Software Product Description

DESCRIPTION

PathWay for DOS is a software product developed by The Wollongong Group and is distributed under Digital Equipment Corporation's Terms and Conditions.

PathWay for DOS is a network software package for DOS that implements the TCP/IP protocol suite to provide file and print sharing using the LAN Manager SMB (Server Message Block) protocols as well as basic TCP/IP services.

PathWay for DOS is designed to use the file and print sharing services of any standard SMB server running over TCP/IP, as well as interoperate with all standard TCP/IP implementations for file transfer and virtual terminal services.

Software Architecture

From an implementation standpoint, PathWay for DOS consists of two levels: the "run-time level" and "application level." The run-time level provides the TCP/IP kernel and the corresponding device drivers to enable network communications. The application level provides users with file and print sharing services that in turn rely on the kernel and drivers for communication with SMB servers.

The run-time level consists of the transport layer through data link layer protocols, including TCP, IP, ARP, and ICMP. The kernel also utilizes standard device drivers for Ethernet controllers. The application level corresponds to the ISO/OSI model application, presentation and session layer protocols and is implemented using RFC-compliant NetBIOS and the Server Message Block (SMB) protocol of LAN Manager and MS-NET for file and print sharing and the applicable standards for file transfer and virtual terminal sessions.

Features

PathWay for DOS includes the following features:

- File Sharing

- Print Sharing

- File and Print Service

- Virtual Terminal Service

- File Transfer Service

- Host Print Service

- Network Management

- Network Connectivity

File Sharing

Through the integration of Microsoft®'s SMB protocol from LAN Manager with TCP/IP, as well as emulation of IBM®'s NetBIOS, the DOS client is provided with access to a remote file system that appears as a transparent extension of the client's local facilities. File services from a VAX VMS-based or VAX ULTRIX-based system running SMB server software are accessible to DOS clients.

Print Sharing

Remote printers appear as a transparent extension of the client's facilities. This allows the redirection of local printing to a server-based printer. Print services from a VAX/VMS or VAX/ULTRIX system running SMB server software are accessible to DOS clients.

File and Print Service

A PC running PathWay for DOS can also be configured as a server, enabling it to share its local disk and print resources. A PC configured as both client and server is known as a netserver. A system to be configured as a netserver must have the prerequisite amount of system memory as described in the Memory Requirements section of this SPD. The installation and configuration utility supplied with PathWay for DOS provides for the optional configuration of the netserver capabilities.

A PC configured as a netserver includes the following features:

- All PathWay for DOS client capabilities.

- File and print services are offered to PC clients which are running PathWay for DOS configured as a workstation.

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- PC network resources such as mass storage and print devices are managed from the PC itself. Access to specific resources is granted to individuals or groups of clients.

Server administration capability is provided via the NWCONFIG utility.

File Transfer Service

PathWay for DOS provides FTP and FTP server. FTP manipulates and transfers files between the local host system and remote TCP/IP hosts; ASCII file format differences are automatically resolved. The FTP server provides access to PC file systems including PC LAN file servers. The FTP server is capable of running in background and supports concurrent TELNET, FTP and custom applications. Passwords are supported to provide for security.

Virtual Terminal Service

PathWay for DOS provides standard TCP/IP TELNET services. The telnet application comes standard with a VT100 terminal emulation. Users have the ability to maintain five concurrent sessions and can conveniently hot-key among them. PathWay for DOS supports DOS Interrupt 14 (Communication Services), a standard interface which provides support for third-party terminal emulation software packages including emulations from Grafpoint, Persoft, Polygon, Softronics, and Walker, Richer & Quinn, among others. Telnet is compatible with Microsoft Windows environments when run as a "non-Window" application.

PathWay for DOS comes standard with TN3270, which provides virtual terminal services to a variety of IBM host operating systems, including VM and MVS, which have been configured to use TCP/IP. TN3270 emulates an IBM® 3278-2 terminal.

The Berkeley BSD UNIX® rlogin program is provided for access to UNIX systems for those users preferring this utility. The rlogin utility emulates a VT100 terminal.

Host Print Service

PathWay for DOS supports the LPR printing mechanism. LPR is an application which spools print requests from the PC to printers located on TCP/IP hosts supporting an LPR server. WIN/TCP for VMS includes such an LPR server (Refer to WIN/TCP, SPD 29.80.xx). LPR is a command line oriented utility that is executed from the DOS prompt.

Network Management

PathWay for DOS supports the Simple Network Management Protocol (SNMP), and SNMP Agent software is included with the product. The Agent runs as a background task and sends data to the SNMP management station in response to queries.

Network Connectivity

PathWay for DOS uses the TCP/IP protocol suite. Protocols supported include: IP (RCF 791, MIL-STD 1777); TCP (RFC 793, MIL-STD 1778); UDP (RFC 768); ICMP (792); SNMP (RFC 1052, 1065, 1066, 1067); and NetBIOS over TCP/IP (RFC 1001/1002).

The TCP/IP stack defined above is a Terminal and Stay Resident (TSR) program requiring 20K DOS RAM (exclusive of Ethernet controller driver, NetBIOS and SNMP agent). The NetBIOS over TCP/IP is implemented as a TSR as well and is optionally loaded depending on application requirements (required for file and print sharing).

NetBIOS requires an additional 25K DOS RAM. The SNMP agent, required for the PC host's response to SNMP management queries and requests, can be optionally loaded and requires an additional 20K DOS RAM. All TSR elements described above can be loaded and unloaded on demand without rebooting the workstation.

Communications

Ethernet controller standards are implemented by PathWay for DOS to operate over a wide range of Ethernet controllers. Supported standards include:

- Microsoft and 3Com® Network Device Interface Specification (NDIS) and PCSAs Data Link Layer (DLL)

Software drivers conforming to these specifications are widely available from adapter manufacturers and are generally packaged with each adapter. These standards support the coexistence of network protocols on DOS systems thus enabling concurrent use of PC LAN software and PathWay for DOS. Refer to the Other Hardware Required section for a list of supported controllers.

Installation and Configuration

Installation includes an automated script for copying software from the distribution media to the PC. A menu driven interface is used to customize TCP/IP parameters including Internet Address, Gateways, and Subnets. The ping diagnostic utility is included to verify TCP/IP functionality after installation.

HARDWARE REQUIREMENTS

Processors Supported:

IBM PC/XT/AT or compatible
IBM PS/2 Model 30, 50, 60, 70, 80

Other Hardware Required

3Com 3C501 Etherlink
3Com 3C503 Etherlink II
3Com 3C505 Etherlink Plus
3Com 3C523 Etherlink/MC
Tiara LanCard/E-AT
Tiara LanCard/E-PC
Tiara LanCard/E-MC
Western Digital WD8003 E/S

PathWay for DOS supports Microsoft and 3Com's Network Device Interface Specification (NDIS) as well as PCSA's Data Link Layer (DLL).

Memory Requirements

Minimum 256 Kbytes of memory for workstation

Minimum 640 Kbytes of memory for netserver

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

SOFTWARE REQUIREMENTS

MS-DOS®, at a minimum of V3.3 for IBM PC/XT/AT and compatibles

PC-DOS, at a minimum of V3.3 for IBM PS/2

DISTRIBUTION MEDIA

Diskette: 3.5 inch rigid diskettes and 5.25 inch floppy diskettes.

ORDERING INFORMATION

Software License, Media and Documentation:
QB-YSBAW-V*

* Denotes variant fields. For additional information on available licenses, services and media, refer to the appropriate price book.

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