



# Cisco 2621 Series Gateway-PBX Interoperability: Siemens Hicom 330E PBX with BRI QSIG Signaling

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This document describes the interoperability and configuration of a Cisco 2621 voice gateway with a Siemens Hicom 330E PBX using BRI QSIG signaling. It includes the following sections:

- System Components
- Connectivity Diagrams
- Caveats

## System Components

<b>PBX Model</b>	Siemens Hicom 330E
<b>PBX Release</b>	Version 3.1
<b>Telephony Signaling</b>	BRI QSIG
<b>Voice Gateway</b>	Cisco 2621
<b>Gateway Release</b>	IOS™ 12.2(1)
<b>VoX Protocol</b>	H.323

## Configuration Tasks

See the following sections for configuration tasks for this feature:

- Set Up
- Siemens Hicom PBX Configuration
- Cisco 2621 Gateway Configuration

### Set Up

This section includes the following information:

- Connectivity Diagrams
- Set Up Notes

## Connectivity Diagrams

Figure 1: *Test Configuration*

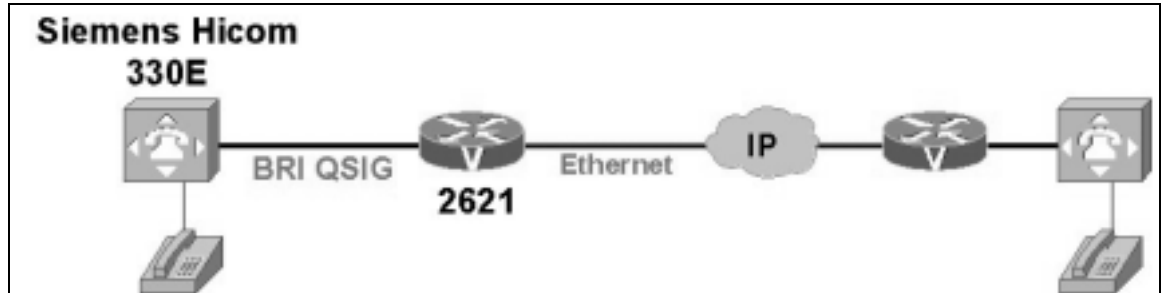


Figure 1 represents the configuration used for testing. A Siemens Hicom 330E PBX connected to a Cisco 2621 voice gateway via a BRI QSIG connection.

## Set Up Notes

- The Cisco 2621 gateway with ISDN switch type setting of **primary-qsig** or **basic-qsig** supports both protocol sides by using the **isdn protocol-emulate network/user** command.
- Configuring the Siemens operation to be Master (or Network) side sets the Layers 2 & 3 protocol side setting to master as well. Therefore, the Cisco 2621 gateway should be set to Slave protocol side by issuing the command: **isdn protocol-emulate user**.
- Similarly, if the Siemens operation is set for Slave (or user) side, layers 2 & 3 protocol side are set for slave side. The Cisco 2621 gateway is set to Master protocol side by issuing the command: **isdn protocol-emulate network**.
- The Siemens PBX automatically changes its RJ48C pinouts accordingly when changed from “Master” side to “Slave” side. Therefore, a crossover cable to swap the transmit and receive pins is not necessary when the Cisco 2621 router is changed from a TE device to an NT device.
- To configure Layer 1 operation for the Cisco 2621 BRI voice port as clock master (NT) or clock slave (TE), the **isdn layer1-emulate {user | network}** command is used. The default setting is user.
- The layer 1 configuration in the Siemens Hicom 300E PBX is assigned to the device type S0CONN via parameter SMD (BRI). For Master side operation, the Siemens was configured so that the applicable fields under the <cha-tdcsu command are as follows:

Master = Y  
SMD = Y  
PRI = 0

For slave side operation:

Master = N  
SMD = N  
PRI = 11 (number other than 0)

## Siemens Hicom PBX Configuration

### TRUNK CONFIGURATION

#### For Master side configuration

```
<dis-tdcsu
```

```
PEN1 = 1-1-85-2;
```

```
DIS-TDCSU:1-1-85-2;
```

```
H500: AMO TDCSU STARTED
```

```

+-----DIGITAL TRUNK (FORMAT=L)-----+
|          DEV = S0CONN          PEN = 1-01-085-2          |
+-----+-----+-----+
| COTNO   = 4          COPNO   = 4          DPLN     = 0          |
| ITR     = 0          COS     = 3          LCOSV    = 31         |
| LCOSD   = 31        CCT     =           DESTNO   = 99         |
| PROTVAR = ECMA1     SEGMENT = 1          TCHARG   = N          |
| SUPPRESS = 0        DGTPR   =           CHIMAP   = N          |
| ISDNCC  =           ISDNAC  =           ISDNLC   =           |
| ISDNIP  =           ISDNNP  =           PNPLC    =           |
| PNPL2C  =           PNPL1C  =           PNPAC    =           |
| PNPL2P  =           PNPL1P  =           NNO      = 1  -1  -999  |
| TRACOUNT = 31       SATCOUNT = MANY     CARRIER = 1          |
| ALARMNO = 0        FIDX    = 1          FWDX     = 1          |
| ZONE    = EMPTY    COTX    = 4          TPROFNO  =           |
| DOMTYPE =           DOMAINNO =          UUSCCX   = 16         |
| CCHDL   =           UUSCCY   = 8          |
+-----+-----+-----+
| INS     = y          TGRP    = 40        SRCHMODE  = CIR         |
| MASTER  = y          SMD     = y         CNTRNR   = 0          |
| BCNEG   = N          |
+-----+-----+-----+

```

```
AMOUNT OF B-CHANNELS IN THIS DISPLAY-OUTPUT: 2
```

```
AMO-TDCSU-95          DIGITAL TRUNKS
```

```
DISPLAY COMPLETED;
```

#### For Slave side configuration

```
<dis-tdcsu
```

```
PEN1 = 1-1-85-2;
```

```
DIS-TDCSU:1-1-85-2;
```

```
H500: AMO TDCSU STARTED
```

```
+----- DIGITAL TRUNK (FORMAT=L) -----+
|
|          DEV = S0CONN                      PEN = 1-01-085-2
|
+-----+
| COTNO   = 4          COPNO   = 4          DPLN    = 0
| ITR     = 0          COS     = 3          LCOSV   = 31
| LCOSD   = 31        CCT     =             DESTNO  = 99
| PROTVAR = ECMA1     SEGMENT = 1          TCHARG  = N
| SUPPRESS = 0        DGTPR   =             CHIMAP  = N
| ISDNCC  =           ISDNAC  =             ISDNLC  =
| ISDNIP  =           ISDNNP  =
| PNPL2C  =           PNPL1C  =           PNPLC   =
| PNPL2P  =           PNPL1P  =           PNPAC   =
| TRACOUNT = 31       SATCOUNT = MANY     NNO     = 1  -1  -999
| ALARMNO = 0         FIDX    = 1          CARRIER = 1
| ZONE    = EMPTY    COTX    = 4          FWDX    = 1
| DOMTYPE =           DOMAINNO =          TPROFNO =
| INIGHT  =
| CCHDL   =           UUSCCX  = 16        UUSCCY  = 8
+-----+
| INS     = N          TGRP    = 40        SRCHMODE = CIR
| MASTER  = N          SMD     = N         CNTRNR  = 0
| BCNEG   = N
+-----+
```

AMOUNT OF B-CHANNELS IN THIS DISPLAY-OUTPUT: 2

AMO-TDCSU-95            DIGITAL TRUNKS

DISPLAY COMPLETED;

<dis-buend

TGRP = 40  
 FORMAT = 1  
 DIS-BUEND:40,L;  
 H500: AMO BUEND STARTED

```

+-----+-----+-----+-----+-----+-----+-----+-----+
| TGRP NUMBER : 40   TGRP NAME  : BRI MASTER      MAXIMUM NO.  : 4   |
| SUBGROUP NO. : 13   DEVICE TYPE : S0CONN        TRACENO      : 0   |
| RESERVED     : N    SEARCH MODE : CIRCULAR      ACD THRESHOLD : *   |
| NUMBER OF ASSOCIATED ROUTES : 1                PRIORITY     : 2   |
| THE FOLLOWING TRUNKS (LTG-LTU-SLOT-CCT) HAVE BEEN ALLOCATED: |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1- 1- 85-2   B-CHL: 1 | 1- 1- 85-2   B-CHL: 2 | 1- 1- 85-3   B-CHL: 1 |
| 1- 1- 85-3   B-CHL: 2 | :                : | :                : |
+-----+-----+-----+-----+-----+-----+-----+
    
```

AMO-BUEND-95 TRUNK GROUP

DISPLAY COMPLETED;

<dis-refta

TYPE = circuit

PEN = 1-1-85-2;

DIS-REFTA:CIRCUIT,1-1-85-2;

H500: AMO REFTA STARTED

```

+-----+-----+-----+-----+-----+-----+-----+-----+
| R E F E R E N C E   C L O C K   C I R C U I T S |
+-----+-----+-----+-----+-----+-----+-----+-----+
| PEN          | MODULE | DEVICE | PRI | ERROR | BLOCK | SUPP. | READY |
|              |        |        |    |       |       |       | BUT  |
|              |        |        |    |       |       |       | ASYN. |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1- 1- 85- 2 | STMD   | S0CONN | 11 | 45032 | N     |       | N     |
+-----+-----+-----+-----+-----+-----+-----+-----+
    
```

AMO-REFTA-95 REFERENCE CLOCK TABLE

DISPLAY COMPLETED;

## ROUTE CONFIGURATION

```

<dis-richt
MODE = ?
MODE                : ADDRESS-MODE OF THE ROUTE CHARACTERISTIC : REQUIRED
CONDITIONAL        POSSIBLE VALUES : ALL          ALL
PM                 PHONE MAIL          INFO        SERVICE INFORMATIONS
LRTE               LCR ROUTE NUMBER    CD          CODE MODE = all
DIS-RICT:ALL; H500: AMO RICHT STARTED
+-----+
| LRTE = 1        NAME = CENTRAL OFFICE          SRVC = ALL
| DNNO = 1 -1 -999 DESTNO = 99
| ROUTOPT = NO    REROUT = YES  PLB = NO        FWDBL = NO
| MFV: CNV=FIX    DSP=WITHOUT TEXT=             PULS=PP300
| ROUTENO =      6 BUGS = LIN                   MAINGROUP = 6
| INFO =
+-----+
| TGRP = 30  LDAT      ANALOG TRUNKS           SUBGROUP = 3
+-----+
| LRTE = 31        NAME = E&M                  SRVC = VCE
| DNNO = 1 -1 -999 DESTNO = 99
| ROUTOPT = NO    REROUT = YES  PLB = NO        FWDBL = NO
| MFV: CNV=FIX    DSP=WITHOUT TEXT=             PULS=PP300
| ROUTENO =      5 BUGS = LIN                   MAINGROUP = 5
| INFO =
+-----+
| TGRP = 31  LDAT      E&M WINK                SUBGROUP = 6
+-----+
| LRTE = 37        NAME = PRI TEST              SRVC = ALL
| DNNO = 1 -1 -999
| ROUTOPT = NO    REROUT = YES  PLB = NO        FWDBL = NO
| MFV: CNV=FIX    DSP=WITHOUT TEXT=             PULS=PP300
| ROUTENO =      4 BUGS = LIN                   MAINGROUP = 4
| INFO =
+-----+
| TGRP = 37  LDAT      PRI                     SUBGROUP = 10
| TGRP = 38  LDAT      QSIG                    SUBGROUP = 9
+-----+
| LRTE = 39        NAME = BRISLAVE             SRVC = ALL
| DNNO = 1 -1 -1
| ROUTOPT = NO    REROUT = YES  PLB = NO        FWDBL = NO
| MFV: CNV=WITHOUT DSP=WITHOUT TEXT=           PULS=
| ROUTENO =      7 BUGS = LIN                   MAINGROUP = 7
| INFO =
+-----+
| TGRP = 39                BRI                 SUBGROUP = 8
+-----+
| LRTE = 40        NAME = BRI TRUNK            SRVC = ALL
| DNNO = 1 -1 -999 DESTNO = 99
| ROUTOPT = NO    REROUT = YES  PLB = NO        FWDBL = NO
| MFV: CNV=FIX    DSP=WITHOUT TEXT=             PULS=PP300
| ROUTENO =      3 BUGS = LIN                   MAINGROUP = 3
| INFO =
+-----+
| TGRP = 40  LDAT      BRI MASTER              SUBGROUP = 13
+-----+
+-----+
AMO-RICT-187        TRUNK ROUTING
DISPLAY COMPLETED;

```

## BOARD CONFIGURATION

<dis-bcsu

TYPE = tbl  
 LTG = 1  
 LTU = 1  
 SLOT = 85  
 DIS-BCSU:TBL,1,1,85;

H500: AMO BCSU STARTED

ADDRESS : LTG 1 LTU 1

ASSIGNED	MODULE	FCT	HWY	INSERTED	STATE	HW-INFO	MODULE	
PEN	MODULE	TYPE	ID	BDL	MODULE	STATE	STATUS	
85	Q2163-X	STMD2	1	A	Q2163-X	1	-09 -	READY

AMO-BCSU -95 BOARD CONFIGURATION, SWITCHING UNIT

DISPLAY COMPLETED;

## STATION PHONE CONFIGURATION

<dis-sbcusu

STNO = 5000

TYPE = all

DIS-SBCSU:5000,TERMDATA;

H500: AMO SBCSU STARTED

```

----- USER DATA -----
STNO   =5000   OPT   =OPTI   COS1   =7     DPLN   =0     SPDI   =Y
MAINO  =5000   CONN  =DIR    COS2   =7     ITR    =0     SPDC1  =0
PEN    = 1- 1- 79- 1   LCOSV1 =31   COSX   =0     SPDC2  =1
INS    =Y      STD   =3     LCOSV2 =31   SERVID =0     CBKBMX =5
                SECR   =N     LCOSD1 =31   DSSTNA =N    RCBKB  =N
SSTNO  =N      DIGNODIS=N   LCOSD2 =31   DSSTNB =Y    RCBKNA =N
TRACE  =N      HFREE  =     ASYNCT =500  PERMACT=    CBKNAMB=Y
ALARMNO =0     HMUSIC =0     API    =N     TEXTSEL=ENGLISH
EXTBUS =      REP   =0     OPTICOM=N   OPTISPA:0   DLAUT  =
CALLOG =NONE   IDCR  =N     OPTICA =0   OPTIS0A:0   DLMAN  =
                HEADSET =N    OPTIDA =0   OPTIABA:0   PRIO   =
                HSKEY  =NORMAL  ATMADDR=    VPI    =
                DFSVCANA=    TFAGRP =    PATTERN=    VCI    =
DVCFIG =OPTISET TSI   =1     SOPTIDX=    SPROT  =
                DOPTIDX=    DPROT  =
                FOPTIDX=    FPROT  =
                TOPTIDX=    TPROT  =
                VOPTIDX=    VPROT  =
----- ACTIVATION IDENTIFIERS FOR FEATURES -----
FWDS   :N      FWDT   :N      FWDV   :N      FWDF   :N      FWDD   :N
HTOS   :N      HTOT   :N      HTOV   :N      HTOF   :N      HTOD   :N
    
```

```

DND      :N      VCP      :Y      CWT      :N      TCLOGIN:N
----- FEATURES AND GROUP MEMBERSHIPS -----
ESSTN   :
PUGR    :      HUNTING GROUP : N
KEYSYS  :N      NIGHT OPTION : N      ASSOCIATED STN : N
----- SUBSCRIBER ATTRIBUTES (AMO SDAT) -----
NONE
-----
AMO-SBCSU-95      STATION AND S0-BUS CONFIGURATION OF SWITCHING UNIT

DISPLAY COMPLETED
    
```

**LEAST COST ROUTING CONFIGURATION**

```

<dis-ldat
TYPE = ?
TYPE      : DISPLAY TYPE CHARACTERISTIC : OPTIONAL
POSSIBLE VALUES : LCR      ONLY LROUTES FOR LCR      NWLCR      ONLY LROUTES WITH
CLOSED NUMBERING BY LCR      ALL      ALL TYPE = lcr
ROUTE = ;
DIS-LDAT:LCR,; H500: AMO LDAT STARTED
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LROUTE = 1  LDPLN      NAME = CENTRAL OFFICE      SERVICE = ALL |
| TYPE = LCR      DNNO OF ROUTE = 1 -1 -999 |
| SERVICE INFO = |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LRTEL | LVAL | TGRP | ODR | LAUTH | SCHEDULE | CARRIER | BAND | |
| | | | | | ABCDEFGH | ZONE | WIDTH | LATTR |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 30 | 1 | 1 | ***** | 1 | EMPTY | 1 | NONE |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LROUTE = 31  LDPLN      NAME = E&M      SERVICE = VCE |
| TYPE = LCR      DNNO OF ROUTE = 1 -1 -999 |
| SERVICE INFO = |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LRTEL | LVAL | TGRP | ODR | LAUTH | SCHEDULE | CARRIER | BAND | |
| | | | | | ABCDEFGH | ZONE | WIDTH | LATTR |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 31 | 1 | 1 | ***** | 1 | EMPTY | 1 | NONE |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LROUTE = 37  LDPLN      NAME = PRI TEST      SERVICE = ALL |
| TYPE = LCR      DNNO OF ROUTE = 1 -1 -999 |
| SERVICE INFO = |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LRTEL | LVAL | TGRP | ODR | LAUTH | SCHEDULE | CARRIER | BAND | |
| | | | | | ABCDEFGH | ZONE | WIDTH | LATTR |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 37 | 1 | 1 | ***** | 1 | EMPTY | 1 | NONE |
| 2 | 1 | 38 | 1 | 1 | ***** | 1 | EMPTY | 1 | NONE |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LROUTE = 40  LDPLN      NAME = BRI TRUNK      SERVICE = ALL |
| TYPE = LCR      DNNO OF ROUTE = 1 -1 -999 |
| SERVICE INFO = |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LRTEL | LVAL | TGRP | ODR | LAUTH | SCHEDULE | CARRIER | BAND | |
| | | | | | ABCDEFGH | ZONE | WIDTH | LATTR |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 40 | 1 | 1 | ***** | 1 | EMPTY | 1 | NONE |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
AMO-LDAT -187      LCR-DIRECTIONS
DISPLAY COMPLETED;
    
```

## CLASS OF SERVICE

<dis-cot

COTNO = 4;

DIS-COT:4;

H500: AMO COT STARTED

COT: 4 INFO: 4:Q931 EXTERNAL

DEVICE: INDEP SOURCE: DB

PARAMETER:

PRIORITY FOR AC WILL BE DETERMINED FROM MESSAGE	PRI
RECALL IF USER HANGS UP IN CONSULTATION CALL	RCL
TRUNK CALL TRANSFER	XFER
TRUNK SIGNALING ANSWER	ANS
CHANGEOVER FROM HOLD TO RING TONE	CHRT
KNOCKING OVERRIDE POSSIBLE	KNOR
CALL EXTEND FOR BUSY, RING OR CALL STATE	CEBC
NETWORKWIDE AUTOMATIC CALLBACK ON BUSY	CBBN
NETWORKWIDE AUTOMATIC CALLBACK ON FREE	CBFN
DON'T RELEASE CALL TO BUSY HUNT GROUP	BSHT
SEND NO NODE NUMBER TO PARTNER	LWNC
INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR	NLCR
TSC-SIGNALING FOR NETWORKWIDE FEATURES (MANDATORY)	TSCS
INCOMING CDR BY ZONE OR FROM LINE	ICZL
INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR (DATA)	NLRD
AOC PER CALL (AUTOMATIC OR ON REQUEST), MAND. CORNET-NQ	AOCC
CONTROLLED TRUNK AND LINE SELECTION	CTLS
NO TONE	NTON

AMO-COT -95 CLASS OF TRUNK FOR CALL PROCESSING

DISPLAY COMPLETED;

<dis-cop

COPNO = 4;

DIS-COP:4;

H500: AMO COP STARTED

COP: 4 INFO: 4:Q931

DEVICE: INDEP SOURCE: DB

PARAMETER:

SPECIAL MODE	SFRM
REGISTRATION OF LAYER 3 ADVISORIES	L3AR

AMO-COP -95 CLASS OF PARAMETER FOR DEVICE HANDLER

DISPLAY COMPLETED;

```
<dis-cossu
TYPE = cos
COS = 3
FORMAT = 1;
DIS-COSSU: COS,3,L;
H500: AMO COSSU STARTED
```

COS	VOICE	FAX	TTX	VTX	DTE
3	>3: STANDARD - FWDBSY				
	TA	NOCO	NOCO	NOCO	TA
	TSUID	NOTIE	NOTIE	NOTIE	TNOTCR
	TNOTCR				BASIC
	CDRINT				MSN
	CDRS				CDRINT
	CDRC				MULTRA
	COSXCD				
	VCE				
	DATA				
	FWDNWK				
	MSN				
	FWDBSY				
	FWDEXT				

AMO-COSSU-95 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

```
<dis-cossu
TYPE = cos
COS = 7;
DIS-COSSU: COS,7;
H500: AMO COSSU STARTED
```

COS	VOICE	FAX	TTX	VTX	DTE
7	>7: STANDARD/FWDNWK - NOANSA&FWDBSY				
	TA	NOCO	NOCO	NOCO	TA
	TSUID	NOTIE	NOTIE	NOTIE	TNOTCR
	TNOTCR				BASIC
	CDRINT				MSN
	CDRS				CDRINT
	CDRC				MULTRA
	COSXCD				
	VCE				
	DATA				
	NOANSA				
	FWDNWK				
	MSN				
	FWDBSY				
	FWDECA				
	FWDEXT				

AMO-COSSU-95 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

## SYSTEM INFORMATION

```
<dis-abc
VERBOSE = ?
VERBOSE      : LIST OF ACTIVE DB SUBSYSTEMS CHARACTERISTIC : OPTIONAL
POSSIBLE VALUES : Y      YES      N      NO VERBOSE = y
DIS-DBC:Y; H500:  AMO DBC   STARTED
+-----+
| SYSTEM CLASSIFICATION : SYSTEM 80      (H80  )
| HARDWARE ASSEMBLY     : EXTENDED COMPACT CXE (CXE  )
| DEVELOPMENT LINE      : EUROPE DEVELOPMENT (H300)
| OPERATING MODE        : SIMPLEX
| RESTART TYPE          : SYM
| HW-ARCHITECTURE       : 330E
| HW-ARCHITECTURE TYPE  : 4
|
| 'NO OF' HW VALUES
| LTG'S      : 1  LTU'S      : 4  LOG.LINES : 8000  MTS BD /GSN: 1
| SIUP'S/LTU: 4  TMD24'S PER LTU: 4  PHYS.PORTS: 2688 HWY /MTS BD: 64
| HDLC /DCL : 5  PBC /DCL  : 1  PBC'S      : 17
| LOG. SIU LINES      : 26
| LOG. CONF LINES     : 35
| LOG. DCL LINES      : 36
| DB DIMENSIONING-NAME : 350EMSTD      CONF-TABLE VERSION: 1
| DB SUSY'S:
| SWITCH NUMBER : L31900Q2999A00001
| DB
| SYSTEM_ID      : PKP091000
+-----+
```

## Cisco 2621 Gateway Configuration

The following is the configuration of the Cisco 2621 gateway connected to the Siemens Hicom 330E PBX BRI QSIG interface.

### Cisco 2621 Voice Gateway Version Information

```
2621-BRI-Sie-A#sho ver
Cisco Internetwork Operating System Software
IOS (tm) C2621 Software (C2621-JS-M), Version 12.2(1), RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Fri 27-Apr-01 11:41 by cmong
Image text-base: 0x80008088, data-base: 0x81370678

ROM: System Bootstrap, Version 12.1(3r)T2, RELEASE SOFTWARE (fc1)

2621-BRI-Sie-A uptime is 4 hours, 5 minutes
System returned to ROM by power-on
System image file is "flash:c2621-js-mz.122-1"

cisco 2621 (MPC860) processor (revision 0x200) with 56320K/9216K bytes of memory
.
Processor board ID JAD051516Q2 (2900569055)
M860 processor: part number 0, mask 49
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
```

Basic Rate ISDN software, Version 1.1.  
2 FastEthernet/IEEE 802.3 interface(s)  
2 ISDN Basic Rate interface(s)  
4 Voice NT or TE BRI interface(s)  
32K bytes of non-volatile configuration memory.  
16384K bytes of processor board System flash (Read/Write)

## Cisco 2621 Voice Gateway Sample Configuration

---

```
2621-BRI-Sie-A#sho run
Building configuration...

Current configuration : 1472 bytes
!
version 12.2
no service single-slot-reload-enable
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname 2621-BRI-Sie-A
!
no logging buffered
logging rate-limit console 10 except errors
enable password cisco
!
memory-size iomem 15
ip subnet-zero
!
!
no ip finger
no ip domain-lookup
!
no ip dhcp-client network-discovery
isdn switch-type basic-qsig
call rsvp-sync
!
!
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 1.1.1.1 255.255.255.0
 no ip mroute-cache
 load-interval 30
 no keepalive
 speed 100
 full-duplex
!
interface FastEthernet0/1
 ip address 10.1.1.2 255.255.255.0
 no ip mroute-cache
 duplex auto
 speed auto
!
interface BRI1/0
 no ip address
 isdn switch-type basic-qsig
 isdn overlap-receiving
 isdn twait-disable
 isdn incoming-voice voice
!
interface BRI1/1
 no ip address
!
router rip
 network 1.0.0.0
!
```

```
ip kerberos source-interface any
ip classless
ip http server
!
!
snmp-server packetsize 4096
snmp-server manager
!
voice-port 1/0/0
  compand-type a-law
!
voice-port 1/0/1
!
dial-peer cor custom
!
!
!
dial-peer voice 1 pots
  destination-pattern 5...
  direct-inward-dial
  port 1/0/0
  prefix 5
!
dial-peer voice 2 voip
  destination-pattern 2...
  progress_ind setup enable 1
  session target ipv4:1.1.1.2
!
!
line con 0
  exec-timeout 0 0
  transport input none
line aux 0
  exec-timeout 0 0
line vty 0 4
  exec-timeout 0 0
  login
line vty 5 15
  exec-timeout 0 0
  login
!
scheduler allocate 3996 1000
end
```

## Caveats

- The Siemens Hicom 330E PBX does not support Overlap Sending/Receiving.