

# Cisco 4400 Series Integrated Services Router 1-, 2-, and 4-Port Serial Network Interface Modules

Cisco® 4400 Series Integrated Services Router Network Interface Modules (ISR NIMs) provide highly reliable synchronous serial WAN connections for remote sites. These interfaces use well-known point-to-point WAN protocols such as High-Level Data Link Control (HDLC) and Point-to-Point Protocol (PPP) as well as Frame Relay, offering cost-effective virtualized WAN connections in both point-to-point and point-to-multipoint designs. You can mix and match NIMs to tailor cost-effective solutions for common networking solutions for low- and high-density WAN aggregation.

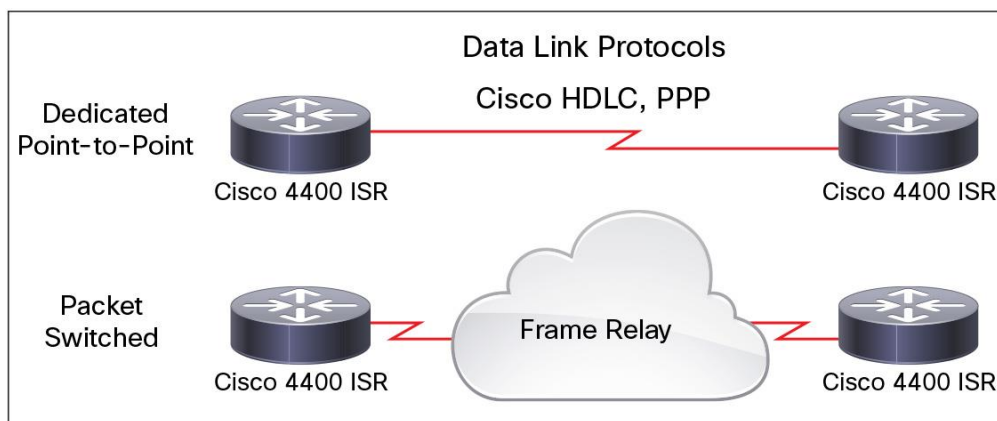
Cisco offers three new synchronous serial NIMs:

- Cisco 1-Port Serial WAN Network Interface Card (NIM-1T)
- Cisco 2-Port Serial WAN Network Interface Card (NIM-2T)
- Cisco 4-Port Serial WAN Network Interface Card (NIM-4T)

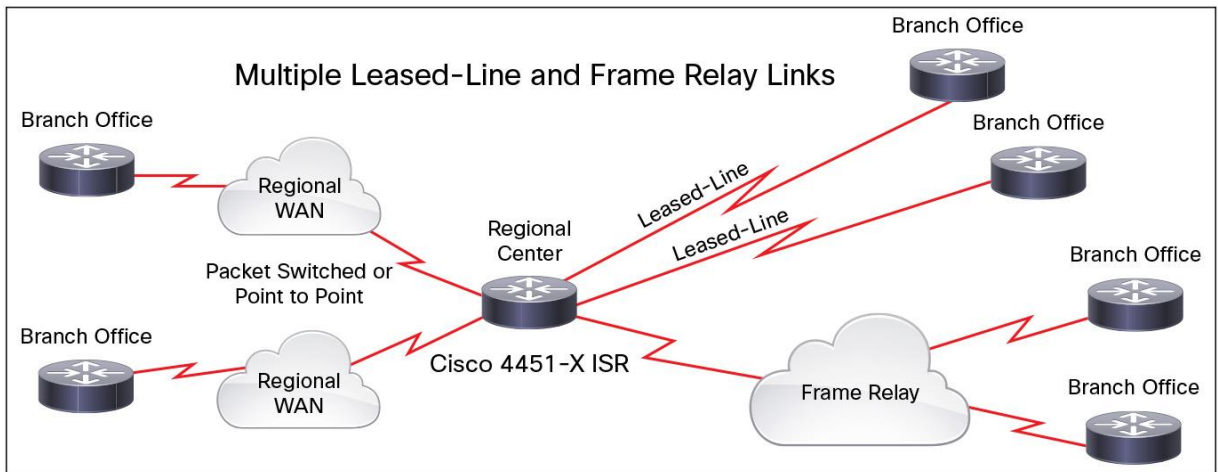
## WAN Access and Aggregation

Figure 1 shows two typical serial WAN connection scenarios between two locations. With support for serial speeds up to 8 Mbps per port, the 2- and 4-port serial NIMs are ideal for low- and medium-density WAN aggregation (Figure 2). Bisynchronous and X.25 standards are not supported on these modules.

**Figure 1.** WAN Connections (Sync)



**Figure 2.** WAN Concentration



## Ordering Information

Table 1 gives ordering information, and Table 2 lists supported platforms and quantities.

**Table 1.** Cisco 1- and 2-Port Serial NIMs

Part Number	Description
NIM-1T	1-Port Serial WAN Interface Card
NIM-2T	2-Port Serial WAN Interface Card
NIM-4T	4-Port Serial WAN Interface Card

The Cisco 4400 Series ISRs require Cisco IOS® Software Release XE3.12 or later and the IP Base feature set as a minimum.

**Table 2.** Supported Platforms and Quantities

Platforms	NIM-1T	NIM-2T	NIM-4T
Cisco 4451-X	3	3	3

## Connectors and Cabling

The NIM-1T, NIM-2T, and NIM-4T use Cisco Smart Serial connectors. These ports use the same connectors and cabling as the HWIC-4A/S and HWIC-2A/S modules for the Cisco Integrated Services Routers Generation 2 (ISR G2) routers. The supported cables are noted in Table 3.

**Table 3.** Smart Serial Cabling for NIM-1T, NIM-2T, and NIM-4T

Product Number	Cable Type	Length	Connector Type
CAB-SS-V35MT	V.35 DTE	10 ft (3m)	Male
CAB-SS-V35FC	V.35 DCE	10 ft (3m)	Female
CAB-SS-232MT	EIA/TIA-232 DTE	10 ft (3m)	Male
CAB-SS-232FC	EIA/TIA-232 DCE	10 ft (3m)	Female
CAB-SS-449MT	EIA/TIA-449 DTE	10 ft (3m)	Male
CAB-SS-449FC	EIA/TIA-449 DCE	10 ft (3m)	Female

Product Number	Cable Type	Length	Connector Type
CAB-SS-X21MT	X.21 DTE	10 ft (3m)	Male
CAB-SS-X21FC	X.21 DCE	10 ft (3m)	Female
CAB-SS-530MT	EIA/TIA-530 DTE	10 ft (3m)	Male
CAB-SS-530AMT	EIA/TIA-530A DTE	10 ft (3m)	Male

## Specifications

NIM specifications are listed in Tables 4 and 5.

**Table 4.** NIM Signaling and Telecom Specifications

Specification	NIM-1T	NIM-2T	NIM-4T
<b>Synchronous support</b>	Yes	Yes	Yes
<b>Synchronous maximum speed (per port)</b>	8 Mbps	8 Mbps	8 Mbps
<b>Serial protocols</b>	EIA-232, EIA-449, EIA-530, EIA-530A, V.35, and X.21	EIA-232, EIA-449, EIA-530, EIA-530A, V.35, and X.21	EIA-232, EIA-449, EIA-530, EIA-530A, V.35, and X.21
<b>Telecomm post, telephone, and telegraph (PTT)</b>	<ul style="list-style-type: none"> <li>TBR1 and 2</li> <li>JATE digital</li> </ul>	<ul style="list-style-type: none"> <li>TBR1 and 2</li> <li>JATE digital</li> </ul>	<ul style="list-style-type: none"> <li>TBR1 and 2</li> <li>JATE digital</li> </ul>

**Table 5.** Homologation Specifications for NIM-1T, NIM-2T, and NIM-4T

Specification	Data
<b>Safety</b>	<ul style="list-style-type: none"> <li>UL 60950-1 (United States)</li> <li>CAN/CSA 22.2, 60950-1 (Canada)</li> <li>AS/NZS 60950-1 (Australia/New Zealand)</li> <li>EN60950-1 (Europe)</li> <li>IEC 60950-1 (International)</li> </ul>
<b>Immunity</b>	<ul style="list-style-type: none"> <li>EN300386</li> <li>CISPR24</li> <li>EN55024</li> <li>EN50082-1</li> <li>61000-4-2/3/4/5/6/8/11</li> </ul>
<b>Emissions</b>	<ul style="list-style-type: none"> <li>FCC Part 15 Class A</li> <li>ICES-003 Class A</li> <li>EN55022 Class A</li> <li>CISPR22 Class A</li> <li>AS/NZSCISPR22 Class A</li> <li>VCCI Class A</li> <li>EN 300386</li> <li>EN61000-3-2/3</li> <li>CNS13438</li> </ul>
<b>Physical specifications</b>	<ul style="list-style-type: none"> <li>Singlewide NI, no slot restrictions</li> <li>Dimensions (H x W x D) 1.25 x 3.50 x 7.24 in. (3.18 x 8.89 x 18.39 cm)</li> </ul>
<b>Environmental specifications</b>	<ul style="list-style-type: none"> <li>Operating temperature: 32 to 104°F (0 to 40°C)</li> <li>Storage temperature: -4 to 149°F (-20 to 65°C)</li> <li>Relative humidity: 10 to 90%, noncondensing</li> </ul>

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