Software Product Description

PRODUCT NAME: PathWay Server for VAX/ULTRIX, Version 1.0   **SPD 33.19.00**

DESCRIPTION

PathWay Server for VAX/ULTRIX is a product of The Wollongong Group, Inc. and is distributed under Digital Equipment Corporation's Standard Terms and Conditions.

PathWay Server for VAX/ULTRIX is an internetwork operating system based on open standards. PathWay delivers a wide range of network services to DOS, Macintosh®, OS/2®, and System V™/386 users from all major host computer systems, including VAX/VMS and ULTRIX systems. PathWay accomplishes this by using TCP/IP, NetBOIS, SMB, NFS™, and other standards to fashion a true internetwork operating system.

PathWay Server for VAX/ULTRIX systems enables a VAX/ULTRIX system running its native TCP/IP networking software to act as a file and print server for IBM® PCs and compatibles. The PCs require the Wollongong PathWay for DOS client to utilize these services. By basing the client and server software on TCP/IP, Wollongong permits the broadest range of host systems to become part of the PathWay internetwork operating system.

Software Architecture

From an implementation standpoint, PathWay Server for VAX/ULTRIX Systems provides users with file and print sharing services that, in turn, rely on the kernal and drivers for communication with PathWay clients.

The runtime level consists of the transport layer through data link layer protocols, including TCP, IP, ARP, and ICMP. PathWay Server for VAX/ULTRIX relies on VAX/ULTRIX's own TCP/IP implementation, which is accessed through the Berkeley Sockets interface model. The application level corresponds to the ISO/OSI model application, presentation and session layer protocols and is implemented using RFC-compliant NetBOIS and the Server Message Block (SMB) protocol of LAN Manager and MS®-Net. The application is implemented as a collection of related ULTRIX processes that operate at the user level.

Features

PathWay Server for VAX/ULTRIX provides the following features and capabilities:

- Virtual Disk Services
- Shared Printer Services
- Server Administration

Virtual Disk Services

PathWay for DOS users have access to remote VAX/ULTRIX file systems as a transparent extension of their local disk facilities. Text as well as binary files can be stored. VAX/ULTRIX users can also access files created by DOS users, permitting collaborative computing through the sharing and storage of common files.

PathWay file services are based on the Server Message Block protocol and require RFC-compliant NetBIOS session service (RFC 1001/1002) over TCP/IP for network transport.

Each DOS file stored through the file server is stored as a VAX/ULTRIX file in the standard bytestream file format, allowing DOS applications to read files written by a VAX/ULTRIX application. Each read issued by the application will result in the presentation to the application of the next 'n' bytes contained sequentially in the file.

MS–DOS® V3.1, at a minimum, file and byte-range locking is supported for DOS applications accessing files provided through the file service.

DOS users select the VAX/ULTRIX system disk by redirecting their DOS drive specifiers, such as D: or V: to refer to the PathWay Server. After this selection, the DOS client software then directs the file I/O to the defined and selected ULTRIX directory.

Note: ULTRIX user access and permissions are preserved by the PathWay Server. Refer to the *Server Administration* section for more detail.

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Shared Printer Services

With the print sharing enabled, VAX/ULTRIX system printers appear to the DOS user as a transparent extension of the client's local facilities. A DOS client can utilize any of the available print queues on the VAX/ULTRIX server. The PathWay Servers print process passes all characters in the file, thereby making it possible for DOS applications to control the selected printer by sending control codes to the printer. This allows PostScript® and specialized graphics files as well as ASCII text to be printed on the server's printer, providing the printer has the appropriate capabilities.

The system administrator assigns a service name to the VAX/ULTRIX print queue, and the DOS users select the printer by redirecting their DOS printer devices, such as LPT1. After this selection, the DOS client software then directs the printer I/O to the defined and selected VAX/ULTRIX print queue.

Server Administration

The PathWay Server ensures the integrity of the VAX/ULTRIX filesystem by enforcing the standard UID and GID checking and associated permissions. PathWay for DOS users must supply a valid VAX/ULTRIX username and password to access the server.

An administrator's utility, SMBADMIN, is provided to allow the system administrator to add and remove services, start and stop the server, list resources, accept or reject connections, and identify who is using the server. The system administrator can also manage a remote server using TELNET.

INSTALLATION

PathWay Server for VAX/ULTRIX is customer installable using the CPIO command per the instructions supplied in the product documentation.

HARDWARE REQUIREMENTS

VAX, MicroVAX, VAXstation, or VAXserver configuration as specified in the System Support Addendum (SSA 33.19.00-x).

SOFTWARE REQUIREMENTS

ULTRIX Operating System

For Workstations:

ULTRIX Worksystem Software Refer to the System Support Addendum (SSA 33.19.00-x) for availability and required versions of prerequisite/optional software.

ORDERING INFORMATION

For VAX-Based Systems:

Software license, media and documentation:
    QB-YSGA*-T*

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Digital's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

SOFTWARE WARRANTY

None

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System Support Addendum

HARDWARE REQUIREMENTS

Processors Supported

VAX-Based Processors:

VAX:	VAX 6000 Model 200 Series,
	VAX 6000 Model 300 Series,
	VAX 6000 Model 400 Series,
	VAX 6000 Model 500 Series
	VAX 8200, VAX 8250, VAX 8300,
	VAX 8350, VAX 8500, VAX 8530,
	VAX 8550, VAX 8600, VAX 8650,
	VAX 8700, VAX 8800, VAX 8810,
	VAX 8820, VAX 8830, VAX 8840
	VAX 9000 Model 210,
	VAX 9000 Model 400 Series
	VAX–11/750, VAX–11/780, VAX–11/785
MicroVAX:	MicroVAX II, MicroVAX 2000,
	MicroVAX 3100, MicroVAX 3300,
	MicroVAX 3400, MicroVAX 3500,
	MicroVAX 3600, MicroVAX 3800,
	MicroVAX 3900
VAXstation:	VAXstation II, VAXstation II/GPX,
	VAXstation 2000, VAXstation 3100,
	VAXstation 3200, VAXstation 3500,
	VAXstation 3520, VAXstation 3540
VAXserver:	VAXserver 100, VAXserver 2000,
	VAXserver 3100, VAXserver 3300,
	VAXserver 3400, VAXserver 3500,
	VAXserver 3600, VAXserver 3602,
	VAXserver 3800, VAXserver 3900
	VAXserver 6000-210, VAXserver 6000-220,
	VAXserver 6000-310, VAXserver 6000-320,
	VAXserver 6000-410, VAXserver 6000-420,
	VAXserver 6000-510, VAXserver 6000-520

Processor Restrictions

A TK50 Tape Drive is required for standalone MicroVAX 2000 and VAXstation 2000 systems.

Other Hardware Requirements

One of the following communication devices is required:

- DEUNA-AA Ethernet controller interface.

- DELUA Ethernet controller interface.

- DEBNT VAXBI Port Controller interface. Concurrent operation with DEBNAs is not supported.

- DEBNA 802.3-to-VAXBI Port Controller interface replacement for DEBNT. Concurrent use with DEBNT is not supported.

- DEQNA Ethernet Controller interface for MicroVAX II or DELQA for other MicroVAX systems.

- DESAQ.

- DESVA Ethernet Controller interface for VAXstation 2000 .

Disk Space Requirements

For VAX-Based Systems

Disk space required for installation: 1 Megabyte

Disk space required for use (permanent): 1 Megabyte

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

Memory Requirements

PathWay Server for VAX/ULTRIX Systems requires 150 KB of memory plus 30 KB for each connected client.

SOFTWARE REQUIREMENTS

ULTRIX Operating System, at a minimum of V3.0

For Workstations

ULTRIX Worksystem Software, at a minimum V3.0

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

9-track 1600 BPI Magtape (PE), TK50 Streaming Tape

ORDERING INFORMATION

For VAX-Based Systems

Software license, media and documentation:
    QB-YSGA*-T*

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