

Configuring an ISDN BRI NT/TE Interface on Voice Interface Cards and ISDN BRI Voice Modules

This document describes features available with the ISDN Q.931 BRI NT/TE voice modules supported on the Cisco MC3810 multiservice access concentrator, and voice interface cards on Cisco 2600 and Cisco 3600 series modular access routers. This module includes the following sections:

- Feature Overview, page 1
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Feature Overview

The ISDN BRI NT/TE voice interface card (VIC-2BRI-NT/TE) for the Cisco 2600 and Cisco 3600 series and the ISDN BRI Voice Module (BVM4-NT/TE) for the Cisco MC3810 enable Cisco IOS software to replicate the public switched network interface to a PBX that is compatible with European Telecommunications Standards Institute (ETSI) NET3 and QSIG switch types.

Before this feature, customers with PBXs that implement only the BRI TE interface, have had to make substantial hardware and software changes on the PBX to implement the NT interface. The implementation of an NT interface on the router allows the customer to connect ISDN PBXs and Key Systems to a multiservice network with a minimum of configuration changes on the PBX.

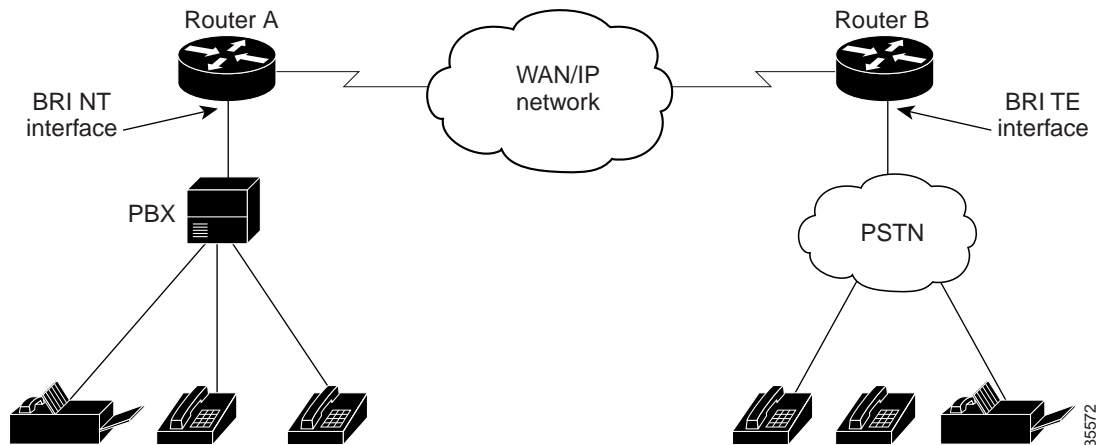
The typical application (see Figure 1) allows Enterprise customers, with a large installed base of legacy telephony equipment, to bypass the public telephone network.



Note

The illustration in Figure 1 assumes the BRI TE interface is connected to a NT1 device on the customer premise or the central office. The NT1 device must be configured as point-to-point.

Figure 1 Typical Application Using the ISDN BRI NT/TE Voice Interface Cards or ISDN BRI Voice Modules



This document describes how to configure an ISDN Basic Rate Interface (BRI) port to be either an NT or TE interface. For complete voice configuration instructions, including VoIP, VoFR, VoATM, see the *Multiservice Applications Configuration Guide*, Cisco IOS Release 12.1.

Benefits

The ISDN BRI NT/TE voice interface card for the Cisco 2600 and Cisco 3600 series and the ISDN BRI voice module for the Cisco MC3810 provide these benefits:

- Allows you to bypass PSTN tariffed services such as trunking and administration.
- Allows your PBXs to be connected directly to a Cisco router, so PBX station calls can be routed automatically to the WAN.
- Allows you to configure a voice interface on a Cisco router to emulate either a TE or NT interface. Customers with all types of PBXs can send calls through a Cisco router and deliver those calls across the customer network.
- Allows you to configure previous VIC cards (VIC-2BRI-S/T-TE), running Cisco IOS Release 12.1(3)XI or 12.1(5)T, as an NT interface, but the cards do not provide phantom power.
- Allows you to configure Layer 2 operation as point-to-point (static TEI) or point-to-multipoint (automatic TEI).

Restrictions

- Basic-net3 and basic-qsig are the only ISDN switch types currently supported for a NT interface.
- A “rolled” cable (transmit and receive swapped) is needed to connect to a TE interface, when configured as an NT port.
- Layer 1 can only be configured as point-to-point (1 TE connected to each NT). Automatic TEI support will only issue one TEI.

Related Documents

- *Multiservice Applications Configuration Guide*, Cisco IOS Release 12.1
- *Multiservice Applications Command Reference*, Cisco IOS Release 12.1
- *Network Protocols Configuration Guide, Part 1*, Cisco IOS Release 12.1
- *IP and IP Routing Configuration Guide*, Cisco IOS Release 12.1
- *Voice Network Module and Voice Interface Card Configuration Note*
- *Cisco Network Module Hardware Installation Guide*
- *Cisco WAN Interface Cards Hardware Installation Guide*
- *Update to Cisco WAN Interface Cards Hardware Installation Guide*
- *Quick Start Guide: Cisco MC3810 Installation and Startup*
- *Cisco MC3810 Multiservice Concentrator Hardware Installation Guide*

Supported Platforms

- Cisco 2600 series
- Cisco 3600 series
- Cisco MC3810

Prerequisites

Before you can configure a voice interface to emulate an NT interface on a Cisco 2600 or Cisco 3600 series router or Cisco MC3810, you must:

- Have Cisco IOS Release 12.1(3)XI or 12.1(5)T or later.
- Obtain BRI service from your telecommunications provider. The BRI line must be provisioned at the switch to support voice calls.
- Establish a working IP, Frame Relay, or ATM network. At least one network module or WAN interface card must be installed in the router to provide the connection to the LAN or WAN. For more information on installing network modules and interface cards, see the “Related Documents” section on this page.
- Configure your network for real-time voice traffic. This document describes only a portion of the process. For more information about configuring VoIP, VoFR, and VoATM refer to the *Multiservice Applications Configuration Guide*, Cisco IOS Release 12.1.

Cisco 2600 and Cisco 3600 series

- Install a 2-slot voice network module (NM-2V) into the appropriate slot of your Cisco 2600 or Cisco 3600 series router. A 1-slot voice network module (NM-1V) does not provide use of all four ISDN B channels. At least one other network module or WAN interface card must be installed in the router to provide the connection to the IP LAN or WAN.

- Install a 2-port BRI VIC (VIC-2BRI-NT/TE) into Slot 0, which is the first slot of the voice network module. Slot 1 of the voice network module must remain empty. Each of the two ports of a BRI VIC can carry two voice calls, one over each ISDN B channel, for a total of four calls per BRI VIC. If another VIC card, such as a 2-port FXS card, is installed in Slot 1, the FXS card will not work.

Cisco MC3810

- Install a Multiflex Trunk Module (MFT) into the appropriate slot of your Cisco MC3810.
- Install a BRI Voice Module (BVM4-NT/TE) into the appropriate slot of your Cisco MC3810.

Configuration Tasks

See the following sections for configuration tasks for an ISDN BRI NT or TE interface. Each task is identified as either optional or required:

- Configuring BRI Interfaces (Required)
- Verifying BRI Interface Configuration (Optional)


Configuring BRI Interfaces




Complete the following steps to configure a BRI interface.





Note

These steps include commands for configuring an NT interface or a TE interface.

	Command	Purpose
Step 1	Router# configure terminal	Enter global configuration mode.
Step 2	Router(config)# isdn switch-type <i>switch-type</i>	Configure the global ISDN switch type. For a list of switch types, see Table 1 on page 7.
		 <p>Note The only switch types currently supported for a NT interface are basic-net3 and basic-qsig</p>
Step 3	Router(config)# interface bri <i>slot/port</i> or, for the MC3810 Router(config)# interface bri <i>number</i>	Enter interface configuration mode to configure parameters for the specified interface. <i>slot</i> is the location of the voice network module in the router. <i>port</i> is the location of the BRI VIC in the voice network module. Valid values are 0 or 1. <i>number</i> can be from 1 to 4.

	Command	Purpose
Step 4	<code>Router(config-if)# no ip address</code>	Specify that there is no IP address for this interface. For information about IP addressing, see the Cisco IOS software document, <i>IP and IP Routing Configuration Guide</i> , Cisco IOS Release 12.1.
Step 5	<code>Router(config-if)# isdn overlap-receiving</code>	(Optional) Activate overlap signaling to send to the destination PBX. In this mode, the interface waits for possible additional call-control information.
Step 6	<code>Router(config-if)# isdn twait-disable</code>	(Optional) Use this command when the ISDN switch type is basic-ni1. Delay a National ISDN BRI switch a random time before activating the Layer 2 interface when the switch starts up.
Step 7	<code>Router(config-if)# isdn spid1 spid-number [ldn]</code>	(Optional) Specify a SPID and optional local directory number for the B1 channel. Currently, only the DMS-100 and NI-1 switch types require SPIDs. Although some switch types might support a SPID, Cisco recommends that you set up ISDN service without SPIDs.  Note Applies to TE configuration only.
Step 8	<code>Router(config-if)# isdn spid2 spid-number [ldn]</code>	(Optional) Specify a SPID and optional local directory number for the B2 channel.  Note Applies to TE configuration only.
Step 9	<code>Router(config-if)# isdn incoming-voice voice</code>	Configure the port for incoming voice calls.
Step 10	<code>Router(config-if)# shutdown</code> <code>Router(config-if)# isdn layer1-emulate {user network}</code> <code>Router(config-if)# no shutdown</code>	Configure the Layer 1 port mode emulation and clock settings: <ul style="list-style-type: none"> Enter user to configure the port as TE and to function as a clock slave. This is the default. Enter network to configure the port as NT and to function as a clock master.  Note Before setting the port emulation, you need to reset the interface with the shutdown command.

Command	Purpose
Step 11 Router(config-if)# network-clock-priority { low high }	<p>(Optional) If this BRI voice port is configured as TE, and you want it to be the first-priority BRI voice port for recovering clock from the network NT device, enter high.</p> <p>The default for the BRI BVM is low.</p> <p>The default for the BRI VIC is high.</p> <p> Note This command is not used if this port was configured as NT in Step 10 with the command isdn layer1-emulate network.</p>
Step 12 Router(config-if)# [no] line-power	Turn on or off the power supplied from an NT-configured port to a TE device.
Step 13 Router(config-if)# isdn protocol-emulate { user network }	<p>Configure the Layer 2 and Layer 3 port protocol emulation:</p> <ul style="list-style-type: none"> • Enter user to configure the port as TE; the PBX is the master. This is the default. • Enter network to configure the port as NT; the PBX is the slave.
Step 14 Router(config-if)# isdn sending-complete	<p>(Optional) Configure the voice port to include the Sending Complete information element in the outgoing call setup message. This command is used in some geographic locations, such as Hong Kong and Taiwan, where the sending complete information element is required in the outgoing call setup message.</p>
Step 15 Router(config-if)# isdn static-tei <i>tei-number</i>	<p>(Optional) Configure a static ISDN Layer 2 terminal endpoint identifier (TEI).</p> <p><i>tei-number</i> value can be from 0 to 64.</p>
Step 16 Router(config-if)# isdn point-to-point-setup	<p>(Optional) Configure the ISDN port to send SETUP messages on the static TEI.</p> <p> Note A static TEI must be configured for this command to be effective.</p>

	Command	Purpose
Step 17	<code>Router(config-if)# end</code>	Exit configuration mode.
Step 18	<code>Router# clear interface slot/port</code> or, for the MC3810 <code>Router(config)# clear interface bri number</code>	(Optional) The interface needs to be reset if the static TEI number has been configured in Step 15. <i>slot</i> is the location of the voice network module in the router. <i>port</i> is the location of the BRI VIC in the voice network module. Valid values are 0 or 1. <i>number</i> can be from 1 to 4.

When you finish configuring one interface, you can repeat the appropriate steps above for the other interfaces.

**Note**

To complete voice configuration, you will need to setup your voice ports and dial peers. For voice configuration information, see the document *Multiservice Applications Configuration Guide*, Cisco IOS Release 12.1.

Table 1 ISDN Switch Types

ISDN Switch Type	Description
basic-qsig	PINX (PBX) switches with QSIG signaling per Q.931
basic-ts013	Australian TS013 switches
basic-1tr6	German 1TR6 ISDN switches
basic-nwnet3	Norwegian NET3 ISDN switches (phase 1)
basic-net3	NET3 (TBR3) ISDN, Norway NET3, and New Zealand NET3 switches (covers the Euro-ISDN E-DSS1 signaling system and is ETSI-compliant)
vn2	French VN2 ISDN switches
vn3	French VN3 ISDN switches
ntt	Japanese NTT ISDN switches
basic-nznet3	New Zealand NET3 switches
basic-5ess	Lucent Technologies basic rate switches
basic-dms100	NT DMS-100 basic rate switches
basic-ni1	National ISDN-1 switches

Verifying BRI Interface Configuration

To verify the ISDN BRI interface configuration, complete the following steps.

- Step 1** The **show running-config** command in EXEC mode shows the current configuration running on the router.



Note The examples show some of the command output that is relevant to BRI configuration tasks. The first example is from a Cisco 2600 series router.

```
Router# show running-config

Building configuration...
Current configuration:
!
version 12.1
!
no service udp-small-servers
service tcp-small-servers
!
hostname Router
!
username xxxx password x 11x5xx07
no ip domain-lookup
ip host Labhost 172.22.66.11
ip host Labhost2 172.22.66.12
ip name-server 172.22.66.21
!
...
interface BRI1/0
    no ip address
    no ip directed-broadcast
    isdn switch-type basic-net3
    isdn overlap-receiving
    isdn T306 30000
    isdn skipsend-idverify
    isdn incoming-voice voice
!
interface BRI1/1
    no ip address
    no ip directed-broadcast
    isdn switch-type basic-net3
    isdn overlap-receiving
    isdn T306 30000
    isdn skipsend-idverify
    isdn incoming-voice voice
!
interface BRI2/0
    no ip address
    isdn switch-type basic-net3
    isdn overlap-receiving
    isdn protocol-emulate network
    isdn layer1-emulate network
    isdn T306-30000
    isdn sending-complete
    isdn skipsend-idverify
    isdn incoming-voice voice
!
```

```

interface BRI2/1
  no ip address
  isdn switch-type basic-net3
  isdn overlap-receiving
  isdn protocol-emulate network
  isdn layer1-emulate network
  isdn T306-30000
  isdn sending-complete
  isdn skipsend-idverify
  isdn incoming-voice voice
!
...

```

**Note**

This example is from a MC3810.

```

new3810-1#show running-config

Building configuration...
Current configuration:
!
version 12.1
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname new3810-1
!
no logging console
!
network-clock base-rate 56k
network-clock-select 2 T1 0
network-clock-select 3 system(SCB)
network-clock-select 1 BVM
ip subnet-zero
!
isdn switch-type basic-net3
isdn voice-call-failure 0
call rsvp-sync
!
voice-card 0
!
controller T1 0
  mode atm
  framing esf
  linecode b8zs
!
  interface BRI1
    no ip address
    isdn switch-type basic-net3
    isdn protocol-emulate network
    isdn layer1-emulate network
    isdn incoming-voice voice
    isdn T306 30000
    isdn skipsend-idverify
    no cdp enable
  !
  interface BRI2
    no ip address
    isdn switch-type basic-net3
    isdn protocol-emulate network
    isdn layer1-emulate network
    isdn incoming-voice voice

```

```

    isdn T306 30000
    isdn skipsend-idverify
    no cdp enable
!
interface BRI3
no ip address
shutdown
network-clock-priority low
isdn switch-type basic-net3
isdn T306 30000
no cdp enable
!
interface BRI4
no ip address
shutdown
network-clock-priority low
isdn switch-type basic-net3
isdn T306 30000
no cdp enable
!
...

```

- Step 2** The **show interfaces bri** command displays information about the physical attributes of the ISDN BRI B and D channels. The term “spoofing” means that the interface is presenting itself to the IOS software as operational.

**Note**

The following is sample output from the **show interfaces bri** command for a BRI voice port on a Cisco 2610.

```

router# show interfaces bri 1/0

BRI3/1 is up, line protocol is up (spoofing)
Hardware is Voice NT or TE BRI
MTU 1500 bytes, BW 64 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation VOICE, loopback not set
Last input 00:00:02, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations 0/0/16 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 26110 packets input, 104781 bytes, 0 no buffer
  Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 5 interface resets
  0 output buffer failures, 0 output buffers swapped out
  9 carrier transitions

```

**Note**

The following is sample output from the **show interfaces bri** command for a BRI voice port on a MC3810.

```
new3810-1#show interfaces bri 1
```

```
BRI1 is up, line protocol is up (spoofing)
  Hardware is BVM
  MTU 1500 bytes, BW 64 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Last input 19:32:19, output 19:32:27, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations 0/1/16 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    13282 packets input, 53486 bytes, 0 no buffer
    Received 1 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    13292 packets output, 53515 bytes, 0 underruns
    0 output errors, 0 collisions, 4 interface resets
    0 output buffer failures, 0 output buffers swapped out
    33 carrier transitions
```

Monitoring and Maintaining BRI Interfaces

Command	Purpose
Router# <code>show controllers bri slot/port</code> or, for a MC3810 Router# <code>show controllers bri number</code>	To display information about the ISDN BRI interface.
Router# <code>show voice-port summary slot/port</code> or, for a MC3810 Router# <code>show voice-port summary number</code>	To display information about the BRI voice ports.
Router# <code>show isdn {memory status timers}</code>	To display information about memory, status, and Layer 2 and Layer 3 timers.
Router# <code>debug isdn q921</code>	To display data link layer (Layer 2) access procedures that are taking place at the router on the D channel (LAPD) of its ISDN interface. The no form of this command disables debugging output.
Router# <code>debug isdn q931</code>	To display information about call setup and teardown of ISDN network connections (Layer 3) between the local router (user side) and the network. The no form of this command disables debugging output.

Configuration Examples

The configuration examples included in this section correspond to the topology shown in Figure 2. The routers each include a BRI VIC and a 2-slot voice network module, along with other voice interface cards and modules that are included for completeness. Router A is connected to a PBX through the BRI VIC, and is connected to Router B by a serial Ethernet interface. Router B includes a BRI VIC for connection to the PSTN, in order to process voice calls from off-premises terminal equipment.

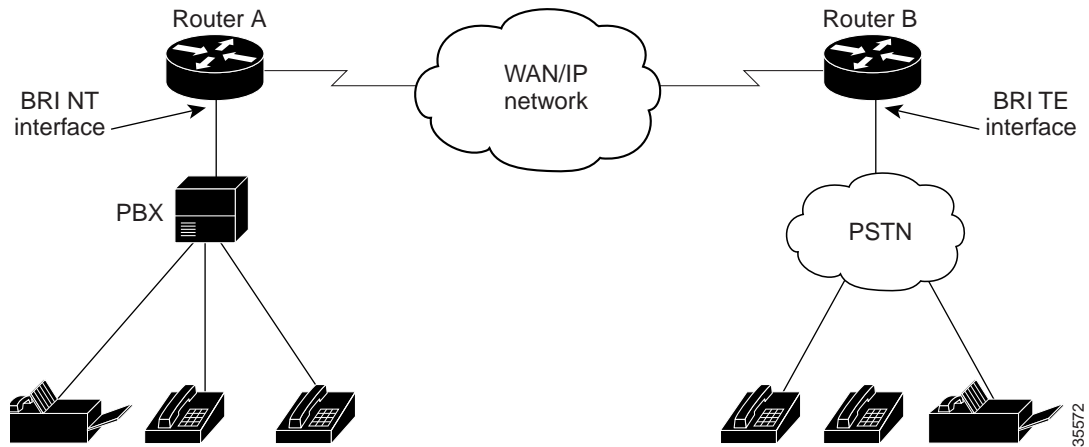


Note

The illustration in Figure 2 assumes the BRI TE interface is connected to a NT1 device on the customer premise or the central office. The NT1 device must be configured as point-to-point.

For more information about IP configuration, see the *IP and IP Routing Configuration Guide*, Cisco IOS Release 12.1. For more information about VoIP, VoFR, and VoATM configuration, see the *Multiservice Applications Configuration Guide*, Cisco IOS Release 12.1.

Figure 2 Configuration Example Topology



Router A: Connection to a PBX

The following example illustrates the configuration of the BRI interfaces on a Cisco 3640 connecting to a PBX:

```
interface BRI1/0
no ip address
isdn switch-type basic-net3
isdn overlap-receiving
isdn protocol-emulate network
isdn layer1-emulate network
isdn T306-30000
isdn sending-complete
isdn skipsend-idverify
isdn incoming-voice voice
!
interface BRI1/1
no ip address
isdn switch-type basic-net3
isdn overlap-receiving
isdn protocol-emulate network
isdn layer1-emulate network
isdn T306-30000
isdn sending-complete
isdn skipsend-idverify
isdn incoming-voice voice
!
ip default-gateway 1.14.0.1
ip classless
ip route 2.0.0.0 255.0.0.0 Ethernet0/1
ip route 2.0.0.0 255.0.0.0 Serial0/1
ip route 172.22.66.33 255.255.255.255 Ethernet0/0
!
!
line con 0
exec-timeout 0 0
transport input none
line aux 0
line vty 0 4
login
```

Router B: Connection to PSTN

The following example illustrates the configuration of the BRI interfaces on a Cisco 2600 series router for connection to the public ISDN telephone network:

```
interface BRI1/0
no ip address
no ip directed-broadcast
isdn switch-type basic-ni1
isdn twait-disable
isdn spid1 14085552111 5552111
isdn spid2 14085552112 5552112
isdn incoming-voice voice

interface BRI1/1
no ip address
no ip directed-broadcast
isdn switch-type basic-ni1
isdn twait-disable
isdn spid1 14085552111 5552111
isdn spid2 14085552112 5552112
isdn incoming-voice voice
!
ip classless
ip route 3.0.0.0 255.0.0.0 Ethernet0/1
ip route 3.0.0.0 255.0.0.0 Serial0/1
ip route 172.21.66.0 255.255.255.0 Ethernet0/0
!
!
!
line con 0
exec-timeout 0 0
transport input none
line aux 0
line vty 0 4
login
```

Command Reference

This section documents new or modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.1 command reference publications.

- **line-power**
- **network-clock-priority**
- **isdn layer1-emulate**
- **isdn point-to-point-setup**

line-power

To configure the BRI port to supply line power to the terminal equipment (TE), use the **line-power** command in interface configuration mode. To disable the line power supply, use the **no** form of this command.

line-power

no line-power

Syntax Description

This command has no arguments or keywords.

Defaults

The BRI port does not supply line power.

Command Modes

Interface configuration

Command History

Release	Modification
12.0(3)XG	This command was introduced.
12.1(3)XI	This command was added for the Cisco 2600 and Cisco 3600 series.

Usage Guidelines

This command is supported only if an installed BRI voice module (BVM) or BRI VIC is equipped to supply line power (phantom power).

This command is used only on a BRI port operating in NT mode. A BRI port operating in TE mode is automatically disabled as a source of line power, and the **line-power** command is rejected.

When you use the **line-power** command, the line power provision is activated on a BRI port, if the port is equipped with the hardware to supply line power. When you enter the no line-power command, the line power provision is deactivated on a BRI port.

Examples

The following example configures a BRI port to supply power to an attached TE device:

```
router (config)# interface bri 1

router (config-if)# line-power
```

network-clock-priority

To specify the clocking source for the BRI VIC voice port, use the **network-clock-priority** command in interface configuration mode. To restore the default (high) clock-recovery priority, use the **no** form of this command.

Cisco 2600 series and Cisco 3600 series

network-clock-priority {low | high}

no network-clock-priority {low | high}

Syntax Description

low	The BRI port does not provide clocking.
high	The BRI port provides clocking.

Defaults

The BRI VIC port provides clocking (high).

Command Modes

Interface configuration

Command History

Release	Modification
12.0(3)XG	This command was introduced for the Cisco MC3810.
12.1(3)XI	This command was modified for the Cisco 2600 and Cisco 3600 series.

Usage Guidelines

Because the BRI VIC can support both NT and TE ports, this command allows a “local loop” to be configured for testing. By default the TE port on the BRI VIC receives the clock source to drive the whole BRI (**network-clock-priority high**). Setting the clock priority to **low** allows the connected port to provide clocking.

Examples

The following example configures BRI voice port 1 as a first-priority clock source:

```
router (config)# interface bri 0/1
router (config-if)# network-clock-priority high
```

Related Commands

Command	Description
network-clock-select	Specifies selection priority for the clock sources.

isdn layer1-emulate

To configure the Layer 1 operation of a BRI voice port as clock master (NT) or slave (TE), use the **isdn layer1-emulate** command. To restore the default (user), use the **no** form of this command.

layer1-emulate {user | network}

no layer1-emulate {user | network}

Syntax Description

user	Physical interface operation in clock slave mode (as TE).
network	Physical interface operation in clock master mode (as NT).

Defaults

Layer 1 port operation is as user (TE functionality as clock slave).

Command Modes

Interface configuration

Command History

Release	Modification
12.0(3)XG	This command was introduced on the MC3810.
12.1(3)XI	This command was introduced on the Cisco 2600 and Cisco 3600 series.

Usage Guidelines

If you enter the **no isdn layer1-emulate network** command, the physical layer port operation defaults to user.

Examples

The following example configures the Layer 1 operation of a BRI voice port as the clock slave (TE):

```
router (config)# interface bri 1
router (config-if)# isdn layer1-emulate user
```

Related Commands

Command	Description
isdn protocol-emulate	Configures the Layer 2 and Layer 3 port protocol of a BRI voice port, or a PRI interface to emulate NT (network) or TE (user) functionality.
network-clock-priority	Specifies the clocking source for BRI voice ports.

isdn point-to-point-setup

To configure the ISDN port to send SETUP messages on the static TEI, use the **isdn point-to-point-setup** command. Use the **no** form of this command to restore the default (user).

isdn point-to-point-setup

no isdn point-to-point-setup

Syntax Description	This command has no arguments or keywords.					
Defaults	The BRI port sends SETUP messages on the static TEI (TEI 127).					
Command Modes	Interface configuration					
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>12.1(3)XI</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	12.1(3)XI	This command was introduced.	
Release	Modification					
12.1(3)XI	This command was introduced.					
Usage Guidelines	This command only applies if a static TEI has been activated with the isdn static-tei command.					
Examples	<p>The following example configures the BRI port to send SETUP messages on the static TEI:</p> <pre>router (config) # interface bri 1 router (config-if) # isdn point-to-point-setup</pre>					
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>isdn static-tei</td> <td>To configure a static ISDN Layer 2 terminal endpoint identifier (TEI).</td> </tr> </tbody> </table>	Command	Description	isdn static-tei	To configure a static ISDN Layer 2 terminal endpoint identifier (TEI).	
Command	Description					
isdn static-tei	To configure a static ISDN Layer 2 terminal endpoint identifier (TEI).					

Glossary

BRI—basic rate interface. BRI is a two-wire interface between the customer premises equipment (CPE) and the telco end office (EO), and a four-wire interface at the customer premises. BRI service provides two 64-kbps (B) channels for voice or data and one 16-kbps (D) channel for signaling information or data.

ETSI—European Telecommunication Standards Institute. Organization created by the European post, telephone, and telegraphs (PTTs) and the European community (EC) to propose telecommunications standards for Europe

NT—network termination. In ISDN, a device that provides the interface between customer premises equipment and central office switching equipment.

PBX—private branch exchange. Digital or analog telephone switchboard located on the subscriber premises and used to connect private and public telephone networks.

PSTN—Public Switched Telephone Network. General term referring to the variety of telephone networks and services in place worldwide. In the US, it is sometimes called POTS (plain old telephone service).

TE —terminal equipment. Any ISDN-compatible device that can be attached to the network, such as a telephone, fax, or computer.

ISDN—integrated service digital network. Communication protocol that permits telephone networks to carry data, voice, and other source traffic.