Lucent Technologies
Bell Labs Innovations

Pipeline 50

Remote users demand a networking solution powerful enough to handle the complexities of accessing an enterprise LAN or the Internet. The Ascend Pipeline® 50 delivers the performance needed to make reliable, high-speed connections.

The award-winning Pipeline 50 is an Ethernet-to-ISDN router with integrated ICSA-certified SecureConnect™ Firewall, 40-bit IPSec encryption for VPN support, simultaneous IP, IPX and AppleTalk routing, and multi-protocol bridging. Included is an integrated NT1 (US only), Network Address Translation (NAT) for dynamic IP addressing, simple Java GUI for set-up, and DHCP server functionality. The high-performance Pipeline 50 capitalizes on digital technology to provide transparent connections that are free of the corruption and noise found with analog solutions. With the Pipeline 50, remote users access enterprise resources or dial into Internet services as easily as if they were at the central site. The Pipeline 50 is also now field-upgradable to the Pipeline 75 functionality.

Bandwidth optimization features in the Pipeline 50 minimize recurring network operating costs while increasing performance. The Pipeline 50 offers a broad range of advanced remote management features that enable network managers to achieve maximum control over their entire network – from the central site to remote offices. The Pipeline 50 delivers all the features and functionality needed for making high-quality, cost-effective remote network connections.

Advanced Remote Networking/VPN Solution for Small and Remote Offices

Digital technology provides reliable remote network connections

The Pipeline 50 uses an ISDN BRI line to make resilient remote connections to the corporate LAN or the Internet. Simultaneous connections to different locations can be made using a single digital line.

- Standard U interface (National ISDN 1 compliant; S/T model also available)
- Certified for operation in more than 40 countries worldwide

Centralized management capabilities simplify maintenance of remote sites

Remote management capabilities reduce the cost of installation and ongoing support by enabling network managers to monitor and troubleshoot remote user problems directly from the central site. Network managers can continuously "fine tune" the network at any time, either locally or remotely.

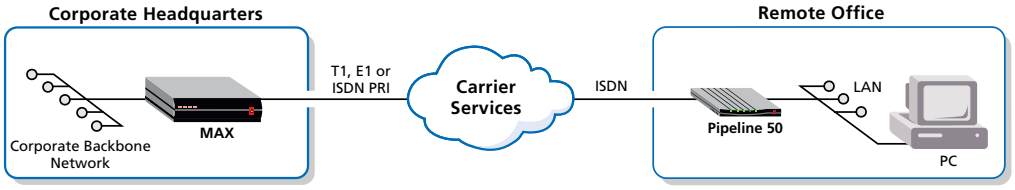
- SNMP MIB II support
- NavisAccess™ software for extensive and complete control of all devices, components and services
- Telnet remote management
- Ascend remote management protocol
- Syslog
- WAN loopback
- Flash memory for easy software upgrades

Concurrent routing and bridging ensures efficient connectivity to all LANs and the Internet

Concurrent routing and bridging eliminates the need for two separate devices by providing one configurable solution for accessing any LAN and the Internet.

- IP, IPX and AppleTalk routing
- BCP standard multiprotocol bridging
- PPP, Multilink PPP, Multilink Protocol Plus™ (MP+) and Bandwidth Allocation Control Protocol (BACP)

LAN to LAN Access



The Pipeline 50 connects to a central site over an ISDN BRI line. Multiprotocol routing and bridging allows remote users to simultaneously access corporate resources.

SmoothConnect ensures easy and cost-effective connectivity

Ascend SmoothConnect™ provides all the features and functionality that make it easy and cost-effective to connect to a corporate headquarters or the Internet. It allows even novice users to configure and setup their Pipeline for access, removing the barriers that used to make remote connectivity cumbersome. In addition, SmoothConnect reduces costs by making efficient use of protocols and bandwidth. This functionality includes the following ease-of-use and cost savings features:

- The Java-based Pipeline Configurator is a state-of-the-art configuration utility for graphical point-and-click Pipeline setup and configuration
- AutoSwitch and AutoSPID detection automatically detects the ISDN switch type and SPID numbers
- Ascend's patented Dynamic Bandwidth Allocation™ saves money by increasing/decreasing bandwidth as needed for the duration of your connection
- Integrated idle timer allows Pipeline users to remain connected without paying for telecommunications resources when they aren't being used
- Network Address Translation (NAT) eliminates the need to pay for a dedicated TCP/IP address by allowing the Pipeline to accept a dynamically assigned address from a central-site pool of addresses
- Dynamic Host Configuration Protocol (DHCP) spoofing allows network managers to configure and dynamically assign IP addresses across multiple clients from the Pipeline
- Data compression that boosts throughput up to 512 Kbps to handle bandwidth-intensive files

Comprehensive security for iron-clad remote networking

Support for user authentication makes it easy to manage the security of large-scale remote access applications.

- Authentication profiles: PAP, CHAP, Calling Line ID (CLID)
- Token-based security with support for multiple vendors' products
- Callback assures connections are made with known users
- Transmit and receive packet filtering
- Ascend SecureConnect™ Firewall and 40-bit IPSec encryption provides complete network protection
- Telnet password

Built-in Ethernet interface maximizes performance and compatibility

The Ethernet interface gives you the flexibility to connect any type of computer directly to the Pipeline 50. With 10 Mbps Ethernet, you can take advantage of the full throughput of an ISDN BRI line.

- Supports multiple platforms (PC, UNIX workstation, or Macintosh)
- Supports varying software configurations

Network Address Translation

Pipeline 50 users can avoid paying for a dedicated IP address with the Network Address Translation (NAT) capability. When a Pipeline user connects to the Internet or any other IP network, a network address can be transparently assigned to the user for the duration of the connection session. And when NAT is used in conjunction with the Dynamic Host Configuration Protocol (DHCP) spoofing, IP address management becomes a breeze. Network managers can configure and dynamically assign IP addresses to multiple workstations on the remote office LAN in one easy step.

Ascend SecureConnect Solution

Protect corporate resources with Ascend SecureConnect

Ascend SecureConnect is a suite of integrated software features that run on Ascend router platforms, WAN access switches, and personal computers to provide network users with sophisticated and complete firewall and VPN security solutions. SecureConnect offers advanced firewall and VPN capabilities that have traditionally only been available in expensive stand-alone products. SecureConnect integrates these value-added features in the Ascend Pipeline, MAX, and Client PC platforms to provide unparalleled cost-effectiveness and ease of management and support.

- **SecureConnect Firewall** is a sophisticated, stateful inspection firewall that utilizes state-of-the-art technologies that are similar to those which can be found in competitive stand-alone firewall solutions costing $15,000 or more.
- **SecureConnect Encrypted VPN** includes the industry-standard IPSec encryption implementation for a comprehensive small- to mid-sized company VPN solutions. With 40-bit (standard), 56-bit, and Triple DES IPSec encryption options*, users can choose the level of security that is appropriate for their business.
- **SecureConnect Client** (SCC) is the SecureConnect feature for personal computers that has been added to Intragy Access™ client software. SCC includes SecureConnect Firewall and IPSec encryption.

**Subject to U.S. export restrictions*

Java-Based Pipeline Configurator

The Java-based Pipeline Configurator is a graphical user interface (GUI) that lets Pipeline users configure, save, and restore their Pipeline configurations from a PC or Macintosh over an Ethernet LAN connection. It is included free of charge on the Pipeline Companion CD-ROM or you can download via anonymous ftp at ftp://ftp.ascend.com/pub/Software-Releases/PL_CDROM.

The Pipeline configurator offers a comprehensive QuickStart utility designed to get users up and running in less than 15 minutes. Because the configurator runs over Ethernet, it eliminates the need for a serial cable, VT-100 terminal, or terminal emulation software.

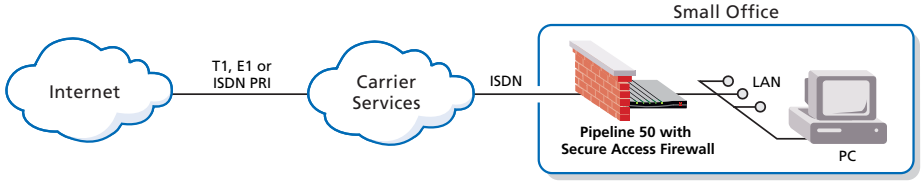
Navis network and service management provide advanced network control

The Ascend Navis™ suite of powerful network and service management applications lets service providers deliver new networking services to business and enterprise customers more quickly and profitably. In turn, this gives enterprise managers access to public networks with services that meet their needs. Navis software provides service providers and enterprise managers with extensive wide area network (WAN) and service management:

- Integrated solution for complete control across the WAN
- A robust solution that drives down service provider operating costs by protecting data, ensuring network uptime and reducing ongoing maintenance costs
- Superior network management across the access, edge and core layers of the WAN

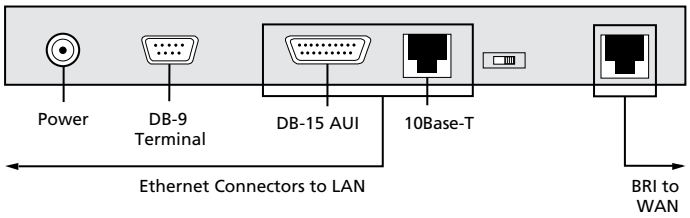
Managed by Navis™

Internet Access



The Pipeline 50 connects remote users to the Internet over an ISDN BRI line. At speeds up to 512 Kbps, it's a breeze to download high-resolution graphics and video clips or to just simply surf the Internet.

Pipeline 50 Back Panel



Hardware Specifications

Dimensions
8.63 in x 6.19 in x 1.25 in

(22 cm x 15.7 cm x 3.2 cm)

Weight
2.25 lbs/1.13 kg

LAN Interface
10 Mbps Ethernet (AUI, 10Base-T)

WAN Interfaces
BRI U Interface
(model: P50-1UBRI)

BRI S/T Interface
(model: P50-1SBRI)

Software Upgrade
Via built-in flash RAM

Power Requirements
90-130VAC, 0.4A
220-240VAC, 0.2A
47-63Hz

Operating Requirements
Temperature:
32-104˚F/0-40˚C

Altitude:
0-14,800 feet/0-4,500 meters

Relative Humidity:
5-90% (non-condensing)

Safety Certifications
FCC Class B,CSA, UL

EMI/RF
FCC Part 68, FCC Part 15

Software Specifications

Protocols Supported
TCP/IP, IPX and AppleTalk routing, BCP standard bridging of all protocols, Network Address Translation, DHCP

WAN Protocols Supported
PPP, Multilink PPP (MP), Multilink Protocol Plus (MP+)

Bandwidth Management
MP, MP+, TCP header compression, STAC data compression, Bandwidth Allocation Control Protocol (BACP)

Security
PAP, CHAP, Callback, Telnet password, token-based security, CLID, packet filtering, SecureConnect Firewall with 40-bit IPSec encryption

Encryption
40-bit IPSec encryption standard; 56-bit/3 DES optional

Management
SNMP, Telnet, Syslog, Ascend's remote management protocol, direct serial cable connection (DB-9)

To learn more, contact your Lucent Technologies Representative, Authorized Reseller, or Sales Agent. Or, visit our Web site. www.lucent.com

7/99 • 01-11dL

ISO 9001 REGISTERED

Lucent Technologies
Bell Labs Innovations