15	001-0-30-15		H'000000000000	
1	001-16	001-0-30-17		H'000000000000	
1	001-17	001-0-30-18		H'000000000000	
1	001-18	001-0-30-19		H'000000000000	
1	001-19	001-0-30-20		H'000000000000	
1	001-20	001-0-30-21		H'000000000000	
1	001-21	001-0-30-22		H'000000000000	
1	001-22	001-0-30-23		H'000000000000	
1	001-23	001-0-30-24		H'000000000000	
1	001-24	001-0-30-25		H'000000000000	
1	001-25	001-0-30-26		H'000000000000	
1	001-26	001-0-30-27		H'000000000000	
1	001-27	001-0-30-28		H'000000000000	
1	001-28	001-0-30-29		H'000000000000	
1	001-29	001-0-30-30		H'000000000000	
1	001-30	001-0-30-31		H'000000000000	
8	001-1	001-0-00-01			
8	001-2	001-0-00-02			
8	001-3	001-0-00-03			
8	001-4	001-0-00-04			
8	001-5	001-0-00-05			
8	001-6	001-0-00-06			
8	001-7	001-0-00-07			
8	001-8	001-0-00-08			
8	001-9	001-0-00-09			
8	001-10	001-0-00-10			
8	001-11	001-0-00-11			
8	001-12	001-0-00-12			
8	001-13	001-0-00-13			
8	001-14	001-0-00-14			
8	001-15	001-0-00-15			
8	001-16	001-0-00-17			
8	001-17	001-0-00-18			
8	001-18	001-0-00-19			
8	001-19	001-0-00-20			
8	001-20	001-0-00-21			
8	001-21	001-0-00-22			
8	001-22	001-0-00-23			
8	001-23	001-0-00-24			
8	001-24	001-0-00-25			
8	001-25	001-0-00-26			
8	001-26	001-0-00-27			
8	001-27	001-0-00-28			
8	001-28	001-0-00-29			
8	001-29	001-0-00-30			
8	001-30	001-0-00-31			
40	001-1	001-0-42-00		H'000000000000	
40	001-2	001-0-42-01		H'000000000000	
41	001-1	001-0-42-02		H'000000000000	



41      001-2      001-0-42-03      H'000000000000  
END  
<

## Configuring Cisco CallManager

### 3660 H.323 Gateway Configuration

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

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

**Product : H.323 Gateway**  
**Gateway : 10.10.10.227**  
**Device Protocol: H.225**  
**Registration: Unknown**  
**IP Address: 10.10.10.227**

Status: Ready

**Device Information**

Device Name*	<input type="text" value="10.10.10.227"/>
Description	<input type="text" value="3660"/>
Device Pool*	<input type="text" value="Default"/>
Media Resource Group List	<input type="text" value="&lt; None &gt;"/>
Location	<input type="text" value="&lt; None &gt;"/>
AAR Group	<input type="text" value="&lt; None &gt;"/>

Media Termination Point Required



Cisco CallManager 3.3 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print

Address <http://fernadgi/CCMAdmin/gatewayconfig.asp?pkid={DCA695A3-CC35-4C0B-9559-B543703AF96A}&type=17> Go Links

### Inbound Calls

Significant Digits\*

Calling Search Space

AAR Calling Search Space

Prefix DN

Redirecting Number IE Delivery - Inbound

### Outbound Calls

Calling Party Selection\*

Calling Party Presentation\*

Called party IE number type unknown\*

Calling party IE number type unknown\*

Called Numbering Plan\*

Calling Numbering Plan\*

Caller ID DN

Display IE Delivery

Redirecting Number IE Delivery - Outbound

\* indicates required item

[Back to Find/List Gateways](#)

Done Local intranet



## Route Plan

The screenshot shows the Cisco CallManager 3.3 Administration web interface in Microsoft Internet Explorer. The browser address bar shows the URL: `http://fernadgi/CCMAdmin/routepatternlist.asp?findBy=pattern&match=begins&pattern=&rows=20`. The page title is "Find and List Route Patterns".

The interface includes a navigation menu with "System", "Route Plan", "Service", "Feature", "Device", "User", "Application", and "Help". The main heading is "Find and List Route Patterns" with a link to "Add a New Route Pattern".

Search results show "4 matching record(s) for Pattern begins with """. The search criteria are "Pattern" and "begins with". The results are displayed in a table with 4 rows:

<input type="checkbox"/>	Route Pattern	Partition	Description	Route Filter	Gateway/Route List	Copy
<input type="checkbox"/>	4000		FXO-110		AALN/S1/SU1/0@C26...	
<input type="checkbox"/>	4001		FXO-600-r			
<input type="checkbox"/>	6.XXXXX				10.10.10.227	
<input type="checkbox"/>	6.XXXXXXX		trk-trk		10.10.10.227	

Below the table, there is a "Delete Selected" button and pagination controls: "First Previous Next Last" and "Page 1 of 1".



Cisco CallManager 3.3 Administration - Route Pattern Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print

Address <http://fernadgi/CCMAdmin/routepatternconfig.asp?pkid={EEB1418A-9652-4916-BED0-A2D9ED3E61E1}&status=uc> Go Links

### Pattern Definition

Route Pattern*	<input type="text" value="6.XXXXXX"/>
Partition	<input type="text" value=" &lt; None &gt;"/>
Description	<input type="text" value="trk-trk"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value=" &lt; None &gt;"/>
Gateway/Route List*	<input type="text" value="10.10.10.227"/> (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	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>
Calling Party Presentation	<input type="text" value="Default"/>

### Called Party Transformations

Discard Digits	<input type="text" value="PreDot"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

### ISDN Network-Specific Facilities Information Element

Carrier Identification Code	<input type="text"/>
Network Service Protocol	<input type="text" value=" - Not Selected -"/>

Local intranet



## Configuring the Cisco 3660 Gateway

```
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname 3660-A
!
!
voice-card 4
!
voice-card 6
!
ip subnet-zero
!
!
no ip domain-lookup
!
isdn switch-type primary-qsig
call rsvp-sync
!
voice service voip
!
!
!
!
!
fax interface-type fax-mail
mta receive maximum-recipients 0
!
controller T1 4/0
framing esf
clock source internal
linecode b8zs
pri-group timeslots 1-24
!
controller T1 4/1
framing esf
clock source internal
linecode b8zs
pri-group timeslots 1-24
!
controller E1 6/0
!
controller E1 6/1
!
!
!
interface FastEthernet0/0
ip address 10.1.1.205 255.255.255.0
ip accounting output-packets
```





```
duplex auto
speed auto
no cdp enable
!
interface Ethernet1/0
ip address 10.10.10.227 255.255.255.0
ip accounting output-packets
ip accounting precedence input
ip accounting precedence output
half-duplex
no cdp enable
!
!
interface BRI5/0
no ip address
isdn switch-type basic-net3
isdn overlap-receiving
isdn protocol-emulate network
isdn tei-negotiation preserve
isdn layer1-emulate network
isdn incoming-voice voice
isdn skipsend-idverify
!
interface BRI5/1
no ip address
isdn switch-type basic-net3
isdn overlap-receiving
isdn protocol-emulate network
isdn tei-negotiation preserve
isdn layer1-emulate network
isdn incoming-voice voice
isdn skipsend-idverify
!
interface Group-Async1
physical-layer async
ip address negotiated
encapsulation ppp
dialer in-band
dialer string 2000X123456789012345678901234567
dialer-group 5
!
router eigrp 1
network 10.0.0.0
no auto-summary
no eigrp log-neighbor-changes
!
ip classless
no ip http server
ip pim bidir-enable
!
dialer-list 5 protocol ip permit
no cdp run
!
snmp-server manager
```



```
!  
voice-port 2/0/0  
!  
voice-port 2/0/1  
!  
voice-port 2/1/0  
!  
voice-port 2/1/1  
!  
voice-port 4/0:23  
!  
voice-port 4/1:23  
!  
voice-port 5/0/0  
  compand-type a-law  
!  
voice-port 5/0/1  
  compand-type a-law  
!  
dial-peer cor custom  
!  
!  
!  
dial-peer voice 7 voip  
  destination-pattern 3900  
  session target ipv4:10.1.1.204  
!  
dial-peer voice 4900 pots  
  destination-pattern 4900  
  port 2/0/0  
  forward-digits all  
!  
dial-peer voice 4901 pots  
  destination-pattern 4901  
  no digit-strip  
  port 2/0/1  
  forward-digits all  
!  
dial-peer voice 212 voip  
  destination-pattern 60.  
  session target ipv4:10.1.1.199  
  codec g711alaw  
!  
dial-peer voice 205 pots  
  destination-pattern 500.  
  direct-inward-dial  
  forward-digits all  
!  
dial-peer voice 305 voip  
  destination-pattern 500.  
  session target ipv4:10.1.1.227  
!  
dial-peer voice 110 voip  
  destination-pattern 4000
```



```
translate-outgoing called 10
session target ipv4:10.1.1.227
!
dial-peer voice 1002 pots
shutdown
destination-pattern 1025
direct-inward-dial
port 4/1:23
forward-digits all
!
dial-peer voice 111 voip
destination-pattern 4001
translate-outgoing called 10
session target ipv4:10.1.1.227
!
dial-peer voice 1001 pots
shutdown
destination-pattern 10.
direct-inward-dial
port 4/1:23
forward-digits all
!
dial-peer voice 605 pots
destination-pattern 1001
port 5/0/0
forward-digits all
!
dial-peer voice 606 pots
destination-pattern 1002
port 5/0/1
forward-digits all
!
dial-peer voice 610 voip
destination-pattern 200.
session target ipv4:10.10.10.10
codec g711ulaw
!
dial-peer voice 711 pots
destination-pattern 34....
port 5/0/0
forward-digits all
!
!
gatekeeper
shutdown
!
!
line con 0
exec-timeout 0 0
line aux 0
line vty 0 4
exec-timeout 0 0
password cisco
login
```



!  
end

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