

Configuring V.120 Access

The V-series recommendations are ITU-T standards dealing with data communications over telephone networks. V.120 allows for reliable transport of synchronous, asynchronous, or bit transparent data over ISDN bearer channels.

Cisco provides three V.120 support features for terminal adapters that do not send the low-layer compatibility fields or bearer capability V.120 information:

- Answer all incoming calls as V.120—static configuration used when all remote users have asynchronous terminals and need to connect with a vty on the router.
- Automatically detect V.120 encapsulation—encapsulation dynamically detected and set.
- Enable V.120 Support for Asynchronous Access over ISDN

For terminal adapters that send the low-layer compatibility or bearer capability V.120 information, mixed V.120 and ISDN calls are supported. No special configuration is required.

For a complete description of the V.120 access commands mentioned in this chapter, refer to the *Dial Solutions Command Reference*. To locate documentation of other commands that appear in this chapter, use the command reference master index or search online.

Configure Answering of All Incoming Calls as V.120

This V.120 support feature allows users to connect using an asynchronous terminal over ISDN terminal adapters with V.120 support to a vty on the router, much like a direct asynchronous connection. Beginning with Cisco IOS Release 11.1, this feature supports incoming calls only.

When all the remote users have asynchronous terminals and call in to a router through an ISDN terminal adapter that uses V.120 encapsulation but does not send the low-layer compatibility or bearer capability V.120 information, you can configure the interface to answer all calls as V.120. Such calls are connected with an available vty on the router.

To configure an ISDN BRI or PRI interface to answer all incoming calls as V.120, use the following commands, beginning in global configuration mode:

Command	Purpose
interface bri <i>number</i> (Cisco 4000 series) interface bri <i>slot/port</i> (Cisco 7200 series)	Specify the ISDN BRI interface.
or	
interface serial e1 <i>controller-number:15</i> interface serial t1 <i>controller-number:23</i>	Specify the ISDN PRI D channel.
isdn all-incoming-calls-v120	Configure the interface to answer all calls as V.120.

Configure Automatic Detection of Encapsulation Type

If an ISDN call does not identify the call type in the lower-layer compatibility fields and is using an encapsulation that is different from the one configured on the interface, the interface can change its encapsulation type dynamically.

This feature enables interoperability with ISDN terminal adapters that use V.120 encapsulation but do not signal V.120 in the call setup message. An ISDN interface that by default answers a call as synchronous serial with PPP encapsulation can change its encapsulation and answer such calls.

Automatic detection is attempted for the first 10 seconds after the link is established or the first five packets exchanged over the link, whichever is first.

To enable automatic detection of V.120 encapsulation, use the following command in interface configuration mode:

Command	Purpose
<code>autodetect encapsulation v120</code>	Enable automatic detection of encapsulation type on the specified interface.

You can specify one or more encapsulations to detect. Cisco IOS software currently supports automatic detection of PPP and V.120 encapsulations.

Enable V.120 Support for Asynchronous Access over ISDN

You can optionally configure a router to support asynchronous access over ISDN by globally enabling PPP on vty lines. Asynchronous access is then supported over ISDN from the ISDN terminal to the vty session on the router.

To enable asynchronous protocol features on vty lines, use the following command in global configuration mode:

Command	Purpose
<code>vty-async</code>	Configure all vty lines to support asynchronous protocol features

This task enables PPP on vty lines on a global basis on the router. If you prefer instead to configure PPP on a per-vty basis, use the **translate** command, which is described in the *Dial Solutions Command Reference*.

V.120 Configuration Examples

The following example configures BRI 0 to call and receive calls from two sites, to use Point-to-Point Protocol (PPP) encapsulation on outgoing calls, and to use Challenge Handshake Authentication Protocol (CHAP) authentication on incoming calls. This example also enables BRI 0 to configure itself dynamically to answer calls that use V.120 but that do not signal V.120 in the call setup message.

```
interface bri 0
  encapsulation ppp
  autodetect encapsulation v120
  no keepalive
  dialer map ip 131.108.36.10 name EB1 234
  dialer map ip 131.108 36.9 name EB2 456
  dialer-group 1
  isdn spid1 0146334600
  isdn spid2 0146334610
  isdn T200 1000
  ppp authentication chap
```

