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Software Product Description

PRODUCT NAME: DECmessageQ MQSeries Connection™, Version 3.2 **SPD 56.30.01**

DESCRIPTION

DECmessageQ is the implementation of a generic software message queuing bus that provides easy-to-use, efficient task-to-task communications among processes using DECmessageQ on OpenVMS, Digital UNIX®, ULTRIX, MS–DOS®, MS®-Windows™, Macintosh®, OS/2®, AIX®, HP® -UX, 88open® Windows NT™, (Alpha and Intel®), SunOS®, Solaris®, NCR® UNIX, and MVS®.

With DECmessageQ a common call interface allows messages to be delivered via high-speed global sections for some intra-CPU applications, or via DECnet and Transmission Control Protocol/Internet Protocol (TCP/IP) for inter-CPU applications. Applications can be designed so client applications can be redeployed easily anywhere within the DECmessageQ network configuration, whether in a standalone node, a Local Area Network (LAN), or a Wide Area Network (WAN).

The DECmessageQ communications implementation is designed for ease-of-use, expandability, and efficiency. The DECmessageQ message queuing bus features include:

- Remote message delivery via DECnet for MS–DOS, Macintosh, OS/2, Digital UNIX, ULTRIX, Windows NT and OpenVMS connections; and via TCP/IP for all UNIX, ULTRIX, Windows NT and OpenVMS connections.
- Remote message delivery to MS-Windows via DECnet or TCP/IP using Client Library Services (CLS)
- Fully asynchronous and synchronous receipt of messages
- Message sizes up to 32,000 bytes
- Priority queuing of messages
- Message recovery using Message Recovery Services (MRS)

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- Message broadcasting using Selective Broadcast Services (SBS)
- PC connections to Client Library Services (CLS)
- Selective reception of message according to certain fields within the DECmessageQ header and within the data protion of the message
- Shared input queues using Multi-Reader Queues (MRQ)
- Use of intra-CPU naming through a local naming service
- Message simulation facility for use in application testing
- Set of message delivery options
- Selectable tracing of messages and calls to DECmessageQ
- A maximum of 999 queues per DECmessageQ Group
- A maximum of 32,000 DECmessageQ Groups
- Utilities for monitoring the network configuration and flow of messages
- Dynamic addition of CPUs to the communications network
- Message interface for retrieving DECmessageQ configuration information on line
- Portable call interface
- Connectivity to DECmessageQ implementations on OpenVMS, ULTRIX, Windows NT, OS/2, MS–DOS, MS-Windows, Macintosh, HP-UX, AIX, Digital UNIX, 88open, SunOS, Solaris, NCR UNIX, and MVS.

DECmessageQ Queues

The DECmessageQ message queuing bus provides three types of queues. A queue is a memory storage location for DECmessageQ messages. Any process can insert a message into any queue. These queues are accessed directly by DECmessageQ procedures. These procedures are called by user-written applications. DECmessageQ queue types are:

- Primary Queue (PQ) — Each process that attaches to the message queuing bus is assigned a Primary Queue. This queue is used to receive messages from processes using DECmessageQ.
- Secondary Queue (SQ) — Any process may attach to one or more secondary queues. These queues can also be used to receive messages. The order in which queues are scanned for messages is defined by the DECmessageQ selection rules.
- Multi-Reader Queue (MRQ) — A Multi-Reader Queue is a single shared queue that can be shared by any number of multiple readers.

Message Recovery Services (MRS)

Message Recovery Services for the DECmessageQ Message Queuing Bus extends data recovery to the level of pending messages. Using Message Recovery Services, the sender is relieved of the responsibility of tracking the progress of a message through its next level of processing. This functionality can be used both at the client and server sides of the application.

Message Recovery Services increase the robustness of DECmessageQ by providing applications with the ability to recover from message delivery failures due to:

- Application program abort
- Communication line failure
- System crash

Some of the application requirements addressed by MRS are:

- Sender wishes to insure delivery of messages when the receiving process is available but does not wish to monitor the delivery.
- Sender wishes to know that a message is recoverable to avoid the cost of reconstructing it but does not care when it is finally delivered.
- Receiver wishes to maintain a journal of all messages received by it for audit trail or reprocessing.

Message Recovery Services are primarily implemented by an MRS server, a non-privileged program attached to the DECmessageQ Message Bus. MRS actions are invoked by standard DECmessageQ send and receive message calls.

MRS is oriented toward messages, not processes; not all messages sent from or directed to a particular process need to be processed by MRS. This allows applications to selectively incur the additional processing imposed by MRS for just those messages that are not easily recovered. Message recovery characteristics are set by the sending process.

DECmessageQ MQSeries Connection

DECmessageQ MQSeries Connection provides a set queue mapping services that allows message forwarding between DECmessageQ and IBM MQSeries queues.

The DECmessageQ MQSeries Connection forwards messages between a set of DECmessageQ queues and a set of MQSeries queues. This is accomplished by having alias queues reside on the node where DECmessageQ MQSeries Connection is installed and forwarding the messages from alias queues of one message queuing system to the final target queue on the other message queuing system. This provides a bridge between the two message queueing systems so that application built with either DECmessageQ or MQSeries can be interoperable.

DECmessage MQSeries Connection characteristics are:

- Messages can be forwarded in both directins simultaneously.
- Support to forward persistent, recoverable messages.

- Support to forward non-persistent, memory based messges.
- Support to forward messages up to 32,000 bytes.
- Support to forward messages with priority.
- Support to forward datagram type messages.
- Support to forward reuquest/reply type messages.
- Provide a linkage to MQSeries Data Conversion Exits which allows the use of MQSeries built-in formats or custom user written exits.
- Support for multiple active copies of the bridge server which allows scalability and provides an additional level of application tuning.
- Support for dynamic registration of target queues to alias queues.

Not all features in each of the DECmessageQ and MQSeries message queuing API's have equivlaent mechanisms available in the other. Therefore, these features should be avoided when building applications that take advantage of the DECmessageQ MQSeries Connection.

HARDWARE REQUIREMENTS

The DECmessageQ MQSeries Connection requires that a hardware platform configuration be of sufficient size to support both a DECmessageQ message queuing bus/group and a MQSeries message queue manager.

DECmessageQ MQSeries Connection for AIX:

IBM RS6000 Family of RISC Processors:	
RS6000	-M20, -M22W, -2xx, -3xx, -4xx, -Cxx -Exx,-5xx, -Gxx, -9xx, -Jxx, -Rxx

DECmessageQ MQSeries Connection for HP-UX:

HP9000-700 & HP9000-800 Family of RISC Processors:	
HP900	-7xx, -D2xx, D3xx, -Exx, -Fxx, -Gxx -Jxx, -8xx, -Hxx, -Ixx, -K1xx,-K2xx -Uxx, -K4xx, -T5xx

Disk Space Requirements

DECmessageQ MQSeries Connection requires 3.7MB of disk space.

SOFTWARE REQUIREMENTS

DECmessageQ MQSeries Connection for AIX:

- AIX Operating System Version 3.2.5 or higher
- DECmessageQ for AIX Version 3.2
- MQSeries for AIX Version 2 Release 1

DECmessageQ MQSeries Connection for HP-UX:

- HP-UX (HP9000 -7xx, -8xx) Operating System Version 9.xx or higher
- DECmessageQ for HP-UX Version 3.2
- MQSeries for HP-UX Version 2 Release 2

DISTRIBUTION MEDIA

DECmessageQ MQSeries Connection:

- CD–ROM and 4MM DAT

ORDERING INFORMATION

DECmessageQ MQSeries Connection Software Licenses

Orderable for Specific Operating Systems:

DECmessageQ MQSeries Connection for AIX:
QL-571A*-AA

DECmessageQ MQSeries Connection for HP-UX:
QL-576A*-AA

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DECmessageQ MQSeries Connection Software Media

DECmessageQ Connection for AIX:
QA-571AA-H*

DECmessageQ Connection for HP-UX:
QA-576AA-H*

DECmessageQ MQSeries Connection Software Licenses

DECmessageQ MQSeries Connection Documentation

Order the same documentation kit for all support platforms
QA-571AA-GZ

SOFTWARE PRODUCT SERVICES

DECmessageQ MQSeries Connection Software Product Services

DEcmessageQ MQSeries Connection for AIX:
QT-571A*-**

DEcmessageQ MQSeries Connection for HP-UX:
QT-576A*-**

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

Optional Software

- DECmessageQ for OpenVMS V3.2
- DECmessageQ for Windows NT V3.2
- DECmessageQ for MS-Windows Client V3.2
- DECmessageQ for OS/2 V3.2
- DECmessageQ for AIX V3.2
- DECmessageQ for HP-UX V3.2

- DECmessageQ for Digital Unix V3.2
- DECmessageQ for 88open V3.0
- DECmessageQ for SunOS V3.2
- DECmessageQ for Solaris V3.2
- DECmessageQ for NCR UNIX V3.2
- DECmessageQ for MVS Client V3.2

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 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.

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

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