CHAPTER 1

Router Product Overview

Complex internetworks have grown past the point where they can depend on equipment from a single vendor. At the same time, small, independent networks are finding it necessary to interconnect and interoperate. Virtually all organizations creating and connecting local-area networks (LANs) and wide-area networks (WANs) today have major commitments to hardware and software from many different vendors. Therefore, current and future internetworking requires products that support multiprotocol and multimedia networks with multivendor products.

Our routers connect LANs and WANs and allow them to interoperate with equipment from most vendors over most available media. This chapter describes the protocols and media that our routers support.

Supported Network Protocols

Our routers support many networking protocols, as well as several routing protocols. These protocols are based on both open standards and proprietary protocols from a variety of vendors. Our routers also support a wide set of bridging and IBM connectivity solutions.

Our routers can forward packets concurrently from any combination of the following:

- WAN protocols
  - X.25 and its derivatives, including LAPB and DDN X.25
  - Frame Relay
  - Switched Multimegabit Data Service (SMDS)
  - Dial-on-Demand Routing (DDR)
  - Integrated Services Digital Networks (ISDN)
  - Point-to-Point Protocol (PPP)
  - High-level Data Link Control (HDLC)
  - SLIP (for asynchronous lines)
- LAN protocols
  - Apollo Domain
  - AppleTalk (Phase 1 and Phase 2)
  - Banyan VINES
  - DECnet Phase IV/Phase V
  - Internet Protocol (IP)

  - ISO Connectionless Network Services (CLNS) and Connection Mode Network Services (CMNS)
  - Novell IPX
  - XNS and Ungermann-Bass
- Bridging types
  - Source-route transparent (SRT) bridging
  - Transparent bridging (TB)
  - Source-route bridging (SRB)
  - Remote source-route bridging (RSRB)
  - Source-route translational bridging (SR/TLB)
- Support for IBM networking
  - Serial tunneling (STUN)
  - Synchronous Data Link Control (SDLC)
  - LLC2
  - SDLLC

Supported Media

Our routers support the following industry-standard networking media:

- Ethernet—IEEE 802.3 and Type II
- Token Ring—IEEE 802.5
- FDDI—single and dual mode
- Synchronous serial—V.35, RS-232, RS-449, RS-530, and X.21
- High-Speed Serial Interface (HSSI)—supports T3, E3, and SONET rates