digital™

Software Product Description

PRODUCT NAME: PATHWORKS™ V6.1A for Digital UNIX® (Advanced Server) (PATHWORKS V5.0G for Digital UNIX (LAN Manager) appended) **SPD 35.10.05**

DESCRIPTION

PATHWORKS™ V6.1A for Digital UNIX® (Advanced Server) is a Digital UNIX layered application that provides Microsoft™ Windows NT Server™ networking functionality. The PATHWORKS Advanced Server product is an evolution of the PATHWORKS V5.0 for Digital UNIX (LAN Manager) product, and provides backwards compatibility with this LAN Manager product. The PATHWORKS Advanced Server product contains network operating system infrastructure, providing full NT Workstation interoperability, including logon validation, access control, file share, printing, and remote administration. Additionally, it provides full Windows NT Server interoperability, including intra- and interdomain support, account replication, and file replication.

The PATHWORKS for Digital UNIX (Advanced Server) product is a member of the PATHWORKS family of products, which provides a framework for integrating personal computers into an organization's total information system, allowing different types of users to share information and network services across the entire organization. The PATHWORKS family includes PC LAN server products running on OpenVMS, Digital UNIX, ULTRIX, SCO™ UNIX, and OS/2® platforms, providing industry-standard Network Operating System (NOS) services that use Novell®'s NetWare®, Microsoft's LAN Manager, and Apple®'s AppleShare® protocols. The PATHWORKS family also includes client products providing both client software for these servers and also enterprise-wide support capabilities, such as wide area transports (DECnet and TCP/IP) and applications such as Mail and Terminal Emulation, allowing DOS, Windows™, Windows NT™, OS/2, and Macintosh® clients to participate as full peers in a widely-distributed computing environment.

April 1997
AE-QYU5C-TE

PATHWORKS™ V6.1A for Digital UNIX® SPD 35.10.05
(Advanced Server) (PATHWORKS V5.0G for Digital UNIX (LAN Manager) appended)

FEATURES

PATHWORKS for Digital UNIX (Advanced Server) adds a new dimension to Commercial Digital UNIX systems. In addition to providing traditional support for business, scientific, and engineering applications, this product allows Digital UNIX systems to appear to LAN Manager clients as a Microsoft Windows NT Server.

The major features of PATHWORKS for Digital UNIX (Advanced Server) include:

- File and print services using Microsoft's LAN Manager SMB 3.0 protocols using the NetBEUI, TCP/IP, and DECnet transports.
- NetBIOS™ interface for the NetBEUI, TCP/IP, and DECnet network transports.
- Access to UNIX services provided by PATHWORKS for Digital UNIX (Advanced Server) to retail Windows NT, Windows 95, Windows for Workgroups, and OS/2 clients (with appropriately licensed components; see Licensing section for details), as well as for PATHWORKS clients.
- File storage on the server in native Digital UNIX format. This allows information stored by the PCs connected to PATHWORKS for Digital UNIX (Advanced Server) to be shared with PATHWORKS for Digital UNIX (NetWare) and Digital UNIX users.
- Windows NT trusted domain support, which provides access to services outside the local domain, allowing administrators to subdivide the network into groupings of servers and clients.
- WAN Extensions capability, allowing Advanced Server features to be used across a routed TCP/IP network.
- Support for Master Browser, allowing the PATHWORKS for Digital UNIX (Advanced Server) to be a Master Browser in a Windows NT network.
- Name resolution. The PATHWORKS for Digital UNIX (Advanced Server) can register its name with the Microsoft WINS Server to resolve names. Names can also be resolved using DNS.
- Support for Windows NT Management RPCs, allowing PATHWORKS for Digital UNIX (Advanced Server) users, file shares, printers, and events to be managed from native Windows NT Server administrative tools.
- A set of Windows NT Server administrative tools that can be installed on Windows clients to administer UNIX Advanced Server systems as well as Windows NT servers.
- The pwadmin utility, which provides system managers and administrators with a character cell interface to configure and administer the PATHWORKS for Digital UNIX (Advanced Server).
- Both Windows NT-only, or Windows NT combined with Digital UNIX, network security models, providing greater flexibility and added security.

- Extended security support and PATHWORKS for Digital UNIX (Advanced Server) can coexist on a Digital UNIX V4.*x* system.
- Windows NT logon validation, providing client logon capabilities.
- File replication, which allows a set of files to be selectively replicated to other servers.
- Remote Boot service, which supports DOS and Windows workstations that boot using the server's hard disk instead of their own local hard disks.
- License Management software that provides the following capabilities:
  - Distribute PATHWORKS client-based licenses across a network.
  - Validate access by clients with PATHWORKS client-based licenses.
  - Support client access using server-based licenses validated through the local Digital UNIX License Management Facility (LMF) database.

FILE SERVICES

PATHWORKS for Digital UNIX (Advanced Server) provides LAN Manager-based clients with a remote file system that appears as a transparent extension of the client system's local computing environment.

PATHWORKS for Digital UNIX (Advanced Server) file shares are based on Microsoft's LAN Manager Extended SMB (Server Message Block) protocols. PATHWORKS for Digital UNIX (Advanced Server) supports the following Digital UNIX file systems:

- POLYCENTER Advanced File System (AdvFS)
- UNIX File System (UFS)
- Network File System (NFS)
- CDROM File System (CDFS), read only

PATHWORKS for Digital UNIX (Advanced Server) provides the capability to automatically export non-restricted NFS file systems as LAN Manager shares for browsing from a Microsoft WINS server.

Multiple LAN Manager-based clients (including Windows NT Workstation, Windows 95, Windows for Workgroups, and OS/2) can concurrently access files stored on the server's disk through the file access modes and byte-range locking support provided by the Digital UNIX Operating System. Because PATHWORKS for Digital UNIX (Advanced Server) supports the native Digital UNIX lock facility, users who are either interactive Digital UNIX users or NetWare users and users of PATHWORKS for Digital UNIX (Advanced Server) can access their LAN Manager created information, their NetWare created information and their interactive Digital UNIX user directory while logged into the Windows NT domain.

PATHWORKS for Digital UNIX (Advanced Server) software provides a byte-range locking manager that the server can use instead of, or in addition to, the native lock manager in Digital UNIX, to enhance system performance in some PC applications.

Additionally, PATHWORKS for Digital UNIX (Advanced Server) supports opportunistic locking, allowing the remote Microsoft client to take advantage of performance caching advantages.

PRINT SERVICES

PATHWORKS for Digital UNIX (Advanced Server) software allows Windows NT and Digital UNIX users to share printers connected to Digital UNIX-based servers, connected to the network, or connected to a client. Printer shares are available in LAN and WAN environments. LAN Manager-based clients can print files from the PC operating system as well as from PC applications.

NETWORK TRANSPORT SUPPORT

PATHWORKS for Digital UNIX (Advanced Server) software supports TCP/IP, DECnet, and NetBEUI network transport software. One or more of the transport stacks can work concurrently on the server.

NetBEUI transport software is installed as part of the PATHWORKS for Digital UNIX (Advanced Server) software. Using NetBEUI transport software, LAN Manager clients can access the server in the LAN for file and print services.

TCP/IP transport software is installed as part of the Digital UNIX Operating System.

DECnet/OSI transport software is available as an optional layered application.

NetBIOS Interface Support

PATHWORKS for Digital UNIX (Advanced Server) software supports the NetBIOS interface in TCP/IP, DECnet, and NetBEUI networks. NetBIOS support under TCP/IP includes a B-node RFC 1001/1002 implementation. With WINS client support, support is added for an H-node implementation, which is a combination of B and P node implementations. NetBIOS interface support includes the support of multiple transport stacks on one or more network controllers.

TruCluster Support

TruCluster/DECsafe environment support allows PATHWORKS for Digital UNIX (Advanced Server) to operate in and take advantage of the facilities in the TruCluster and DECsafe environments. PATHWORKS for Digital UNIX (Advanced Server) is active on one node in the cluster with the other nodes available to provide PATHWORKS services in the event that node is not able to. Client applications may react to failover in different ways.

DOMAIN SUPPORT

PATHWORKS for Digital UNIX (Advanced Server) allows you to subdivide the network into administrative groupings of servers and clients called domains. A domain is a group of servers and clients on a LAN. A PATHWORKS for Digital UNIX (Advanced Server) system can be either a primary domain controller or a backup domain controller. A PATHWORKS for Digital UNIX (Advanced Server) system can also participate in a trust relationship. Trust relationships is the Windows NT Server method of providing distributing user and administrative tasks in Windows NT enterprise environments.

WIDE AREA SUPPORT

Support for WINS Clients allows PATHWORKS for Digital UNIX (Advanced Server) servers to act as WINS clients; that is, to use the name registration and resolution facilities available from a Microsoft WINS server across routed wide area TCP/IP networks.

Additionally, using Microsoft's lmhost implementation, the WAN Extensions capability gives clients access to resources on Digital UNIX servers across a routed wide area TCP/IP network.

NETWORK LOGON SERVICES

Running the netlogon service eliminates the need for the user to supply a password for each connection within a domain. The netlogon service forces the validation of users' logon requests. The logon server that processes the request checks its copy of the domain-wide user accounts database for the user name and password supplied in the logon request.

LIMITED NIS PASSWORD PROPAGATION

Changes to users' network password initiated from a PATHWORKS LAN Manager client can be propagated to both the users' associated UNIX account password and their NIS password.

SERVER MANAGEMENT AND CONTROL

Multiple server management interfaces are supported by PATHWORKS for Digital UNIX (Advanced Server):

1. Windows NT Administrative Tools (User Manager, File Manager, Print Manager and Event Viewer) provided natively with Windows NT Workstation, or Windows NT Server Tools provided natively with Windows 95 or Windows NT Server. Note: Windows NT Server Tools do not support full printer management through the Print Manager for Windows NT.
2. An installable version of Windows NT Administrative Tools provided automatically with the PATHWORKS for Digital UNIX (Advanced Server) kit for easy download to Microsoft clients.
3. A UNIX-based character cell utility called pwadmin at the server console.
4. A command line net interface at the server console, or at an enhanced DOS client, or at an OS/2 client. Note that these "net" commands do not support administration of all Advanced Server features (such as trusts, local and global groups, and Windows NT permissions).

In addition to the above management interfaces, many of the PATHWORKS for Digital UNIX (Advanced Server) features can be managed from ServerWORKS, a Digital management utility that provides a Microsoft Windows-based interface for managing both LAN Manager and NetWare NOS environments.

REPLICATION SERVICES

PATHWORKS for Digital UNIX (Advanced Server) provides a file replication mechanism that allows a set of files to be selectively replicated. The replication service ensures that any updates to the replicated files are propagated in a timely manner to all servers that are maintaining replicas of the information.

REMOTE BOOT

The PATHWORKS for Digital UNIX (Advanced Server) remote boot service is based on Microsoft's LAN Manager remote boot service. The LAN Manager implementation is based on the Remote Program Load (RPL) protocol and the NetBEUI protocol. With PATHWORKS for Digital UNIX (Advanced Server), you can also remotely boot workstations that use the MOP protocol.

MAIL SERVICES

PATHWORKS for Digital UNIX (Advanced Server) software includes PCSA mail support. To use PCSA mail, the Digital UNIX mail system must be installed and configured.

The mail server component of PATHWORKS for Digital UNIX (Advanced Server) provides a service that is separate and distinct from the LAN Manager file and print services. This mail utility is based on the Mail-11 protocol and requires either TCP/IP or DECnet as its communications transport. It allows PATHWORKS users using the client PATHWORKS Mail software to send and receive electronic mail messages through the Digital UNIX mh mail facility without having to log into the Digital UNIX system as an interactive user.

INSTALLATION AND CONFIGURATION

PATHWORKS for Digital UNIX (Advanced Server) and PATHWORKS for Digital UNIX (NetWare) software are distributed together on the Digital UNIX Software Library. There is a single installation procedure that is shared between the two products that provides for the installation of one or both server products in a single step on a Digital UNIX system using the standard install (setld) procedure. An Installation Verification Procedure (IVP) is also included, which can be used to confirm that all server software has been installed properly.

Digital recommends that a customer's first purchase of this software product at each site include Digital installation service. This service provides implementation support for customers installing PATHWORKS for Digital UNIX (Advanced Server) software and for the integration of Microsoft and OS/2 workstations into the Digital network. Contact your local Digital representative for information on the service options available.

Note

Although the software for both PATHWORKS for Digital UNIX (Advanced Server) and PATHWORKS for Digital UNIX (NetWare) is distributed together, the two products are licensed separately.

LICENSE MANAGEMENT

PATHWORKS for Digital UNIX (Advanced Server) software offers several license management capabilities related to both client-based and server-based licenses.

- Client-Based License Management

  PATHWORKS client licenses are provided as Product Authorization Keys (PAKs) for the Digital UNIX License Management Facility (LMF). These PAKs must an be loaded into the LMF database, using standard LMF procedures, on a Digital UNIX system that is acting as a PATHWORKS License Server.

  A single copy of the PATHWORKS License Server software can now provide and verify client-based licenses for clients using LAN Manager and NetWare software. LAN Manager clients use the DECnet, NetBEUI, or TCP/IP transports, while NetWare clients use the IPX transport to communicate with a PATHWORKS License Server.

  The PATHWORKS License Manager, which must execute on the same node as the license server, provides a user interface that allows the system manager to monitor client license usage. The PATHWORKS License Manager is also used to pre-allocate licenses to specific groups of users and to reclaim a license from a client.

  The PATHWORKS License Registrar, which executes on the same system as the file server, will "handshake" with clients requesting access to PATHWORKS for Digital UNIX (Advanced Server) functions. Clients that can successfully "handshake" with the server and produce a valid client-based license will be allowed access to the services offered by PATHWORKS for Digital UNIX (Advanced Server).

- Server-Based License Management

  The PATHWORKS for Digital UNIX (Advanced Server) software is also capable of allowing client access based on a local server-based license. If a client requesting access to the server fails to produce a valid client license, the License Registrar software will then check the local LMF database for the availability of a PATHWORKS for Digital UNIX (Advanced Server) PC Concurrent license. If one is available, and the number of concurrently-connected clients allowed by the license has not been exceeded, the client will be allowed access.

Note that both server-based and client-based license management are always active simultaneously on PATHWORKS for Digital UNIX (Advanced Server) servers. However, clients that do have a valid client-based license are already licensed to use the server software and, therefore, are not counted against the fixed number of clients granted access by the server-based PC Concurrent license.

Note

PATHWORKS for DOS and Windows V4.1 clients will not be able to access the PATHWORKS V6.1A for Digital UNIX (Advanced Server).

HARDWARE REQUIREMENTS

PATHWORKS for Digital UNIX (Advanced Server) is supported on Alpha systems as specified in the Digital UNIX Operating System, V4.0x Software Product Descriptions (SPD 41.61.xx). Please refer to the Digital UNIX Operating System SPDs for a complete list of systems, components, and peripherals supported.

MEMORY REQUIREMENTS

In addition to the memory needed for the Digital UNIX Operating System, a minimum of 47 MB of memory is recommended for use of the product.

An additional 512 KB of memory is recommended per server process where each server process can support 1 to n clients. Depending upon the customer need, the system can be configured to have multiple clients supported by a single server process to minimize the memory requirements.

Note that the memory requirements indicated above are minimum requirements only and that memory requirements can vary widely according to the server CPU, the number of clients using the server and their activities, and the other applications running on the server system.

DISK SPACE REQUIREMENTS

In addition to the disk space requirements for the Digital UNIX Operating System, a minimum of 69 MB of disk space is required for installation of the product. An additional 30 MB is required for the installation and configuration with PATHWORKS for Digital UNIX (NetWare) software.

NETWORK INTERFACE CONTROLLERS

At least one network interface controller is required for use with PATHWORKS for Digital UNIX (Advanced Server). PATHWORKS for Digital UNIX (Advanced Server) supports all Ethernet, FDDI and Token Ring controllers supported by the Digital UNIX Operating System.

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OPTIONAL HARDWARE

PATHWORKS for Digital UNIX (Advanced Server) provides support for all printers supported by the Digital UNIX Operating System, V4.0.

SOFTWARE REQUIREMENTS

Digital UNIX Operating System, V4.0x (SPD 41.61.xx)

OPTIONAL SOFTWARE

Network transport software:

- DECnet/OSI V4.0 for Digital UNIX (SPD 41.92.xx)

ASSOCIATED CLIENT SOFTWARE

The following software products may be used on PCs to access PATHWORKS for Digital UNIX (Advanced Server) server software:

- PATHWORKS for DOS and Windows V6.0 or later (SPD 55.07.xx)
- PATHWORKS for OS/2 V6.0 or later (SPD 55.24.xx)
- PATHWORKS for Windows NT V4.1 or later (SPD 51.56.xx)
- LAN Manager V2.x workstation software for DOS, Windows, and OS/2
- Digital PATHWORKS 32 V7.0 (SPD 56.33.xx)
- Windows NT V3.1, V3.5, V3.51, and V4.0
- Windows for Workgroups V3.11
- Windows 95

GROWTH CONSIDERATIONS

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

SOFTWARE LICENSING AND ORDERING INFORMATION

PATHWORKS for Digital UNIX (Advanced Server) can be licensed in two different ways.

1. Client-based licensing (Designated Access)

   This product can be licensed for operation and access on any number of supported platforms when appropriate client-based licenses are purchased for clients using the services of this product.

   See the attached PATHWORKS license terms and conditions for Designated Access licenses for a description of the specific rights granted.

See the list below for applicable client license types and ordering information.

2. Server-based licensing (PC Concurrent)

   A PATHWORKS PC Concurrent license for this product permits its use on a single supported platform and allows access by clients that do not have a PATHWORKS client-based license.

   See the attached PATHWORKS License terms and conditions for PC Concurrent licenses for a description of the specific rights granted.

   See the list below for applicable ordering information.

Note: These licensing options are not mutually exclusive. Differing levels of service required by a heterogeneous community of end-users could suggest the use of both licensing methods, simultaneously, for some environments.

Clients with client-based licenses for server access do not interfere with the access of other clients that rely on server-based licensing for access to a particular server. The two licensing methods are designed to coexist.

Applicable Client-based Licenses

- PATHWORKS V5 (LAN Manager) Designated Access

  QM-2CLAA-AB, 1-user
  QM-2CLAA-AC, 10-user
  QM-2CLAA-AD, 25-user
  QM-2CLAA-AE, 50-user
  QM-2CLAA-AF, 100-user
  QM-2CLAA-AG, 250-user
  QM-2CLAA-AH, 500-user
  QM-2CLAA-AJ, 1000-user

Please refer to the specific terms in the attached "Digital License Agreement for PATHWORKS Programs" for a description of the rights associated with PATHWORKS V5 (LAN Manager) Designated Access licenses.

Applicable Server-Based Licenses

- PATHWORKS V5.0 for Digital UNIX (LAN Manager) PC Concurrent:

  QM-2CPAA-AB, 10-user
  QM-2CPAA-AC, 25-user
  QM-2CPAA-AD, 50-user
  QM-2CPAA-AE, 100-user
  QM-2CPAA-AF, 250-user

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Please refer to the specific terms in the attached "Digital License Agreement for PATHWORKS Programs" for a description of the rights associated with PATHWORKS V5.0 for Digital UNIX (LAN Manager) PC Concurrent licenses.

Note

There is no new version license for the PATHWORKS V6.1A for Digital UNIX server. Customers with a valid PATHWORKS V5 (LAN Manager) Designated Access license, or PATHWORKS V5.0 for Digital UNIX (LAN Manager) PC Concurrent licenses have theright to connect to PATHWORKS V6.1A for Digital UNIX (Advanced Server).

MEDIA AND DOCUMENTATION

The PATHWORKS for Digital UNIX (Advanced Server) software and documentation are shipped as part of the Digital UNIX Layered Products CD-ROM, order number QA-054AA-H8. Two optional hardcopy documentation kits are available:

- New customers should obtain the complete documentation kit, order number QA-2CPAA-GZ.
- Existing customers upgrading to PATHWORKS for Digital UNIX (Advanced Server) should obtain the update documentation kit, order number QA-2CPAA-WZ.

The above PATHWORKS for Digital UNIX (Advanced Server) media and documentation are packaged with the PATHWORKS for Digital UNIX (NetWare) media and documentation.

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Digital. For more information, contact your local Digital office.

Software Product Description

PRODUCT NAME: PATHWORKS™ V5.0G for Digital UNIX® (LAN Manager) **SPD 35.10.05**

DESCRIPTION

PATHWORKS™ V5.0G for Digital UNIX® (LAN Manager) is a Digital UNIX layered application that provides the functions of Microsoft™ LAN Manager for UNIX® V2.2 server in a PC LAN environment. It is a member of the PATHWORKS family of products which provides a framework for integrating personal computers into an organization's total information system allowing different types of users to share information and network services across the entire organization.

The PATHWORKS family includes PC LAN server products running on OpenVMS, Digital UNIX, ULTRIX, SCO™ UNIX, and OS/2® platforms providing industry standard Network Operating System (NOS) services that use Novell®'s NetWare®, Microsoft's LAN Manager, and Apple®'s AppleShare® protocols. The PATHWORKS family also includes client products providing both client software for these servers and also enterprise-wide support capabilities such as wide area transports (DECnet and TCP/IP) and applications such as Mail and Terminal Emulation, allowing DOS, Windows™, Windows NT™, OS/2, and Macintosh® clients to participate as full peers in a widely-distributed computing environment.

FEATURES

PATHWORKS for Digital UNIX (LAN Manager) adds a new dimension to general purpose Digital UNIX systems. In addition to providing traditional support for business, scientific, and engineering applications, this product allows Digital UNIX systems to appear to LAN Manager clients as a Microsoft LAN Manager Server.

The major features of PATHWORKS for Digital UNIX (LAN Manager) include:

- File and print services using Microsoft's LAN Manager SMB protocols using the NetBEUI, TCP/IP and DECnet transports.

- NetBIOS™ interface for the NetBEUI, TCP/IP and DECnet network transports.
- Access to services provided by PATHWORKS for Digital UNIX (LAN Manager) available to both PATHWORKS clients as well as for other LAN Manager clients (with appropriately licensed components; see Licensing section for details).
- File storage on the server in native Digital UNIX format. This allows information stored by the PCs via PATHWORKS for Digital UNIX (LAN Manager) to be shared with PATHWORKS for Digital UNIX (NetWare) and Digital UNIX users.
- Support for PATHWORKS in the DECsafe Available Server Environment.
- Both LAN Manager-only, or LAN Manager combined with Digital UNIX, security models can be applied in this environment providing greater flexibility and added security to your system.
- LAN Manager domains that allow administrators to subdivide the network into groupings of servers and clients.
- File replication that allows a set of files to be selectively replicated to other servers.
- Remote Boot service that supports DOS and Windows workstations that boot using the server's hard disk instead of their own local hard disks.
- License Management software that provides the following capabilities:
  - Distribute PATHWORKS client-based licenses across a network
  - Validate access by clients with PATHWORKS client-based licenses
  - Support client access via server-based licenses validated through the local Digital UNIX License Management Facility (LMF) database.

FILE SERVICES

PATHWORKS for Digital UNIX (LAN Manager) provides LAN Manager-based clients with a remote file system that appears as a transparent extension of the client system's local computing environment.

PATHWORKS for Digital UNIX (LAN Manager) file shares are based on Microsoft's LAN Manager Extended SMB (Server Message Block) protocols.

PATHWORKS for Digital UNIX (LAN Manager) supports the following Digital UNIX file systems:

- POLYCENTER Advanced File System (AdvFS)
- UNIX File System (UFS)
- Network File System (NFS)
- CDROM File System (CDFS), read only

Multiple LAN Manager-based clients (including Windows NT Workstation, Windows 95, Windows for Workgroups, and OS/2) can concurrently access files stored on the server's disk through the file access modes and byte range locking support provided by the Digital UNIX Operating System. Because PATHWORKS for Digital UNIX (LAN Manager) supports the native Digital UNIX lock facility, users who are either interactive Digital UNIX users or NetWare users and users of PATHWORKS for Digital UNIX (LAN Manager) can access their LAN Manager created information, their NetWare created information and their interactive Digital UNIX user directory while logged in as a LAN Manager.

PATHWORKS for Digital UNIX (LAN Manager) software provides a byte-range locking manager that the server can use instead of, or in addition to, the native lock manager in the Digital UNIX Operating System to enhance system performance in some of the PC applications.

PRINT SERVICES

PATHWORKS for Digital UNIX (LAN Manager) software allows LAN Manager and Digital UNIX users to share printers connected to Digital UNIX-based servers, connected to the network, or connected to a client. Printer shares are available in LAN and WAN environments. LAN Manager-based clients can print files from the PC operating system as well as from PC applications.

NETWORK TRANSPORT SUPPORT

PATHWORKS for Digital UNIX (LAN Manager) software supports TCP/IP, DECnet, and NetBEUI network transport software. One or more of the transport stacks can work concurrently on the server.

NetBEUI transport software comes as part of the PATHWORKS for Digital UNIX (LAN Manager) software. Using NetBEUI transport software, LAN Manager clients can access the server in the LAN for file and print services.

TCP/IP transport software comes as part of the Digital UNIX Operating System.

DECnet/OSI transport software is available as an optional layered application.

NETBIOS INTERFACE SUPPORT

PATHWORKS for Digital UNIX (LAN Manager) software supports the NetBIOS interface in TCP/IP, DECnet, and NetBEUI networks. NetBIOS support under TCP/IP includes a B-node RFC 1001/1002 implementation. NetBIOS interface support includes the support of multiple transport stacks on one or more network controllers.

LAN Manager V2.2 API Support

PATHWORKS for Digital UNIX (LAN Manager) supports the LAN Manager for UNIX V2.2 Application Programming Interfaces, including named pipes and mail-slots.

DOMAIN SUPPORT

PATHWORKS for Digital UNIX (LAN Manager) allows you to subdivide the network into administrative groupings of servers and clients called domains. A domain is a group of servers and clients on a LAN. A domain is the basic unit of network administration and each server running PATHWORKS for Digital UNIX (LAN Manager) can be a member of a single domain. A PATHWORKS for Digital UNIX (LAN Manager) server can be either a primary domain controller, backup domain controller, member server, or a standalone server.

NETWORK LOGON SERVICES

Running the netlogon service eliminates the need for the user to supply a password for each connection within a domain. The netlogon service forces the validation of users' logon requests. The logon server that processes the request checks its copy of the domainwide user accounts database for the user name and password supplied in the logon request.

SERVER MANAGEMENT AND CONTROL

Multiple server management interfaces are supported by PATHWORKS for Digital UNIX (LAN Manager):

1. A character cell utility called pwadmin at the server console
2. A command line net interface at the server console, or at enhanced DOS client, or at OS/2 client.

The management utilities can be use to:

- Manage file and printer shares, user accounts, and groups
- Display and control server resources currently in use, such as active sessions, connections, services, and server statistics
- View context-sensitive Help for each menu item and prompt

In addition to these server-based management interfaces, the PATHWORKS for Digital UNIX (LAN Manager) server can be managed from client-based utilities such as ServerWORKS, a management utility that provides a Microsoft Windows-based interface.

REPLICATION SERVICES

PATHWORKS for Digital UNIX (LAN Manager) provides a file replication mechanism that allows a set of files to be selectively replicated. The replication service ensures that any updates to the replicated files are propagated in a timely manner to all servers that are maintaining replicas of the information.

REMOTE BOOT

The PATHWORKS for Digital UNIX (LAN Manager) remote boot service is based on Microsoft's LAN Manager remote boot service. The LAN Manager implementation is based on the Remote Program Load (RPL) protocol and the NetBEUI protocol. With PATHWORKS for Digital UNIX (LAN Manager), you can also remote boot workstations that use the MOP protocol.

AVAILABLE SERVICES

File services offered to LAN Manager clients from the PATHWORKS for Digital UNIX (LAN Manager) are supported with DECsafe Available Server Environment V1.3.

MAIL SERVICES

PATHWORKS for Digital UNIX (LAN Manager) software includes PCSA mail support with this release. To use PCSA mail, the Digital UNIX mail system must be installed and configured.

The mail server component of PATHWORKS for Digital UNIX (LAN Manager) provides a service that is separate and distinct from the LAN Manager file and print services. This mail utility is based on the Mail-11 protocol and requires either TCP/IP or DECnet as its communications transport. It allows PATHWORKS users, using the client PATHWORKS Mail software, to send and receive electronic mail messages through the Digital UNIX mh mail facility without having to log into the Digital UNIX system as an interactive user.

INSTALLATION AND CONFIGURATION

PATHWORKS for Digital UNIX (LAN Manager) and PATHWORKS V5.0G for Digital UNIX (NetWare) software are distributed together on the Digital UNIX Software Library. There is a single installation procedure that is shared between the two products that provides for the installation of one or both server products in a single step on a Digital UNIX system using the standard setld procedure. An Installation Verification Procedure (IVP) is also included, which can be used to confirm that all server software has been installed properly.

Digital recommends that a customer's first purchase of this software product at each site include Digital installation service. This service provides implementation support for customers installing PATHWORKS for Digital UNIX (LAN Manager) software and for the integration of DOS workstations into the Digital network. Contact your local Digital representative for information on the service options available.

Note

Although the software for both PATHWORKS V5.0G for Digital UNIX (LAN Manager) and PATHWORKS V5.0 for Digital UNIX (NetWare) is distributed together, the two products are still licensed separately.

LICENSE MANAGEMENT

PATHWORKS for Digital UNIX (LAN Manager) software offers several license management capabilities related to both client-based and server-based licenses.

- Client-based license management

  PATHWORKS client licenses are provided as Product Authorization Keys (PAKs) for the Digital UNIX License Management Facility (LMF). These PAKs must an be loaded into the LMF database, using standard LMF procedures, on a Digital UNIX system that is acting as a PATHWORKS License Server.

  A single copy of the PATHWORKS License Server software can now provide and verify client-based licenses for clients using LAN Manager and NetWare software. LAN Manager clients use the DECnet, NetBEUI, or TCP/IP transports while NetWare clients use the IPX transport to communicate with a PATHWORKS License Server.

  The PATHWORKS License Manager, which must execute on the same node as the license server, provides a user interface that allows the system manager to monitor client license usage. The PATHWORKS License Manager is also used to pre-allocate licenses to specific groups of users and to reclaim a license from a client.

  The PATHWORKS License Registrar, which executes on the same system as the file server, will "handshake" with clients requesting access to PATHWORKS for Digital UNIX (LAN Manager) functions. Clients that can successfully "handshake" with the server and produce a valid client-based license will be allowed access to the services offered by PATHWORKS for Digital UNIX (LAN Manager).

- Server-based License Management

  The PATHWORKS for Digital UNIX (LAN Manager) software is also capable of allowing client access based on a local server-based license. If a client requesting access to the server fails to produce a valid client license, the License Registrar software will then check the local LMF database for the availability of a PATHWORKS for Digital UNIX (LAN Manager) PC Concurrent license. If one is available, and the number of concurrently-connected clients allowed by the license has not been exceeded, the client will be allowed access.

Note that both server-based and client-based license management are always active simultaneously on PATHWORKS for Digital UNIX (LAN Manager) servers. However, clients that do have a valid client-based license are already licensed to use the server software and, therefore, are not counted against the fixed number of clients granted access by the server-based PC Concurrent license.

HARDWARE REQUIREMENTS

PATHWORKS for DIGITAL UNIX (LAN Manager) is supported on Alpha systems as specified in the DIGITAL UNIX Operating System, V3.2 Software Product Descriptions (SPD 41.61.xx). Please refer to the DIGITAL UNIX Operating System SPDs for a complete list of systems, components, and peripherals supported.

Memory Requirements

In addition to the memory needed for the DIGITAL UNIX Operating System, a minimum of 12 MB of memory is recommended for use of the product. Guidelines for additional system memory are:

- An additional 210 KB of memory is recommended per server process where each server process can support 1 to n clients. Depending upon the customer need, the system can be configured to have multiple clients supported by a single server process to minimize the memory requirements.

Note that the memory requirements indicated above are minimum requirements only and that memory requirements can vary widely according to the server CPU, the number of clients using the server and their activities, and the other applications running on the server system.

Disk Space Requirements

In addition to the disk space requirements for the Digital UNIX Operating System, a minimum of 18 MB of disk space is required for installation of the product. An additional 30 MB is required for the installation and configuration with PATHWORKS V5.0 for Digital UNIX (NetWare) software.

Network Interface Controllers

At least one network interface controller is required for use with PATHWORKS for Digital UNIX (LAN Manager). PATHWORKS for Digital UNIX (LAN Manager) supports all Ethernet, FDDI and Token Ring controllers supported by the Digital UNIX Operating System.

OPTIONAL HARDWARE

PATHWORKS for Digital UNIX (LAN Manager) provides support for all printers supported by the Digital UNIX Operating System, V3.2C.

SOFTWARE REQUIREMENTS

- DIGITAL UNIX Operating System, V3.2C (SPD 41.61.xx)

OPTIONAL SOFTWARE

Network transport software:

- DECnet/OSI V3.2 for DIGITAL UNIX AXP (SPD 41.92.xx)

Associated Client Software

The following software products may be used on PCs to access PATHWORKS for DIGITAL UNIX (LAN Manager) server software:

- PATHWORKS for DOS and Windows (SPD 55.07.xx)
- PATHWORKS for OS/2 (SPD 55.24.xx)
- PATHWORKS for Windows NT (SPD 51.56.xx)
- LAN Manager V2.x workstation software for DOS, Windows, and OS/2
- Windows NT V3.1, V3.5, V3.51, and V4.0
- Windows for Workgroups V3.11
- Windows 95

GROWTH CONSIDERATIONS

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

SOFTWARE LICENSING AND ORDERING INFORMATION

PATHWORKS for Digital UNIX (LAN Manager) can be licensed in two different ways.

1. Client-based licensing (Designated Access)

   This product can be licensed for operation and access on any number of supported platforms when appropriate client-based licenses are purchased for clients using the services of this product.

   See the attached PATHWORKS license terms and conditions for Designated Access licenses for a description of the specific rights granted.

   See the list below for applicable client license types and ordering information.

2. Server-based licensing (PC Concurrent)

   A PATHWORKS PC Concurrent license for this product permits its use on a single supported platform and allows access by clients that do not have a PATHWORKS client-based license.

   See the attached PATHWORKS License terms and conditions for PC Concurrent licenses for a description of the specific rights granted.

   See the list below for applicable ordering information.

These licensing options are not mutually exclusive. Differing levels of service required by a heterogeneous community of end-users could suggest the use of both licensing methods, simultaneously, for some environments.

Clients with client-based licenses for server access do not interfere with the access of other clients that rely on server-based licensing for access to a particular server. The two licensing methods are designed to coexist.

- PATHWORKS V5 (LAN Manager) Designated Access

  QM-2CLAA-AB, 1-user
  QM-2CLAA-AC, 10-user
  QM-2CLAA-AD, 25-user
  QM-2CLAA-AE, 50-user
  QM-2CLAA-AF, 100-user
  QM-2CLAA-AG, 250-user
  QM-2CLAA-AH, 500-user
  QM-2CLAA-AI, 1000-user

Please refer to the specific terms in the attached "Digital License Agreement for PATHWORKS Programs" for a description of the rights associated with PATHWORKS V5 (LAN Manager) Designated Access licenses.

Applicable Server-based Licenses

- PATHWORKS V5.0 for Digital UNIX (LAN Manager) PC Concurrent:

  QM-2CPAA-AB, 10-user
  QM-2CPAA-AC, 25-user
  QM-2CPAA-AD, 50-user
  QM-2CPAA-AE, 100-user
  QM-2CPAA-AF, 250-user

Please refer to the specific terms in the attached "Digital License Agreement for PATHWORKS Programs" for a description of the rights associated with PATHWORKS V5.0 for Digital UNIX (LAN Manager) PC Concurrent licenses.

MEDIA AND DOCUMENTATION

The PATHWORKS for Digital UNIX (LAN Manager) software and documentation are shipped as part of the Digital UNIX Layered Products CD-ROM.

Two optional hardcopy documentation kits are available:

- New customers should obtain the complete documentation kit, order number QA-2CPAA-GZ.
- Existing customers upgrading to PATHWORKS V5.0A for Digital UNIX (LAN Manager) should obtain the update documentation kit, order number QA-2CPAA-WZ.

The above PATHWORKS for Digital UNIX (Advanced Server) media and documentation are packaged with the PATHWORKS for Digital UNIX (NetWare) media and documentation.

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Digital. For more information, contact your local Digital office.

PATHWORKS™ V5.0G for Digital UNIX® (LAN Manager) **SPD 35.10.05**

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DIGITAL LICENSE AGREEMENT for PATHWORKS Programs

STOP!

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A Product Authorization Key constitutes proof of license, and is required to permit use of the Software in accordance with these terms.

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A. License: PATHWORKS V1.0 for OpenVMS (NetWare) PC Concurrent License

When you purchase the above license you may use the following program ("Software") under the terms in Section 1 and all terms provided in Additional Terms below.

Server Program:

PATHWORKS V1.0 for OpenVMS (NetWare)

B. License: PATHWORKS V5.0 for OpenVMS (LAN Manager) PC Concurrent License

When you purchase the above license you may use the following program ("Software") under the terms in Section 1 and all terms provided in Additional Terms below.

Server Program:

PATHWORKS V5.0 for OpenVMS (LAN Manager)

C. License: PATHWORKS V5.0 for Digital UNIX (LAN Manager) PC Concurrent License

When you purchase the above license you may use the following program ("Software") under the terms in Section 1 and all terms provided in Additional Terms below.

Server Program:

PATHWORKS V6.1A for Digital UNIX (Advanced Server)

[1] Formerly referred to as *FPS* licenses

D. License: PATHWORKS V5.0 for Digital UNIX (NetWare) PC Concurrent License

When you purchase the above license you may use the following program ("Software") under the terms in Section 1 and all terms provided in Additional Terms below.

Server Program:

PATHWORKS V5.0 for Digital UNIX (NetWare)

Section 1 Terms

You may install the Software identified above on one server for concurrent access by the Quantity of clients specified on the associated Product Authorization Key.

2. *PATHWORKS Designated Access Licenses*[2]

A. License: PATHWORKS V5.0 (LAN Manager) Designated Access License

When you purchase the above license you may use the following programs ("Software") under the terms in Section 2 and all terms provided in Additional Terms below.

Server Programs:

PATHWORKS V5.0 for OpenVMS (LAN Manager)
PATHWORKS for ULTRIX, V1.3
PATHWORKS V6.1A for Digital UNIX (Advanced Server)
PATHWORKS for SCO UNIX, V1.1

B. License: PATHWORKS V5.0 (NetWare) Designated Access License

When you purchase the above license, or if you have a *PATHWORKS V1.0 (NetWare) FPA* license, you may use the following programs ("Software") under the terms in Section 2 and all terms provided in Additional Terms below.

Server Programs:

PATHWORKS V1.0 for OpenVMS (NetWare)
PATHWORKS V5.0 for Digital UNIX (NetWare)

C. License: PATHWORKS V1.3 (Macintosh) Designated Access License

When you purchase the above license, or if you have a *PATHWORKS V1.2 (Macintosh) FPA* license, you may use the following programs ("Software") under the terms in Section 2 and all terms provided in Additional Terms below.

Server Programs:

PATHWORKS V1.3 for OpenVMS (Macintosh)

[2] Formerly referred to as *FPA* licenses

Section 2 Terms

You may install the Software on multiple servers for access by the Quantity of designated clients. The Quantity is specified on the associated Product Authorization Key.

3. PATHWORKS System Licenses: [3]

A. License: PATHWORKS 32 V7.0 System License

or

License: PATHWORKS 32 V7.0 System-UPGRADE *

When you purchase either of the above licenses you may use the following programs ("Software") under the terms in Section 3 and all terms provided in Additional Terms below.

Programs:

PATHWORKS 32 V7.0
PATHWORKS V6.0 for DOS and Windows
PATHWORKS V4.1 for Windows NT
PATHWORKS V5.1 for OS/2
eXcursion V2.1

B. License: PATHWORKS V1.3 for Macintosh System License

When you purchase the above license you may use the following program ("Software") under the terms in Section 3 and all terms provided in Additional Terms below.

Program:

PATHWORKS V1.3 for Macintosh

Section 3 Terms

You may use the Software on the Quantity of computers specified on the associated Product Authorization Key.

[3] Formerly referred to as *CNS* licenses

* See special terms for *UPGRADE* licenses in the *GRANT* section under **Additional Terms** below.

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