

Cisco 2- and 4-Port ISDN BRI S/T Network Interface Modules

Integrated Services Routers

2- and 4-Port ISDN BRI S/T

Network Interface Modules Data Sheet



Product overview

The Cisco® 4000 Series Integrated Services Routers (ISRs) offer a wide variety of WAN connectivity modules to accommodate the range of application needs in customer networks. The Cisco 2- and 4-Port ISDN BRI S/T Network Interface Modules (NIMs) offer investment protection by providing data connectivity to legacy ISDN networks for the 4000 Series ISRs (Figure 1).

Figure 1. Cisco 4-Port ISDN BRI S/T NIM



Integration

The 2- and 4-port ISDN BRI NIMs enable branches to use legacy ISDN Basic Rate Interface (BRI) networks for data connections. Because they support industry-standard ISDN dialup capabilities, these modules can be deployed as the main WAN connection over ISDN BRI, dial backup over ISDN BRI, or a combination of the two. Each physical interface supports data traffic over two 64-kbps B channels, which can be automatically bundled together using Multi-Link Point-to-Point Protocol (MLPPP).

Investment protection

The 2- and 4-port ISDN BRI NIMs provide a cost-effective ISDN Dial-on-Demand Routing (DDR) solution for use with legacy ISDN networks. These NIMs are supported on the Cisco 4000 Series ISRs and uphold Cisco's commitment to providing customers with maximum flexibility and investment protection.

Because the same cards can be used on all Cisco 4000 Series ISRs, the number of stocking units can be reduced and the NIMs can be redeployed from one platform to another.

Shared features with Cisco ISR G2 Series ISDN modules

The Cisco 2- and 4-port ISDN BRI NIMs offer many of the same features as the ISR G2 Series ISDN BRI modules and can thus be smoothly deployed without any additional training (Table 1).

A new feature is full online insertion and removal (OIR or hot swap), which was introduced with the 4000 Series NIMs.

Table 1. Comparison of the 2- and 4-port ISDN BRI NIMs with the ISR G2 Series ISDN BRI modules

Feature type	Feature	ISR G2 Series ISDN BRI NIMs	4000 Series ISDN BRI NIMs
Leased line	64K mode	Yes	Yes
	128K mode	Yes	Yes
Backup for primary	Backup for primary interface	Yes	Yes
	Dialer watch group and watch list	Yes	Yes
Dialer map	Dialer map	Yes	Yes
Encapsulation	High-level Data Link Control (HDLC)	Yes	Yes
	Point-to-Point Protocol (PPP)	Yes	Yes
	Frame relay	Yes	No
	X.25	Yes	No
	Link Access Procedure on the D channel (LAPD)	Yes	No
Legacy DDR	Dialer string on D channel	Yes	No (1)
	Dialer rotary-group DDR	Yes	Yes
	Dialer pool/profile DDR	Yes	Yes
Maximum Transmission Unit (MTU)	MTU change	Yes	Yes
	Jumbo packets	Yes	Yes
MLPPP	MLPPP in rotary-group case	Yes	Yes
	MLPPP in dialer pool case	Yes	Yes
Bridging	Bridge over ISDN port	Yes	No (2)
Snapshot routing		Yes	No
Clocking	Independent clocking	Yes	Yes
Quality of Service (QoS)	Interface-level QoS for ISDN	Yes	Yes

Feature type	Feature	ISR G2 Series ISDN BRI NIMs	4000 Series ISDN BRI NIMs
Dial-in and dial-out	Dial-in and dial-out for Primary Rate Interface (PRI)	Yes	Yes
Network Management System (NMS)	ISDN MIB support	Yes	Yes
Module OIR	Module hot-swap support	No	Yes
PPP	PPP callback	Yes	Yes
	PPP authentication – Challenge Handshake Authentication Protocol (CHAP)	Yes	Yes
	PPP authentication – Password Authentication Protocol (PAP)	Yes	Yes

¹ - Dialer string is configured under Dialer Interface on NIM-2BRI-S/T and NIM-4BRI-S/T.

² - Bridge is replaced with BDI in Cisco IOS XE. At the time of this writing, the ISDN port is not supported.

CLI comparison to Cisco ISR G2 Series for configuring ISDN modules

There is no noticeable difference in the ISDN command-line interface between Cisco IOS[®] XE and Cisco IOS M&T (Cisco IOS Classic).

Dialer features

Table 2 lists supported dialer features for the 2- and 4-port ISDN BRI NIMs.

Table 2. Supported dialer features

Supported dialer features		
Dialer list with ACL	Dialer caller	Dialer fast-idle
Dialer group	Dialer called	Dialer priority
Dialer in-band	Dialer callback	Dialer redial interval
Dialer string	Dialer enable-timeout	Dialer redial attempts
Dialer map	Dialer idle-timeout	Dialer route watch

Switch types

Table 3 lists supported and unsupported ISDN switch types for the 2- and 4-port ISDN BRI NIMs.

Table 3. Supported and unsupported ISDN switch types for BRI

Supported	Unsupported
basic-1tr6	basic-dms100
basic-5ess	basic-ni
basic-net3	
basic-qsig	
basic-ts013	
ntt	

Product specifications

Models

- 2 or 4 ISDN BRI ports with S/T interface:
 - 2 port: NIM-2BRI-S/T (NIM-2B-S/T)
 - 4 port: NIM-4BRI-S/T (NIM-4B-S/T)
- Use RJ-45 connectors

Figure 2. 4-port NIM (front)



Platform support

Table 4 lists platform support for the 2- and 4-port ISDN BRI NIMs. Table 5 lists the maximum number of NIMs per platform.

Table 4. Platform support

Feature	Description
Supporting platforms	Cisco 4221, 4321, 4331, 4351, 4431, and 4451 ISRs

Table 5. Maximum number of 2- and 4-port ISDN BRI NIMs per platform

Platform	Maximum number of NIMs
Cisco 4221 and 4321	2
Cisco 4331	3 (2x NIM slots plus 1x SM-X NIM adapter) [*]
Cisco 4431	3
Cisco 4351 and 4451	5 (3x NIM slots plus 2 SM-X NIM adapters) [*]

^{*}One 2- or 4-port module supported per adapter. The 4331 ISR supports one adapter. The 4351 and 4451 ISRs support two adapters.

Software requirements

Table 6 lists the minimum Cisco IOS Software release required for the supporting platforms.

Table 6. Minimum Cisco IOS Software release

Platform	Minimum Cisco IOS Software release	Cisco IOS XE feature set
4221, 4321, 4331, 4351, 4431, 4451	16.6.1	IP Base and up

Ordering information

Table 7 lists product ordering information for the 2- and 4-port ISDN BRI NIMs.

Table 7. Ordering information

Product number	Description
NIM-2BRI-S/T (NIM-2B-S/T)	2-port ISDN BRI S/T network interface module
NIM-4BRI-S/T (NIM-4B-S/T)	4-port ISDN BRI S/T network interface module

Hardware specifications

Table 8 lists the hardware specifications for the 2- and 4-port ISDN BRI NIMs.

Table 8. Hardware specifications

Specification	Data
Physical specifications	<ul style="list-style-type: none">• Singlewide NIM, no slot restrictions• Dimensions (H x W x D) 1.25 x 3.50 x 7.24 in. (3.18 x 8.89 x 18.39 cm)
Weight	<ul style="list-style-type: none">• 2-port NIM: 0.42 lb (191 g)• 4-port NIM: 0.44 lb (200 g)
Environmental specifications	<ul style="list-style-type: none">• Operating temperature: 32° to 104°F (0° to 40°C)• Storage temperature: -4° to 149°F (-20° to 65°C)• Relative humidity: 10% to 90%, noncondensing

Safety, EMC, telecom, network homologation, power, environmental requirements, and regulatory approvals

When installed in a Cisco 4000 Series ISR, the 2- and 4-port ISDN BRI NIMs do not change the standards (safety, EMC, telecom, network homologation, power, environmental requirements, and regulatory approvals) of the router itself. Refer to the Cisco 4000 Series ISRs data sheet for additional information about mechanical, environmental, and agency certifications.

- Cisco 4000 Series ISRs:
<https://www.cisco.com/c/en/us/products/collateral/routers/4000-series-integrated-services-routers-isr/datasheet-c78-732542.html?cachemode=refresh>

Country support

Contact your local Cisco representative for country-specific approval status, or visit https://tools.cisco.com/cse/prdapp/jsp/externalsearch.do?action=externalsearch&page=EXTERNAL_SEARCH.

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