NetWare® MultiProtocol Router™ 3.1

An integrated wide area communications solution for interconnecting business networks

Novell's new NetWare® MultiProtocol Router™ 3.1 products provide unmatched flexibility, scalability and cost-effective remote office wide area connectivity solutions. These software-based solutions operate on industry standard PCs, offering a common platform for integrating NetWare MultiProtocol Router software with other communications solutions, such as NetWare Connect™ and NetWare for SAA. Combined, these solutions offer LAN to LAN, client to LAN and client to host connectivity. This standardized solutions approach substantially reduces hardware, maintenance, and administrative expenses associated with remote office communications.

NetWare MultiProtocol Router software provides concurrent routing of TCP/IP, IPX™, SNA, and AppleTalk, as well as source route bridging for NetBIOS and LLC2 applications. Across wide area networks, it connects asynchronous, switched 56, and ISDN dial-on-demand networks, as well as leased digital lines, ATM, frame relay, X.25 and SMDS.

NetWare MultiProtocol Router's menu-driven installation allows network managers to easily integrate the software into existing NetWare servers. For large corporate sites, NetWare MultiProtocol Router software can be configured as a dedicated router.

Flexible Internetworking Platform

Integrated NetWare Internet Access

NetWare MultiProtocol Router products provide full featured Internet access over dial-up modems, ISDN lines, leased lines and frame relay. The software integrates with other NetWare products such as LAN WorkGroup™ to provide easy, secure access from the desktop to the Internet. TCP/IP filtering allows network managers to configure a firewall to restrict access to

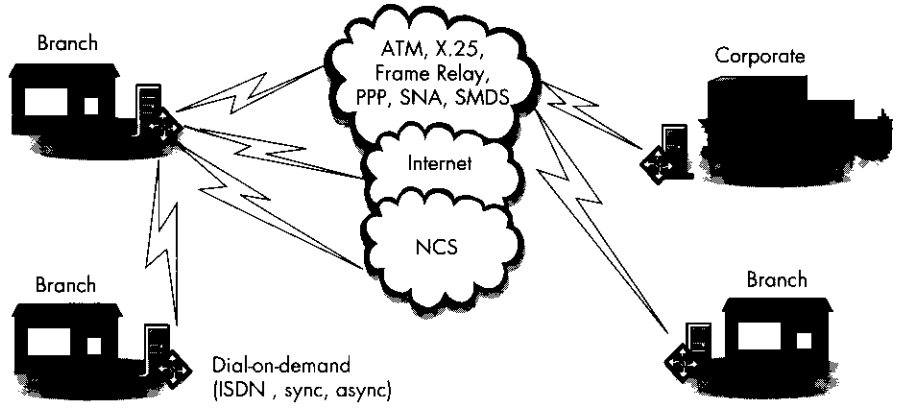

Figure 1: A flexible internetworking platform for interconnecting business networks.

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critical business resources. This protection extends to NetWare, allowing companies to establish IP and IPX virtual private networks on the Internet.

When combined with the NetWare Web Server software and NetWare UNIX® Print Services, the NetWare MultiProtocol Router software quickly transforms NetWare servers into Web publishing servers with security filters, direct Internet access and anonymous FTP service.

Building Global NetWare WANs

For IPX-based networks, NetWare MultiProtocol Router products use the advanced NetWare Link Services Protocol™ (NLSP) software. Open Shortest Path First (OSPF) protocol is provided for TCP/IP networks. These protocols offer the scalability and fast recovery for growing enterprise wide area networks.

Secure Business Internet Services

NetWare MultiProtocol Router 3.1 software provides access to the IP and IPX based NetWare Connect Service (NCS). This service provides a secure, managed environment for business applications and access to the Internet. By integrating NetWare networking and directory technology AT&T, Deutsche Telekom, NTT, Telstra, and Unisource bring the reliability of the telephone network to the data network.

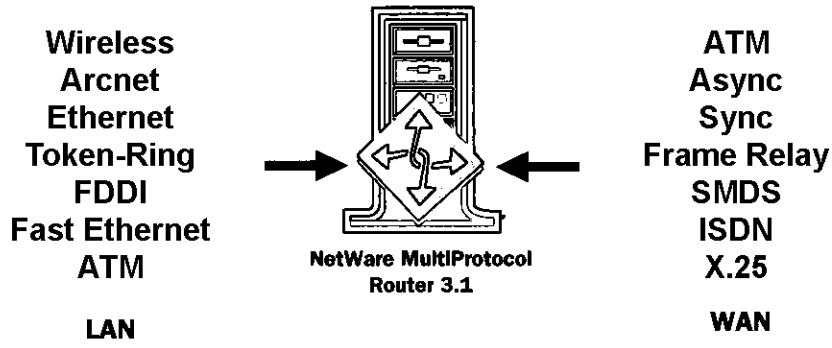

Figure 2: Industry-standard scalable communication server.

Scalable Communications Server

Adapts to emerging technologies

NetWare MultiProtocol Router supports new and emerging technologies such as ISDN, wireless LAN connectivity and ATM. Its open architecture lets network managers easily integrate new technologies into an existing network. The NetWare Link/PPP™ module of the NetWare MultiProtocol Router software has been enhanced to support ISDN WAN adapters. The software provides higher performance, ISDN solutions for dialup remote office connectivity. The NetWare Mobile IPX™ technology allows users to roam through a campus and retain their network connection whether using traditional wired LANs, wireless LANs or a combination of these. Network managers can interconnect NetWare servers using off-the-shelf ATM adapters and NetWare MultiProtocol Router software to provide high speed server-to-server backbone connectivity at speeds up to 155 Mbit/s.

Solutions through Partnerships

A wide selection of Open Data-Link Interface™ (ODI) compliant LAN and WAN adapters is available for NetWare MultiProtocol Router products. Novell codevelops with industry leaders to bring new technologies to the NetWare platform.

Scalable for growing businesses

For the remote office that cannot afford leased circuits, NetWare MultiProtocol Router products provide a low-cost dial-up solution using analog modems or ISDN. As businesses grow, network managers can easily upgrade remote office WAN services by reconfiguring the software with menu-driven prompts. Similarly, as LAN traffic grows, network managers can add LAN adapters. The NetWare BranchLink Router™ 3.1 software specifically addresses the communications needs of small businesses and branch offices by leveraging commonly available Intel-based platforms and off-the-shelf LAN and WAN adapters.

Cost Effective Connectivity

Simplicity of Installation

NetWare MultiProtocol Router products integrate seamlessly into existing NetWare servers. It is as easy to install as NetWare, allowing network managers to leverage their existing expertise.

Centralized Management

Centralized configuration and management options save administrative costs and reduce travel expenses. NetWare MultiProtocol Router permits remote installation, configuration, monitoring, and troubleshooting. Using Novell's ManageWise software, network managers can manage NetWare MultiProtocol Router. Alerts, alarms, and SNMP traps can be sent to a local or central SNMP management station.

Minimizing WAN Line Costs

NetWare MultiProtocol Router products provide data compression, dial-on-demand and dial backup features, as well as routing protocols that minimize WAN line costs. The software-based data and header compression options reduce bandwidth requirements by providing up to a

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four-to-one traffic reduction across the WAN. NetWare MultiProtocol Router products reduce line charges with dial-on-demand communications to provide connectivity on an as-needed basis via standard analog, switched 56, or ISDN lines. Routing and other non-essential traffic are sent only while the on-demand call is active. Dial backup support ensures that permanent connections are maintained, even if a primary link goes down, providing cost savings by eliminating the need for permanent lines to provide redundancy. For offices with permanent connections, NLSP and OSPF support minimizes administrative overhead between routers.

Family of Products

NetWare BranchLink Router 3.1 offers IPX, TCP/IP and AppleTalk routing and source route bridging with unlimited LAN connectivity. Designed for small business and branch office communications, the software supports two PPP WAN connections and can scale from low-speed analog WANs up to two full T1 or E1 circuits.

NetWare Enterprise Router™ 3.1 provides similar functionality to the NetWare BranchLink Router while supporting up to 16 WAN ports. With additive licensing, multiple licenses can be installed on a single server, allowing up to 64 WAN ports and multiple LAN ports on each router. This product is the ideal solution for consolidating multiple WAN circuits into a single concentration point and is the perfect complement to the NetWare BranchLink Router.

WAN•Extensions 3.1 extends the functionality of both the NetWare BranchLink Router and the NetWare Enterprise Router products by offering connection services to ATM, frame relay, and X.25 networks.

SNA•Extensions 3.1 enhances the connectivity of IBM-related applications by offering industry standard DLSw, SNA/NetBIOS translation bridging, and multiprotocol routing across SNA backbones.

BranchLink and Enterprise Features

Built on the NetWare NOS

- Operates on NetWare 3.12 and 4.10 (two-user version included).
- Can co-exist alongside file, print, and other services on a single NetWare server.
- Works with all LAN topologies including ARCNET, Ethernet, token ring, FDDI, and Fast Ethernet.

IPX routing

- RIP, SAP and NLSP dynamic routing over on demand and permanent connections.
- Static routing over on demand and permanent connections
- CIPX header compression

IP routing

- Static and RIP and OSPF dynamic routing
- IPX and AppleTalk data transport over IP
- TCP/IP header compression

AppleTalk routing

- Configurable RTMP update intervals
- Supports AURP routing

Source Route Bridging

- Bridges both routable (for example, IPX and IP) and nonroutable (IBM NetBIOS, LLC) data traffic
- Compatible with IBM source route bridges, including two port LAN Network Manager Support
- Provides the capability to configure the source-route bridge to support from 1 to 13 hops
- Filters by source-ring number, hop count, and protocol ID

WAN Call Management

- ISDN, sync and async PPP dial backup for any permanent call
- Dial-on-demand connectivity (IPX, IP, AppleTalk) over ISDN, sync and async PPP, ATM and X.25
- Permanent connectivity (IPX, IP, AppleTalk, bridging) over ISDN, sync and async PPP, ATM, frame relay and X.25

Filtering

- Uses IPX and TCP/IP packet filters to restrict traffic and build firewalls
- AppleTalk device hiding filtering
- Uses IPX RIP and SAP, IP route and AppleTalk zone filtering to reduce overhead traffic.

PPP Support

- ISDN connections over circuit-switched links using BRI or PRI adapters with AT-ISDN or Common ISDN-API (CAPI) WAN ODI drivers
- Synchronous or asynchronous connections over dedicated links using DSU/CSUs or modems, and circuit-switched links with AT Command, DTR dialed or V.25bis DSU/CSUs or modems
- Interoperates with other PPP routers supporting IPX WAN
- Software-based PPP data compression up to 4:1 ratio

Network Management

- Remote configuration via NetWare RCONSOLE, X Windows System and telnet sessions
- Manageable by standard SNMP consoles
- Remote installation through NetWare INSTALL and FTP
- Server based WAN diagnostic trace tools for PPP, frame relay, X.25
- Server based SNMP Consoles (IPX, TCP/IP, AppleTalk, Bridging, SNA, DLSw, ATM, PPP, frame relay, X.25)
- PING tools for IP, IPX, AppleTalk

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WAN•Extensions Features

ATM Support

- Supports LLC encapsulation and VC multiplexing
- Provides ATM LAN interconnection for IPX, IP, and AppleTalk routing, source route bridging over PVCs and SVCs

Frame Relay Support

- Connects remote locations via private or public frame relay services
- IPX, IP, and AppleTalk routing, source route bridging using PVCs
- Annex D (ANSI T1.617), LMI R 1.0 and Frame Relay Forum UNI implementation
- Interoperates with frame relay routers that support IPXWAN™
- Up to 992 PVCs per port
- Certified by AT&T, BT North America, CompuServe, MCI, Pac Bell, US West, US Sprint, WilTel, and others (call your authorized sales representative for status)

X.25 Support

- Connects remote locations via private or public X.25 services
- Includes configuration profiles for the major X.25 public data networks worldwide
- Supports user-definable profiles
- Modulo 8 and 128 frame sequencing and packet sequencing
- Window size from 1 to 127 frames
- Supports 1980, 1984, 1988 standards
- Supports the following facility options: negotiation of window size, packet size, throughput class, flow control, reverse charging closed user group, and fast select with or without restriction
- Certified by AT&T, U.S. Sprint and Net2 (by German Telekom)

SNA•Extension Features

DLSw

- Supports Ethernet and token ring attached SNA and NetBIOS stations
- Offers TCP/IP or TCP/IPX connectivity
- Uses NDS for DLSw objects and security groups
- Supports scalable SNA internetworks

SNA/NetBIOS Translation Bridge

- Supports Ethernet attached SNA and NetBIOS stations with DLSw & source route bridge

Link/SNA

- IPX, IP, and AppleTalk routing over LU6.2 connection
- Acts as an APPN Low Entry Node (LEN), attached via SDLC, Token Ring and Ethernet
- Software-based payload data compression up to 4:1 ratio

HARDWARE REQUIREMENTS

System

Novell Labs certified Intel architecture PC with minimum 12MB of RAM (configuration dependent), 80MB hard disk, and one 3.5" high-density floppy disk drive. CD-ROM drive is required on a server or client in network.

LAN Adapters

Any ODI-compatible adapter for local routing; source route bridging requires token ring adapter with promiscuous-mode driver or source route accelerator that supports source route bridging.

WAN Adapters

Any WAN ODI or AIO compatible adapter for WAN routing. Provides data rates of 1200 bit/s to 2.048 Mbit/s. Supported interfaces include: RS232, V.35, RS422/449, X.21, DS0, DS1, BRI, PRI.

For information on Novell Labs certified LAN and WAN adapters on the Web access: http://netwire.novell.com/home/novlabs/bulletn.htm

SOFTWARE REQUIREMENTS

NetWare MultiProtocol Router 3.1 (includes NetWare 3.12 and 4.1 2-user Runtime version). NetWare 3.12 or NetWare 4.1 is required for shared configurations.

ORDERING INFORMATION

NetWare BranchLink Router 3.1

00662644084404 (full product)
00662644084411 (license only)

NetWare Enterprise Router 3.1

00662644084428 (full product)
00662644084435 (license only)

WAN•Extensions 3.1

00662644084442

SNA•Extensions 3.1

00662644084459

FOR MORE INFORMATION:

For literature call 1-800-NETWARE or 1-800-429-5533.

For online product information, access Novell's Remote Connectivity home page at http://remote.novell.com.

For RFCs and other published standards to which NetWare MultiProtocol Router complies, access a listing on the world wide web at http://remote.novell.com/MPR/RFC.

For fax-back information call 1-800-NETWARE or 1-801-429-2772.

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