



## CHAPTER 22

# Integrated Services Digital Network

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This chapter describes the level of support that Cisco ANA provides for ISDN, as follows:

- [Technology Description, page 22-1](#)
- [Information Model Objects \(IMOs\), page 22-1](#)
- [Vendor-Specific Inventory and IMOs, page 22-3](#)
- [Network Topology, page 22-3](#)
- [Service Alarms, page 22-3](#)

## Technology Description

Please see Part 1: Cisco VNEs in this guide for information about which devices support the various technologies.

## ISDN

ISDN is a digital telephony and data transport service offered by regional telephone carriers. ISDN involves digitization of the telephone network, which permits voice, data, text, graphics, music, video, and other source material to be transmitted over existing telephone wires.

ISDN offers two types of channels: A 64-Kb/s Bearer (B) channel used for data, and a 64-Kb/s (maximum) Delta (D) channel used for signaling and control over layers 1, 2, and 3 of the Open Systems Interconnection (OSI) model. It also offers two types of channel-based services: The 192-Kb/s Basic Rate Interface (BRI) service, which offers two B channels and one D channel (2B+D); and the 1.544/2.048-Mb/s Primary Rate Interfaces (PRI) service, which offers 23 to 31 B channels and one D channel, respectively, for the xDSL interface backup.

## Information Model Objects (IMOs)

This section describes the following IMOs:

- [ISDN Interface \(IIsdnLayer2\)](#)
- [ISDN Channel \(IIsdnChannel\)](#)
- [ISDN Physical \(IIsdnLayer1\)](#)

## ISDN Interface

The data link layer [ISDN Interface](#) object is bound by its Containing Termination Points attribute to a physical layer [ISDN Physical](#) object. It is accessed primarily by a [PPP Encapsulation](#) bound by its Contained Connection Termination Points attribute.

**Table 22-1** *ISDN Interface (IIsdnLayer2)*

| Attribute Name                          | Attribute Description                                                          | Scheme  | Polling Interval |
|-----------------------------------------|--------------------------------------------------------------------------------|---------|------------------|
| Control Administrative Status           | Administrative status ( <i>Unknown, Up, Down, Testing</i> )                    | Product | Status           |
| Operational Status                      | Operational status ( <i>Unknown, Up, Down, Testing, Dormant, Not Present</i> ) | Product | Status           |
| Channels Table                          | Array of <a href="#">ISDN Channels</a>                                         | Product | Configuration    |
| IANA Type                               | Internet Assigned Numbers Authority (IANA) type of the sublayer                | N/A     | N/A              |
| Containing Termination Points           | Underlying termination points (connection or physical)                         | Product | N/A              |
| Contained Connection Termination Points | Bound connection termination points                                            | Product | N/A              |

## ISDN Channel

The data link layer [ISDN Channel](#) object describes an [ISDN Interface](#) channels table's entry.

**Table 22-2** *ISDN Channel (IIsdnChannel)*

| Attribute Name                | Attribute Description                                                          | Scheme  | Polling Interval |
|-------------------------------|--------------------------------------------------------------------------------|---------|------------------|
| Control Administrative Status | Administrative status ( <i>Unknown, Up, Down, Testing</i> )                    | Product | Status           |
| Operational Status            | Operational status ( <i>Unknown, Up, Down, Testing, Dormant, Not Present</i> ) | Product | Status           |

## ISDN Physical

The physical layer [ISDN Physical](#) object is bound by its Containing Termination Points attribute to a [Port Connector](#) object. It is accessed by the data link layer [ISDN Interface](#) bound by its Contained Connection Termination Points attribute.

**Table 22-3** *ISDN Physical (IIsdnLayer1)*

| Attribute Name                                                                            | Attribute Description | Scheme | Polling Interval |
|-------------------------------------------------------------------------------------------|-----------------------|--------|------------------|
| All attributes are the same as those of <a href="#">Physical Layer (IPhysicalLayer)</a> . |                       |        |                  |

# Vendor-Specific Inventory and IMOs

There are no vendor-specific inventory or IMOs for this technology.

## Network Topology

Cisco ANA does not support discovery of ISDN physical layer topology. This topology is manually (statically) configured by the system administrator.

## Service Alarms

The following alarms are supported for this technology:

- [Link Down, page 41-42](#)
- [Port Down, page 41-51](#)

