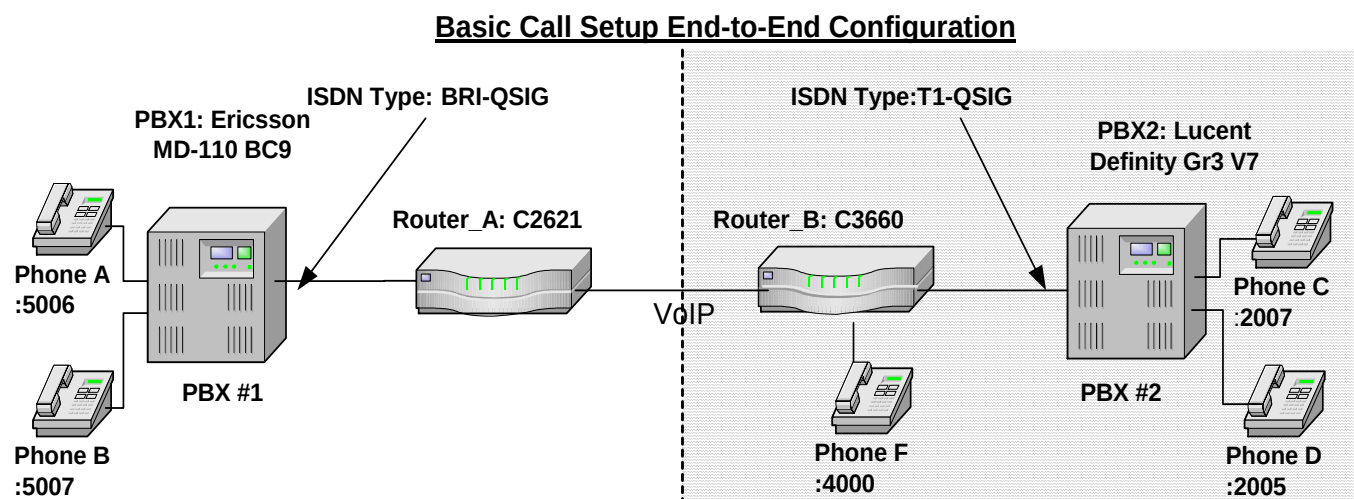


Cisco 2621 Gateway - PBX Interoperability: Ericsson MD110 BC9 PBX using BRI QSIG Interfaces with H.323

Introduction

This Application Note describes the interoperability of a Cisco 2621 gateway and an Ericsson MD110 BC9 PBX using BRI-QSIG interfaces. The network topology diagram shows the end-to-end interoperability.

Network Topology



Limitations

Basic Call FXS Ports

Due to the slot allocation limitations of the Cisco 2621 when supporting a 2 NT/TE BRI card, installation of an FXS port was not possible.

System Components

Hardware Requirements

Cisco 2621 with 2BRI NT/TE Card
Ericsson MD-110 BC9 PBX

Software Requirements

Cisco IOS Release 12.2 (12.12)T
Ericsson MD-110 BC9 PBX Software Version LZY2035101/1/R6A

Features Supported

Calling Name Identification Presentation
Calling Number Identification Presentation
Connected Name Identification Presentation



Connected Number Identification Presentation Updating
Connected Name and Number for Call Transfers
Updating Connected Name and Number for Call Forwarding



Configuration

Configuring the Ericsson MD-110 BC9 PBX

Note: All parameters and options are mapped to position-dependent numeric fields within the various commands listed below. The user must have the correct revision of the Ericsson MD-110 PBX Administration manual to be able to decipher each field position to determine its meaning; a single number out of place in a command string can cause unusual behavior on the PBX.

```
-----Ericsson PBX switch version-----
< CADAP;
CALENDAR DATA
```

```
IDENTITY=DANDS-EURO-TEST
VERSION=LZY2035101/1/R6A
```

```
15:19:05
MON 09 DEC 2002
END
```

```
-----Class of Service and Class of Restriction-----
```

Route Information- Note BRI uses Route 30

```
< RODDP:DEST=ALL;
EXTERNAL DESTINATION ROUTE DATA
```

DEST	DRN	ROU	CHO	CUST	ADC	TRC	SRT	NUMACK	PRE
31		10			0626100000000025000	0	3	0	
37		20			1005000000000025000	0	3	0	
39		21			1005000000000025000	0	3	0	
40		11			1005000000000025000	0	3	0	
70		30			1005000000000025000	0	3	0	
71		31			0626100000000025000	0	3	0	

END

```
-----BRI D-channel Signaling parameters-----
```

Route Category Data

```
< ROCAP:ROU=30;
ROUTE CATEGORY DATA
```

ROU	SEL	TRM	SERV	NODG	DIST	DISL	TRAF	SIG	BCAP
30	711000000000	5	3110000000	0	5	30	00151515	311100000031	001100

END



-----BRI B-channel physical parameters-----

<ROEDP:ROU=30,TRU=ALL;
ROUTE EQUIPMENT DATA

ROU	TRU	EQU	SQU	INDDAT
30	001-1	001-1-70-00		H'000000000000
30	001-2	001-1-70-01		H'000000000000

END

----- BRI Trunk status-----

< SUSIP:ROU=30; ,TRU=ALL;
STATUS INFORMATION AT 15:20:51 09DEC02

ROU	TRU	TYPE	TRAFFIC	STATE/PTR	LINE	STATE/PTR	ADD INFO
30	001-1	TL60	IDLE	#00B3	FREE	#00BD	
30	001-2	TL60	IDLE	#00B2	FREE	#00B4	

END

-----Telephone COS, Restrictions, Naming conventions, etc.-----

< KSCAP:DIR=ALL;
KEY SYSTEM CATEGORY PRINT

DIR	TRAF	SERV	CDIV	ROC	ITYPE	TRM	ADC
5000	03151515	02001207	011151111	7237	21	1	00100013010
5001	03151515	02001207	011151111	7237	21	1	00100013010
5002	03151515	02001207	011151111	7237	21	1	00100013010
5003	03151515	02001207	011151111	7237	21	1	00100013010
5006	03151515	02001207	011151111	7230	21	1	00100013010
5007	03151515	02001207	011151111	7230	21	1	00100013010

END

-----BRI Route Data Blk, protocol side "User"-----

< **RODAP:ROU=30;**
ROUTE DATA

ROU	TYPE	VARC	VARI	VARO	FILTER
30	SL60	H'00001314	H'15400000	H'46000010	NO

END

-----BRI Route Data Blk, protocol side "Network"-----

< **RODAP:ROU=30;**
ROUTE DATA

ROU	TYPE	VARC	VARI	VARO	FILTER
30	SL60	H'00001314	H'15400000	H'46200010	NO

END



-----List of board/equipment in MD-110 PBX-----

< SYEDP:LIM=1;

SYSTEM EQUIPMENT DATA

EQU	BOARDID	TYPE	DIR	ROU/TRU
001-0-10-00	102	AD 0		
001-0-10-01	102	AD 0		
001-0-10-02	102	AD 0		
001-0-10-03	102	AD 0		
001-0-10-04	102	AD 0		
001-0-10-05	102	AD 0		
001-0-10-06	102	AD 0		
001-0-10-07	102	AD 0		
001-0-10-08	102	AD 0		
001-0-10-09	102	AD 0		
001-0-10-10	102	AD 0		
001-0-10-11	102	AD 0		
001-0-10-12	102	AD 0		
001-0-10-13	102	AD 0		
001-0-10-14	102	AD 0		
001-0-10-15	102	AD 0		
001-0-10-16	102	AD 0		
001-0-10-17	102	AD 0		
001-0-10-18	102	AD 0		
001-0-10-19	102	AD 0		
001-0-10-20	102	AD 0		
001-0-10-21	102	AD 0		
001-0-10-22	102	AD 0		
001-0-10-23	102	AD 0		
001-0-10-24	102	AD 0		
001-0-10-25	102	AD 0		
001-0-10-26	102	AD 0		
001-0-10-27	102	AD 0		
001-0-10-28	102	AD 0		
001-0-10-29	102	AD 0		
001-0-10-30	102	AD 0		
001-0-10-31	102	AD 0		
001-0-52-00	87	EL 6	5051	
001-0-52-01	87	EL 6	5052	
001-0-52-02	87	EL 6	5053	
001-0-52-03	87	EL 6	5054	
001-0-52-04	87	EL 6	5055	
001-0-52-05	87	EL 6	5056	
001-0-52-06	87	EL 6	5057	
001-0-52-07	87	EL 6	5058	
001-0-60-00	69	-		
001-0-60-01	69	-		
001-0-60-02	69	-		
001-0-60-03	69	-		
001-0-62-00	34	-		
001-0-62-02	34	-		
001-0-70-00	42	-		
001-0-70-01	42	-		
001-0-70-02	42	-		
001-0-70-03	42	-		
001-0-70-04	42	-		
001-0-70-05	42	-		
001-0-70-06	42	-		



001-0-70-07	42	-	
001-0-70-08	42	-	
001-0-70-09	42	-	
001-0-70-10	42	-	
001-0-70-11	42	-	
001-0-70-12	42	-	
001-0-70-13	42	-	
001-0-70-14	42	-	
001-0-70-15	42	-	
001-0-70-16	42	-	
001-0-70-17	42	-	
001-0-70-18	42	-	
001-0-70-19	42	-	
001-0-70-20	42	-	
001-0-70-21	42	-	
001-0-70-22	42	-	
001-0-70-23	42	-	
001-0-70-24	42	-	
001-0-70-25	42	-	
001-0-70-26	42	-	
001-0-70-27	42	-	
001-0-70-28	42	-	
001-0-70-29	42	-	
001-0-70-30	42	-	
001-0-70-31	42	-	
001-1-10-00	102	AD	0
001-1-10-01	102	AD	0
001-1-10-02	102	AD	0
001-1-10-03	102	AD	0
001-1-10-04	102	AD	0
001-1-10-05	102	AD	0
001-1-10-06	102	AD	0
001-1-10-07	102	AD	0
001-1-10-08	102	AD	0
001-1-10-09	102	AD	0
001-1-10-10	102	AD	0
001-1-10-11	102	AD	0
001-1-10-12	102	AD	0
001-1-10-13	102	AD	0
001-1-10-14	102	AD	0
001-1-10-15	102	AD	0
001-1-10-16	102	AD	0
001-1-10-17	102	AD	0
001-1-10-18	102	AD	0
001-1-10-19	102	AD	0
001-1-10-20	102	AD	0
001-1-10-21	102	AD	0
001-1-10-22	102	AD	0
001-1-10-23	102	AD	0
001-1-10-24	102	AD	0
001-1-10-25	102	AD	0
001-1-10-26	102	AD	0
001-1-10-27	102	AD	0
001-1-10-28	102	AD	0
001-1-10-29	102	AD	0
001-1-10-30	102	AD	0
001-1-10-31	102	AD	0
001-1-20-00	77	KL	1 5000
001-1-20-01	77	KL	1 5001
001-1-20-02	77	KL	1 5002
001-1-20-03	77	KL	1 5003
001-1-20-04	77	KL	1 5006
001-1-20-05	77	KL	1 5007



001-1-22-00	87	EL 6	2000
001-1-22-01	87	EL 6	2001
001-1-22-02	87	EL 6	2002
001-1-22-03	87	EL 6	2003
001-1-22-04	87	EL 6	2004
001-1-22-05	87	EL 6	2005
001-1-22-06	87	EL 6	2006
001-1-22-07	87	EL 6	2007
001-1-22-08	87	EL 6	2008
001-1-22-09	87	EL 6	2009
001-1-22-10	87	EL 6	2010
001-1-22-11	87	EL 6	2011
001-1-22-12	87	EL 6	2012
001-1-22-13	87	EL 6	2013
001-1-22-14	87	EL 6	2014
001-1-22-15	87	EL 6	2015
001-1-30-00	27	-	
001-1-30-01	27	TL 37	10/001-01
001-1-30-02	27	TL 37	10/001-02
001-1-30-03	27	TL 37	10/001-03
001-1-30-04	27	TL 37	10/001-04
001-1-30-05	27	TL 37	10/001-05
001-1-30-06	27	TL 37	10/001-06
001-1-30-07	27	TL 37	10/001-07
001-1-30-08	27	TL 37	10/001-08
001-1-30-09	27	TL 37	10/001-09
001-1-30-10	27	TL 37	10/001-10
001-1-30-11	27	TL 37	10/001-11
001-1-30-12	27	TL 37	10/001-12
001-1-30-13	27	TL 37	10/001-13
001-1-30-14	27	TL 37	10/001-14
001-1-30-15	27	TL 37	10/001-15
001-1-30-17	27	TL 37	10/001-17
001-1-30-18	27	TL 37	10/001-18
001-1-30-19	27	TL 37	10/001-19
001-1-30-20	27	TL 37	10/001-20
001-1-30-21	27	TL 37	10/001-21
001-1-30-22	27	TL 37	10/001-22
001-1-30-23	27	TL 37	10/001-23
001-1-30-24	27	TL 37	10/001-24
001-1-30-25	27	TL 37	10/001-25
001-1-30-26	27	TL 37	10/001-26
001-1-30-27	27	TL 37	10/001-27
001-1-30-28	27	TL 37	10/001-28
001-1-30-29	27	TL 37	10/001-29
001-1-30-30	27	TL 37	10/001-30
001-1-30-31	27	TL 37	10/001-31
001-1-40-00	57	-	
001-1-40-01	57	SL 60	20/001-01
001-1-40-02	57	SL 60	20/001-02
001-1-40-03	57	SL 60	20/001-03
001-1-40-04	57	SL 60	20/001-04
001-1-40-05	57	SL 60	20/001-05
001-1-40-06	57	SL 60	20/001-06
001-1-40-07	57	SL 60	20/001-07
001-1-40-08	57	SL 60	20/001-08
001-1-40-09	57	SL 60	20/001-09
001-1-40-10	57	SL 60	20/001-10
001-1-40-11	57	SL 60	20/001-11
001-1-40-12	57	SL 60	20/001-12
001-1-40-13	57	SL 60	20/001-13
001-1-40-14	57	SL 60	20/001-14
001-1-40-15	57	SL 60	20/001-15



001-1-40-17	57	SL 60	20/001-17
001-1-40-18	57	SL 60	20/001-18
001-1-40-19	57	SL 60	20/001-19
001-1-40-20	57	SL 60	20/001-20
001-1-40-21	57	SL 60	20/001-21
001-1-40-22	57	SL 60	20/001-22
001-1-40-23	57	SL 60	20/001-23
001-1-40-24	57	SL 60	20/001-24
001-1-40-25	57	SL 60	20/001-25
001-1-40-26	57	SL 60	20/001-26
001-1-40-27	57	SL 60	20/001-27
001-1-40-28	57	SL 60	20/001-28
001-1-40-29	57	SL 60	20/001-29
001-1-40-30	57	SL 60	20/001-30
001-1-40-31	57	SL 60	20/001-31
001-1-50-00	57	-	
001-1-50-01	57	SL 60	21/001-01
001-1-50-02	57	SL 60	21/001-02
001-1-50-03	57	SL 60	21/001-03
001-1-50-04	57	SL 60	21/001-04
001-1-50-05	57	SL 60	21/001-05
001-1-50-06	57	SL 60	21/001-06
001-1-50-07	57	SL 60	21/001-07
001-1-50-08	57	SL 60	21/001-08
001-1-50-09	57	SL 60	21/001-09
001-1-50-10	57	SL 60	21/001-10
001-1-50-11	57	SL 60	21/001-11
001-1-50-12	57	SL 60	21/001-12
001-1-50-13	57	SL 60	21/001-13
001-1-50-14	57	SL 60	21/001-14
001-1-50-15	57	SL 60	21/001-15
001-1-50-17	57	SL 60	21/001-16
001-1-50-18	57	SL 60	21/001-17
001-1-50-19	57	SL 60	21/001-18
001-1-50-20	57	SL 60	21/001-19
001-1-50-21	57	SL 60	21/001-20
001-1-50-22	57	SL 60	21/001-21
001-1-50-23	57	SL 60	21/001-22
001-1-50-24	57	SL 60	21/001-23
001-1-50-25	57	SL 60	21/001-24
001-1-50-26	57	SL 60	21/001-25
001-1-50-27	57	SL 60	21/001-26
001-1-50-28	57	SL 60	21/001-27
001-1-50-29	57	SL 60	21/001-28
001-1-50-30	57	SL 60	21/001-29
001-1-50-31	57	SL 60	21/001-30
001-1-70-00	58	SL 60	30/001-01
001-1-70-01	58	SL 60	30/001-02

END



Configuring the Cisco 2621 Router

```
Router# show running-config
Building configuration...

Current configuration : 1745 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname 2621_A
!
logging buffered 1000000 debugging
!
memory-size iomem 15
ip subnet-zero
no ip source-route
!
!
no ip domain lookup
!
isdn switch-type basic-qsig
!
!
voice call carrier capacity active
voice rtp send-recv
!
!
!
!
!
!
!
mta receive maximum-recipients 0
!
!
!
!
interface FastEthernet0/0
no ip address
no ip mroute-cache
shutdown
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 1.1.1.1 255.255.255.0
no ip mroute-cache
duplex auto
speed auto
!
interface BRI1/0
no ip address
no ip route-cache
no ip mroute-cache
isdn switch-type basic-qsig
isdn overlap-receiving
isdn protocol-emulate network
isdn layer1-emulate network
```



```
isdn incoming-voice voice
isdn skipsend-idverify
!
interface BRI1/1
no ip address
no ip route-cache
no ip mroute-cache
isdn switch-type basic-qsig
isdn overlap-receiving
isdn incoming-voice voice
isdn skipsend-idverify
!
no ip classless
ip http server
ip pim bidir-enable
!
!
logging trap debugging
!
snmp-server packetsize 4096
snmp-server enable traps tty
call rsvp-sync
!
voice-port 1/0/0
compand-type a-law
!
voice-port 1/0/1
compand-type a-law
!
!
mgcp profile default
!
!
!
dial-peer cor custom
!
!
!
dial-peer voice 11 voip
destination-pattern 2...
session target ipv4:1.1.1.2
!
dial-peer voice 1 pots
destination-pattern 5...
direct-inward-dial
port 1/0/1
prefix 5
!
dial-peer voice 22 voip
destination-pattern 400.
session target ipv4:1.1.1.2
!
!
line con 0
exec-timeout 0 0
line aux 0
exec-timeout 0 0
line vty 0 4
exec-timeout 0 0
password cisco
login
line vty 5 15
exec-timeout 0 0
login
```



```
!  
scheduler allocate 3996 1000  
!  
end
```

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