

Software Product Description

PRODUCT NAME: DEC X.400 Mail System for ULTRIX, Version 1.0

SPD 31.32.00

DESCRIPTION

DEC X.400 Mail System for ULTRIX is a layered OSI application which provides an X.400 communication path to other X.400 Message Transport Systems. It is a full CCITT 1984 Message Handling System and allows users to exchange messages with users of other X.400 mail systems. It consists of a P1-compliant Message Transfer Agent (MTA), a P2-compliant User Agent, submission and delivery daemons, and the Reliable Transport Server (RTS).

The DEC X.400 Mail System for ULTRIX provides:

- Store-and-forward message transfer facilities.
- Support for IA5 text (this includes text and PostScript® messages).
- Help in constructing X.400 addresses. "template" prompts users for the X.400 address components and constructs an X.400 address. It makes addressing easier and reduces the risk of error.
- Personal address book aliasing. The "alex" utility provides a simple way for users to extract and store long and complex X.400 addresses under a short alias name which can be used in future mail messages.
- Deferred delivery, automatic forwarding and automatic reply, and reverse chargeback capabilities.
- OSI session and transport layers (TP0 and TP4).
- Connectivity over WAN via a X.25router and over LAN via the ethernet ISO 8802.3. Monologue is the only supported mode.
- Support for small to medium sized networks with connections of up to 250 adjacent MTAs.

Compliance

The DEC X.400 Mail System for ULTRIX complies with the following recommendations and Functional Standards and Profiles:

- X.400 CCITT 1984 recommendations
- US GOSIP (US Government Open Systems Interconnection Profile)

- UK GOSIP (UK Government Open Systems Interconnection Profile)
- COS/NIST X.400 Profile (Corporation for Open Systems/National Institute of Standards)
- European Functional Standards: ENV 41.201 and ENV 41.202, also known as:
 - CEPT (profile A/311 for administration domains)
 - CEN/CENELEC (profile A/3211 for private domains)

Rand MH Mail User Agent

DEC X.400 Mail System for ULTRIX uses Rand MH 6.7 enhanced for X.400 mail. The MH is the user interface to the mail system and it enables users to compose, send, receive and file electronic mail. In addition to the MH command line interface, there is the graphical interface (dxmail) which is supplied with ULTRIX Worksystem Software

The version of MH supplied with DEC X.400 Mail System for ULTRIX supersedes the version supplied with ULTRIX V4.0 and V4.1. This version of MH will also work with sendmail, enabling users to maintain a single unified message store. However, a given message cannot contain both SMTP and X.400 addressing.

Message Transfer Agent

The Message Transfer Agent (MTA) is responsible for the routing of messages throughout the X.400 Message Handling System. It is installed only on server machines. The User Agent can be installed on client systems. All local users are registered in a database which is accessed by the MTA. The MTA runs continuously as a background process monitoring both the submission and the input queues. The MTA uses a fixed routing table created by the System Administrator at set-up time. Each output queue is implemented as a directory with one directory per adjacent MTA. Three priorities are supported - urgent, normal and non-urgent. If a message is unable to be delivered, a non-delivery report is automatically sent to the originator of the message. Delivery reports indicating mail has been delivered to the recipient are only generated upon request. When a user

sends a message with a deferred delivery time, the MTA automatically sends a submission confirmation report to the user. This report contains the Message-ID which is required if the request is canceled at a later time. Messages transferred between MTAs are in the form of P1 protocol data units.

Deferred Delivery Handler

Messages specifying a deferred delivery time are placed in a holding queue until the requested time arrives. When the delivery time arrives, the message is transferred to the MTA and routed as normal. Deferred messages may be canceled providing the delivery time has not passed.

Reliable Transfer Server (RTS)

The RTS transfers messages to and from adjacent MTAs. It guarantees to transfer complete messages without generating any partial messages. Messages which cannot be delivered within a given time or given number of attempts are returned by the RTS to the MTA for re-routing. The RTS supports the transfer of messages at the three priority levels. The RTS can be configured to poll for different priority messages at different intervals, or to transfer them at different times of the day, or both. The RTS transfers are either ISO/IS 8073 TP0 over X.25 or ISO TP4 over ISO 8802.3.

The RTS WAN may be configured to specify or refuse reverse charge calls. Other X.25, CCITT DTE and non-X.25 facilities may be specified for X.25 connections. For further security, a MTA name and password may be specified.

Submission and Delivery Daemons

The submission and delivery daemons provide network services to submit messages from the UA to the MTA and to fetch messages from the MTA for final delivery to the UA. X.400 messages are represented according to RFC987 in the UA.

Management

Management of the DEC X.400 Mail System consists of the addition, deletion, and modification of connections to MTAs within the X.400 network. An automated tool, x400_setup, is provided to assist and simplify this task for the system administrator. This tool prompts the administrator for information necessary to update or create the relevant files. It then processes that information and adds or updates the new queues as needed. The deletion of MTAs from the network is the converse of this operation. There is also a script for setting up an initial database of users called x400_regsetup.

Log Files

Log files are used to trace the path of a message from submission and transfer through to delivery. Log files are provided for the MTA, DDH, and RTS. The information contained in these files is useful in determining whether a message has been delivered, deferred, or discarded due to an error. The RTS log file contains entries of transfer attempts to adjacent MTAs.

New Utilities

"alex" provides the user with the ability to extract address lines from mail messages. This is useful for long and complex X.400 addresses, but may be used equally well with conventional mail. "alex" is an extra MH utility, using the MH style of interface. It searches through the headers of mail messages for addresses which can be displayed on the screen or added to an alias file. The messages, header lines, and alias file names can all be specified.

"template" is a utility which helps users construct X.400 addresses. It is useful when used with an MH command such as comp. The user is prompted for the X.400 address components which are then added to the message header. Used within MH mail message creation, it provides a formatted template file which guides the user through the entry of X.400 Originator/Recipient address attributes. The file is then parsed to create syntactically correct addresses.

"autorepl" is a utility which automatically replies to a user's incoming mail with a message the user has specified. The incoming mail is stored in a folder and can be reviewed later.

The "x400_whois" command displays the X.400 addresses of local users on the host machine. It can also be used to display the X.400 address of users on a specified host machine.

The "x400_recipflags" command extracts and displays the recipient flags which are found with a user's X.400 address in the header part of a received message.

HARDWARE REQUIREMENTS

VAX, MicroVAX, VAXstation, VAXserver, DECstation or DECsystem configuration as specified in the System Support Addendum (SSA 31.32.00-x).

SOFTWARE REQUIREMENTS

For Systems Using Terminals:

- ULTRIX Operating System

For Workstations:

- ULTRIX Worksystem Software

Optional Software for WAN X.25 Connectivity:

- DEC X.25 Access for ULTRIX

and one of the following: (depending on the hardware configuration)

- X25router 2000
- VAX Packetnet System Interface (P.S.I.)

If X.25 Wide Area Networking is required, please refer to the DEC X.25 Access for ULTRIX Software Product Description (SPD 26.E6.xx) for the appropriate prerequisite hardware/software configuration details.

Refer to the ULTRIX Software Cross Reference Table (SPD 26.99.xx) or the System Support Addendum (SSA 31.32.00-x) for availability and versions of required software.

ORDERING INFORMATION

VAX-Based Systems

Software Licenses: QL-YW1A*^{-**}
Software Media: QA-YW1A*^{-**}
Software Documentation: QA-YW1AA-GZ
Software Product Services: QT-YW1A*^{-**}

RISC-Based Systems

Software Licenses: QL-YW2A*^{-**}
Software Media: QA-YW2A*^{-**}
Software Documentation: QA-YW1AA-GZ
Software Product Services: QT-YW2A*^{-**}

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

SOFTWARE LICENSING

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

SOFTWARE PRODUCT SERVICES

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

SOFTWARE WARRANTY

Warranty for this software product is provided by Digital with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.

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System Support Addendum

PRODUCT NAME: DEC X.400 Mail System for ULTRIX, Version 1.0

SSA 31.32.00-A

HARDWARE REQUIREMENTS

Processors Supported

VAX-Based Processors

VAX: VAX 6000-210, VAX 6000-220,
VAX 6000-230, VAX 6000-240,
VAX 6000 Model 300 Series,
VAX 6000 Model 400 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-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

RISC-Based Processors

DECstation: DECstation 2100, DECstation 3100, DEC-
station 3100s, DECstation 5000 Model 200,
DECstation 5000 Model 200CX, DECstation
5000 Model 200PX, DECstation 500 Model
200PXG, DECstation 5000 Model 200PXG
TURBO

DECsystem: DECsystem 3100, DECsystem 5000 Model
200, DECsystem 5100, DECsystem 5400,
DECsystem 5500, DECsystem 5810, DEC-
system 5820, DECsystem 5830, DECsystem
5840

Processors Not Supported

VAX-11/725, VAX-11/730, MicroVAX I, VAXstation I

Processor Restrictions

A TK50 tape drive is required for standalone MicroVAX
2000 and VAXstation 2000 systems.

Other Hardware Required

For WAN connectivity, an X.25 connector node is re-
quired. One of the following is required:

- X25router 2000 (DEMSA)
- X25router 100 (DEMSB)
- Any properly configured VAX running VAX P.S.I in
multihost mode

Please refer to the DEC X.25 Access Software Product
Description (SPD 26.E6.xx) and your local Digital office
for ordering information about the package system of-
ferings.

Note: The DEC X.25 Access product may not be gen-
erally orderable in some countries, please check with
your local Digital office for details and assistance.

Disk Space Requirements:

VAX Based Systems

Disk space required for installation:

Root file system:	100 Kbytes
Other file systems:	/usr 28,000 Kbytes /var 100 Kbytes

Disk space required for use (permanent):

Root file system:	1 Kbytes
Other file systems:	/usr 28,000 Kbytes /var 4 Kbytes

RISC Based Systems

Disk space required for installation:

Root file system:	100 Kbytes
Other file systems:	/usr 49,000 Kbytes /var 100 Kbytes

Disk space required for use (permanent):

Root file system:	1 Kbytes
Other file systems:	/usr 49,000 Kbytes /var 4 Kbytes

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.

The performance and memory usage of DECwindows applications are particularly sensitive to system configuration. Less memory may be required on the client system (the system where the software is installed and executed) if the server (the component that displays the application) resides on another system. More memory may be required on a system with several applications running, or where it may be desirable to improve the performance of an application.

SOFTWARE REQUIREMENTS*For Systems Using Terminals:*

- ULTRIX Operating System V4.0 - V4.1

For Workstations:

- ULTRIX Worksystem Software V4.0 - V4.1

OPTIONAL SOFTWARE*For X.25 WAN Connectivity:*

- DEC X.25 Access for ULTRIX V2.0

and one of the following (depending on the hardware configuration)

- X25router 2000 V1.1
- VAX Packetnet System Interface (P.S.I.) V4.2 - V4.3

If X.25 Wide Area Networking is required, please refer to DEC X.25 Access for ULTRIX Software Product Description (SPD 26.E6.xx) for appropriate prerequisite hardware/software configuration details.

Please refer to the DEC X.25 Access Software Product Description (SPD 26.E6.01) and your local Digital office for ordering information about the package system offerings.

Note: The DEC X.25 Access product may not be generally orderable in some countries, please check with your local Digital office for details and assistance.

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

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

ORDERING INFORMATION*VAX-Based Systems*

Software Licenses: QL-YW1A*^{**}
 Software Media: QA-YW1A*^{**}
 Software Documentation: QA-YW1AA-GZ
 Software Product Services: QT-YW1A*^{**}

RISC-Based Systems

Software Licenses: QL-YW2A*^{**}
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