

Cisco 7200 Series Router-PBX Interoperability: Siemens Hicom 330E and PA-VXC-2TE1 + E1 Card with ISDN PRI

This document describes the interoperability and configuration of a Cisco 7200 series router with a Siemens Hicom 330E with ISDN PRI signaling. It includes the following sections:

- System Components
- Configuration Tasks
- Caveats

System Components

PBX Model	Siemens Hicom 300 E
PBX Release	Version 3.1
Telephony Signaling	E1 PRI
Voice Gateway	Cisco 7200 series router
Gateway Release	Cisco IOS Release 12.2(1)
VoX Protocol	H.323

Configuration Tasks

See the following sections for configuration tasks for this feature:

- Set Up
- Siemens Hicom 330E PBX Configuration
- Call Manager Configuration

Set Up

This section includes the following information:

- Connectivity Diagrams
- Set Up Notes

Connectivity Diagrams

Figure 1: Test Configuration

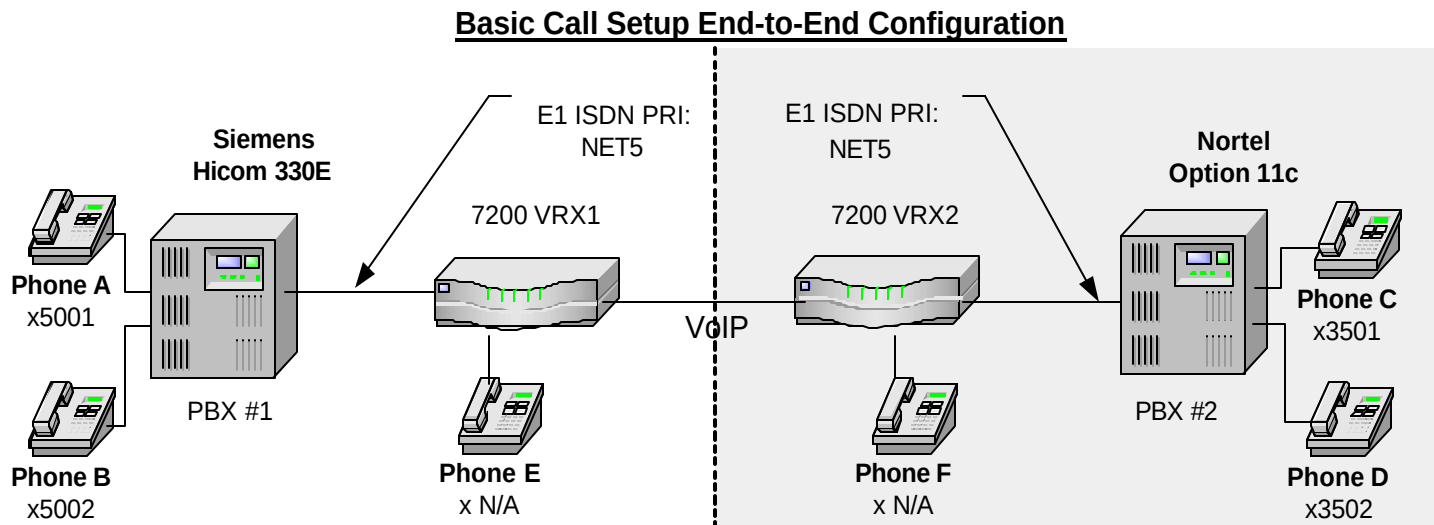


Figure 1 represents the configuration used for testing: a Siemens Hicom 330E PBX was connected via an E1 PRI link to a Cisco 7200 series router.

Set Up Notes

- The Cisco 7200 series router with ISDN switch type setting of **isdn switch-type primary-net5** supports both protocol sides by using the **isdn protocol-emulate network/user** command.
- Configuring the Siemens Hicom 330E operation to be Network side sets the Layers 2 & 3 protocol side setting to Network as well. Therefore, the Cisco 7200 series router should be set to User protocol side by issuing the command: **isdn protocol-emulate user**.

Siemens Hicom 330E PBX Configuration

Use the following information to configure the Siemens Hicom 330E PBX:

- Siemens Hicom 330E PBX Version Information
- Siemens Hicom 330E PBX Sample Configuration

Siemens Hicom 330E PBX Version Information

- Hardware: 330E.

Siemens Hicom 330E PBX Sample Configuration

Use the following examples to configure the Siemens Hicom 330E PBX:

- Trunk Configuration
- Route Configuration
- Board Configuration
- Least Cost Routing Configuration
- Class Of Service
- System Information

Trunk Configuration

```
<dis -tdcsu
PEN1 = 1-1-73-0
PEN2 = ;
DIS-TDCSU:1-1-73-0,;
H500: AMO TDCSU STARTED
```

+----- DIGITAL TRUNK (FORMAT=L) -----+											
DEV = S2CONN						PEN = 1-01-073-0					

COTNO	=	4	COPNO	=	4	DPLN	=	0			
ITR	=	0	COS	=	32	LCOSV	=	31			
LCOSD	=	31	CCT	=	PRI	DESTNO	=	99			
PROTVAR	=	ETSI	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	=	2	FIDX	=	1	CARRIER	=	1			
ZONE	=	EMPTY	COTX	=	4	FWDX	=	10			
DOMTYPE	=		DOMAINNO	=		TPROFNO	=				
INIGHT	=										
CCHDL	=		UUSCCX	=	16	UUSCCY	=	8			

TGRP	=	37	SRCHMODE	=	CIR	BCNEG	=	N			
BCGR	=	1	INS	=	Y	LWPAR	=	4			
LWPP	=	0	LWLT	=	0	LWPS	=	0			
LWR1	=	0	LWR2	=	0						
BCHAN	=	1 && 30									
+-----											

AMOUNT OF B-CHANNELS IN THIS DISPLAY-OUTPUT: 30

AMO-TDCSU-210 DIGITAL TRUNKS

DISPLAY COMPLETED;

<dis-buend

TGRP = 37

FORMAT = l

DIS-BUEND:37,L;

H500: AMO BUEND STARTED

```
+-----+-----+-----+-----+-----+-----+-----+-----+
| TGRP NUMBER : 37  TGRP NAME : PRI  MAXIMUM NO. : 30 |
| SUBGROUP NO.: 10  DEVICE TYPE : S2CONN  TRACENO : 0 |
| RESERVED : N  SEARCH MODE : CIRCULAR  ACD THRESHOLD : * |
| NUMBER OF ASSOCIATED ROUTES : 1  PRIORITY : 1 |
| THE FOLLOWING TRUNKS (LTG-LTU-SLOT-CCT) HAVE BEEN ALLOCATED: |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1- 1- 73-0 B-CHL: 1 | 1- 1- 73-0 B-CHL: 2 | 1- 1- 73-0 B-CHL: 3 |
| 1- 1- 73-0 B-CHL: 4 | 1- 1- 73-0 B-CHL: 5 | 1- 1- 73-0 B-CHL: 6 |
| 1- 1- 73-0 B-CHL: 7 | 1- 1- 73-0 B-CHL: 8 | 1- 1- 73-0 B-CHL: 9 |
| 1- 1- 73-0 B-CHL: 10 | 1- 1- 73-0 B-CHL: 11 | 1- 1- 73-0 B-CHL: 12 |
| 1- 1- 73-0 B-CHL: 13 | 1- 1- 73-0 B-CHL: 14 | 1- 1- 73-0 B-CHL: 15 |
| 1- 1- 73-0 B-CHL: 16 | 1- 1- 73-0 B-CHL: 17 | 1- 1- 73-0 B-CHL: 18 |
| 1- 1- 73-0 B-CHL: 19 | 1- 1- 73-0 B-CHL: 20 | 1- 1- 73-0 B-CHL: 21 |
| 1- 1- 73-0 B-CHL: 22 | 1- 1- 73-0 B-CHL: 23 | 1- 1- 73-0 B-CHL: 24 |
| 1- 1- 73-0 B-CHL: 25 | 1- 1- 73-0 B-CHL: 26 | 1- 1- 73-0 B-CHL: 27 |
| 1- 1- 73-0 B-CHL: 28 | 1- 1- 73-0 B-CHL: 29 | 1- 1- 73-0 B-CHL: 30 |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

AMO-BUEND-210 TRUNK GROUP

DISPLAY COMPLETED;

<dis-refta

TYPE = circuit

PEN = 1-1-73-0

KIND = ;

DIS-REFTA:CIRCUIT,1-1-73-0,;

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- 73- 0 | DIU-N2   | S2CONN   | 0        | 65535    | N        |          | N       |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

AMO-REFTA-210 REFERENCE CLOCK TABLE

DISPLAY COMPLETED;

Route Configuration

<dis-richt

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 = 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-210 TRUNK ROUTING

DISPLAY COMPLETED;

Board Configuration

<dis-bcsu

TYPE = tbl

LTG = 1

LTU = 1

SLOT = 73

DIS-BCSU:TBL,1,1,73;

H500: AMO BCSU STARTED

ADDRESS : LTG 1 LTU 1

PEN	ASSIGNED MODULE	MODULE TYPE	FCT ID	HWY BDL	INSERTED MODULE	STATE	HW-INFO	MODULE STATUS
73	Q2196-X	DIU-N2	1	A	Q2196-X	1	-04 -	READY

AMO-BCSU -210 BOARD CONFIGURATION, SWITCHING UNIT

DISPLAY COMPLETED;

STATION PHONE CONFIGURATION

<dis-sbcusu

STNO = 5001

TYPE = termdata

DIS-SBCSU:5001,TERMDATA;

H500: AMO SBCSU STARTED

```

----- USER DATA -----
STNO   =5001   OPT    =OPTI   COS1   =7     DPLN   =0     SPDI    =Y
MAINO  =5001   CONN   =DIR    COS2   =7     ITR     =0     SPDC1   =0
PEN    = 1- 1- 79- 2   LCOSV1 =31    COSX    =0     SPDC2   =1
INS     =Y      STD    =3      LCOSV2 =31    SERVID  =0     CBKBMAX =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 =      VCI     =
DVCFIG  =OPTISET TSI    =1      SOPTIDX=      PATTERN=
                        DOPTIDX=      SPROT  =
                        FOPTIDX=      DPROT  =
                        TOPTIDX=      FPROT  =
                        VOPTIDX=      TPROT  =
                        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    :
KEYSYS  :N      HUNTING GROUP : N
NIGHT OPTION : N      ASSOCIATED STN : N
----- SUBSCRIBER ATTRIBUTES (AMO SDAT) -----
NONE

```

AMO-SBCSU-210 STATION AND S0-BUS CONFIGURATION OF SWITCHING UNIT

DISPLAY COMPLETED;

Least Cost Routing Configuration

```
<dis -ldat
TYPE = lcr
LROUTE = ;
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 =										
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
LRTTEL	LVAL	TGRP	ODR	LAUTH	SCHEDULE ABCDEFGH	CARRIER ZONE		BAND WDTH	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 =										
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
LRTTEL	LVAL	TGRP	ODR	LAUTH	SCHEDULE ABCDEFGH	CARRIER ZONE		BAND WDTH	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 =										
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
LRTTEL	LVAL	TGRP	ODR	LAUTH	SCHEDULE ABCDEFGH	CARRIER ZONE		BAND WDTH	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 =										
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
LRTTEL	LVAL	TGRP	ODR	LAUTH	SCHEDULE ABCDEFGH	CARRIER ZONE		BAND WDTH	LATTR	
1	1	40	1	1	*****	1	EMPTY	1	NONE	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										

```
AMO-LDAT -210 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
    RECALL IF USER HANGS UP IN CONSULTATION CALL
    TRUNK CALL TRANSFER
    TRUNK SIGNALING ANSWER
    CHANGEOVER FROM HOLD TO RING TONE
    KNOCKING OVERRIDE POSSIBLE
    CALL EXTEND FOR BUSY, RING OR CALL STATE
    NETWORKWIDE AUTOMATIC CALLBACK ON BUSY
    NETWORKWIDE AUTOMATIC CALLBACK ON FREE
    DON'T RELEASE CALL TO BUSY HUNT GROUP
    SEND NO NODE NUMBER TO PARTNER
    INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR
    TSC-SIGNALING FOR NETWORKWIDE FEATURES (MANDATORY)
    INCOMING CDR BY ZONE OR FROM LINE
    INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR (DATA)
    AOC PER CALL (AUTOMATICAL OR ON REQUEST), MAND. CORNET-NQ
    CONTROLLED TRUNK AND LINE SELECTION
    NO TONE
    PRI
    RCL
    XFER
    ANS
    CHRT
    KNOR
    CEBC
    CBBN
    CBFN
    BSHT
    LWNC
    NLCR
    TSCS
    ICZL
    NLRD
    AOCC
    CTLS
    NTON

AMO-COT   -210          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
    REGISTRATION OF LAYER 3 ADVISORIES
    SFRM
    L3AR

AMO-COP   -210          CLASS OF PARAMETER FOR DEVICE HANDLER
DISPLAY COMPLETED;

<dis-cossu

TYPE = cos

COS = 3

FORMAT = ;

```


DIS-COSSU: COS, 3, ;

H500: AMO COSSU STARTED

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

AMO-COSSU-210 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 TA TSUID TNOTCR CDRINT CDRS CDRC COSXCD VCE DATA NOANSA FWDNWK MSN FWDBSY FWDECA FWDEXT	- NOANSA&FWDBSY NOCO NOTIE	NOCO NOTIE	NOCO NOTIE	TA TNOTCR BASIC MSN CDRINT MULTRA

AMO-COSSU-210 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

System Information

```

<dis-dbc
VERBOSE = ?

VERBOSE          : LIST OF ACTIVE DB SUBSYSTEMS
CHARACTERISTIC   : OPTIONAL

POSSIBLE VALUES
: Y              YES
                N              NO

VERBOSE =

DIS-DBC:;

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
| LOCATION        : CUSTOMER
| BAPPL           : 6ECXM48
| DBAPPL          : 6ECXM48
| SYSTEM_ID       : PKP091000
+-----+

AMO-DBC  -210          DATABASE CONFIGURATION

DISPLAY COMPLETED;

```

Cisco 7200 Series Router Configuration

The following is the configuration of the Cisco 7000 series router connected to the Siemens Hicom 330E PBX ISDN E1 interface:

- Cisco 7200 Series Router Version Information
- Cisco 7200 Series Router Sample Configuration

Cisco 7200 Series Router Version Information

- Cisco IOS™ (C7200-JS-M), Version 12.2(1).
- Cisco 7206VXR (NPE300) processor (revision D) with 122880K/40960K bytes of memory.

Router#show version

```
Cisco Internetwork Operating System Software
IOS (tm) 7200 Software (C7200-JS-M), Version 12.2(1), RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Thu 26-Apr-01 22:10 by cmong
Image text-base: 0x60008960, data-base: 0x616B0000
```

```
ROM: System Bootstrap, Version 12.0(19990210:195103) [12.0XE 105], DEVELOPMENT SOFTWARE
```

```
VXR1 uptime is 30 minutes
System returned to ROM by power-on
System image file is "slot0:c7200-js-mz.122-1"
```

```
cisco 7206VXR (NPE300) processor (revision D) with 122880K/40960K bytes of memory.
Processor board ID 16075926
R7000 CPU at 262Mhz, Implementation 39, Rev 1.0, 256KB L2, 2048KB L3 Cache
6 slot VXR midplane, Version 2.0
```

```
Last reset from power-on
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
Primary Rate ISDN software, Version 1.1.
Channelized E1, Version 1.0.
4 Ethernet/IEEE 802.3 interface(s)
1 FastEthernet/IEEE 802.3 interface(s)
31 Serial network interface(s)
2 Channelized E1/PRI port(s)
1 Voice resource(s)
125K bytes of non-volatile configuration memory.
```

```
4096K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x0
```

Cisco 7200 Series Router Sample Configuration

The following is a sample configuration of the Cisco 7200 series router directly connected to Siemens Hicom 330E PBX ISDN E1 interface.

```
Router#show run
Building configuration...

Current configuration : 1467 bytes
!
version 12.2
no service single-slot-reload-enable
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname VXR1
!
card type e1 1
logging rate-limit console 10 except errors
!
frame-clock-select 1 E1 1/0
dspint DSPfarm1/0
!
ip subnet-zero
!
!
no ip finger
!
no ip dhcp-client network-discovery
isdn switch-type primary-net5
call rsvp-sync
!
!
!
!
controller E1 1/0
  pri-group timeslots 1-31
!
controller E1 1/1
!
!
interface FastEthernet0/0
  ip address 18.0.0.1 255.255.255.0
  no ip mroute-cache
  duplex full
  fair-queue
!
interface Serial1/0:15
  no ip address
  no logging event link-status
  isdn switch-type primary-net5
  isdn protocol-emulate network
  isdn incoming-voice modem
  isdn guard-timer 3000
  isdn T203 30000
  isdn T310 60000
  isdn bchan-number-order ascending
  no cdp enable
!
interface Ethernet6/0
  ip address dhcp
  duplex half
!
interface Ethernet6/1
  no ip address
  shutdown
  duplex half
!
```

```

interface Ethernet6/2
  no ip address
  shutdown
  duplex half
!
interface Ethernet6/3
  no ip address
  shutdown
  duplex half
!
ip kerberos source-interface any
ip classless
no ip http server
!
!
!
voice-port 1/0:15
!
dial-peer voice 1 pots
  destination-pattern 5...
  direct-inward-dial
  port 1/0:15
  prefix 5
!
dial-peer voice 2 voip
  destination-pattern 3...
  session target ipv4:18.0.0.2
!
!
gatekeeper
  shutdown
!
!
line con 0
  transport input none
line aux 0
line vty 0 4
  login
line vty 5 15
  login
!
end

```

Router#show version

```

Cisco Internetwork Operating System Software
IOS (tm) 7200 Software (C7200-JS-M), Version 12.2(1), RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Thu 26-Apr-01 22:10 by cmong
Image text-base: 0x60008960, data-base: 0x616B0000

```

ROM: System Bootstrap, Version 12.0(19990210:195103) [12.0XE 105], DEVELOPMENT SOFTWARE

```

VXR1 uptime is 30 minutes
System returned to ROM by power-on
System image file is "slot0:c7200-js-mz.122-1"

```

```

cisco 7206VXR (NPE300) processor (revision D) with 122880K/40960K bytes of memory.
Processor board ID 16075926
R7000 CPU at 262Mhz, Implementation 39, Rev 1.0, 256KB L2, 2048KB L3 Cache
6 slot VXR midplane, Version 2.0

```

```

Last reset from power-on
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
Primary Rate ISDN software, Version 1.1.
Channelized E1, Version 1.0.

```

```

4 Ethernet/IEEE 802.3 interface(s)
1 FastEthernet/IEEE 802.3 interface(s)
31 Serial network interface(s)
2 Channelized E1/PRI port(s)
1 Voice resource(s)
125K bytes of non-volatile configuration memory.

```

```

4096K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x0

```

Router#**sho diag**

Slot 0:

```

Fast-ethernet on C7200 I/O card with MII or RJ45 Port adapter, 1 port
Port adapter is analyzed
Port adapter insertion time 00:30:32 ago
EEPROM contents at hardware discovery:
Hardware revision 2.1          Board revision B0
Serial number 15788289        Part number 73-4092-03
Test history 0x0              RMA number 00-00-00
EEPROM format version 1
EEPROM contents (hex):
0x20: 01 83 02 01 00 F0 E9 01 49 0F FC 03 00 00 00 00
0x30: 58 00 00 00 00 04 16 00 00 00 FF FF FF FF FF FF

```

Slot 1:

```

VXC-2TE1+ Port adapter, 2 ports
Port adapter is analyzed
Port adapter insertion time 00:30:31 ago
EEPROM contents at hardware discovery:
Hardware Revision      : 0.2
PCB Serial Number     : MIC05012P67
Part Number           : 73-5340-03
Board Revision        : A0
RMA Test History      : 00
RMA Number            : 0-0-0-0
RMA History           : 00
Deviation Number      : 0-0
Product Number        : PA-VXC-2T1E1+
Top Assy. Part Number : 8034-08469-01
EEPROM format version 4
EEPROM contents (hex):
0x00: 04 FF 40 02 11 41 00 02 C1 8B 4D 49 43 30 35 30
0x10: 31 32 50 36 37 82 49 14 DC 03 42 41 30 03 00 81
0x20: 00 00 00 00 04 00 80 00 00 00 00 CB 94 50 41 2D
0x30: 56 58 43 2D 32 54 31 45 31 2B 20 20 20 20 20 20
0x40: 20 C0 46 1F 62 00 21 15 01 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 6:

```

Ethernet Port adapter, 4 ports
Port adapter is analyzed
Port adapter insertion time 00:30:32 ago
EEPROM contents at hardware discovery:
Hardware revision 1.14          Board revision A0
Serial number 11530208         Part number 73-1556-08
Test history 0x0              RMA number 00-00-00
EEPROM format version 1
EEPROM contents (hex):
0x20: 01 02 01 0E 00 AF EF E0 49 06 14 08 00 00 00 00
0x30: 50 00 00 00 99 01 16 00 FF FF FF FF FF FF FF FF

```

Router#**clear counters**

Clear "show interface" counters on all interfaces [confirm]

Router#

00:30:48: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console

Router#

Router#**sho controllers e1 1/0**

E1 1/0 is up.

```
Applique type is Channelized E1 - balanced
No alarms detected.
alarm-trigger is not set
Framing is CRC4, Line Code is HDB3, Clock Source is Line.
International Bit: 1, National Bits: 11111
Active xconns: 0
Data in current interval (17 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
Router#
```

Caveats

- None