

Software Product Description

PRODUCT NAME: DEC Remote Operation Service for VMS, Version 1.0

SPD 32.89.00

DESCRIPTION

DEC Remote Operation Service (DECros) for VMS is a Digital Distributed Software (DDS) product based on software developed by MARBEN, S.A. DECros is an implementation of two Open Systems Interconnection (OSI) Application Service Elements (ASE), and the OSI Presentation Layer.

Specifically, DECros is an implementation of the following International Standards Organization (ISO) Standards and International Telegraph and Telephone Consultative Committee (CCITT) Recommendations:

1. Remote Operation Service Element (ROSE)—ISO IS 9072-1, and IS 9072-2, CCITT X.219, and X.229 (1988)
2. Association Control Service Element (ACSE)—ISO IS 8649, and IS 8650, CCITT X.217, and X.227 (1988)
3. Connection Oriented Presentation Layer—ISO IS 8822, and IS 8823, CCITT X.216, and X.226 (1988)

In addition, DECros fully supports the Abstract Syntax Notation One (ASN.1) and the associated Basic Encoding Rules (BER) as defined by ISO (IS 8824, and 8825) and CCITT (X.208 and X.209). An ASN.1 cross compiler is included in the DEC Remote Operation Service Development Kit for VMS (SPD 32.90.xx), and should be used by DECros application developers.

DECros for VMS operates over VAX OSI Applications Kernel (SPD 27.47.xx) and can be used over ISO 8802-3 (IEEE 802.3) Local Area sub-networks or over X.25 communication links using Digital's packet-switching product range. Refer to the VAX P.S.I. and VAX P.S.I. Access Software Product Descriptions (SPD 25.40.xx and SPD 27.78.xx) for more information.

Features

The major features of DECros are:

- Application Programming Interface
An Application Programming Interface (API) providing access to ROSE, ACSE, and the Presentation Services is provided in object-code form. This API should be linked with the DECros user-developed code, thus providing interprocess communication mechanisms between the user-developed code and DECros.
The DECros API includes a number of memory management routines, transparent to the user, and is compliant with the memory management methods used by the ASN.1 cross-compiler included in the DEC Remote Operation Service Development Kit.
- Operator Interface
An operator interface is provided as part of the Command and Management Utility (CMU). The CMU allows an operator to perform the following functions:
 - Event logging (including Protocol Data Unit trace), either interactively on the operator console and/or captured to disk.
 - Display DECros parameter values.
 - Modify selected DECros characteristics.
- Installation Verification Procedures
Utilities are provided to verify that DECros is properly installed and activated.

Remote Operation Service Element

The Remote Operation Service Element (ROSE) is defined as an Application Service Element (ASE) in the Application Layer (also known as "Layer 7") in the OSI Seven-Layer Reference Model.

ROSE allows applications to exchange requests and responses in an interactive manner in a distributed open systems environment. ROSE is the basic OSI mechanism for interactive data communication. Therefore, ROSE is required by X.500 Directory Services and the Common Management Information Protocol (CMIP).

DECros does not support the Reliable Transfer Service Element (RTSE).

Association Control Service Element

The Association Control Service Element (ACSE) is an ASE in the Application Layer (also known as "Layer 7") in the OSI Seven-Layer Reference Model.

ACSE provides basic facilities for establishing and controlling an application association between two remote applications that communicate by a presentation connection (Layer 6).

Connection Oriented Presentation Layer

The Presentation Layer is the 6th layer in the OSI Seven-Layer Reference Model. The Presentation Layer is concerned with the representation of information in transit between open systems.

On behalf of Presentation Service Users it implements the transfer syntax negotiation function. The transformation to/from transfer syntax function can be implemented through the presentation layer; however, for efficiency, the DECros user application is in charge of this function. The purpose of the presentation services follows that of the corresponding session services.

SOURCE CODE

The following source code modules are provided with binary on all magnetic distribution media:

- C code header to be included in the user-developed code to access the API properly.
- Initiator and Responder modules, in C code, to be used as examples of DECros access through the API.

INSTALLATION

Digital requires that a customer's first purchase of this software product include Digital Installation Services. These services provide for installation of the software product by an experienced Digital Software Specialist.

For subsequent purchases of this product, only experienced customers should attempt installation. Digital recommends that all other customers purchase Digital's Installation Services.

Customer Responsibilities

Before installation of the software, the customer must:

- Previously have installed all requisite software and hardware, including terminals.

- Make available for a reasonable period of time, as mutually agreed by Digital and the customer, all hardware, communication facilities, and terminals that are to be used during installation.
- For verification of installation and connectivity to another VAX node, designate and provide access to a DECros host that has previously been installed by Digital.

Delays caused by any failure to meet these responsibilities will be charged at the then prevailing rate for time and materials.

HARDWARE REQUIREMENTS

VAX, MicroVAX, VAXstation, or VAXserver configuration as specified in the System Support Addendum (SSA 32.89.00-x).

SOFTWARE REQUIREMENTS

VMS Operating System

VAX OSI Applications Kernel

Refer to the System Support Addendum for availability and required versions of prerequisite/optional software (SSA 32.89.00-x).

ORDERING INFORMATION

Software Licenses: QL-YU2A*-**

Software Media: QA-YU2A*-**

Software Documentation: QA-YU2AA-GZ

Software Product Services: QT-YU2A*-**

* 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.

LICENSE MANAGEMENT FACILITY SUPPORT

This product supports the VMS License Management Facility.

License units for this product are allocated on a CPU-capacity basis.

For more information on the License Management Facility refer to the VMS Operating System Software Product Description (SPD 25.01.xx) or the *License Management Facility* manual of the VMS Operating System documentation set.

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 Remote Operation Service for VMS, Version 1.0

SSA 32.89.00-A

HARDWARE REQUIREMENTS

Processors Supported

VAX: VAXft 3000-310
VAX 4000 Model 300
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 9000-210, VAX 9000 Model 400 Series
VAX-11/730, 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 2000,
VAXstation 3100 Series, VAXstation 3200,
VAXstation 3500, VAXstation 3520,
VAXstation 3540
VAXserver: VAXserver 3100, VAXserver 3300,
VAXserver 3400, VAXserver 3500,
VAXserver 3600, VAXserver 3602,
VAXserver 3800, VAXserver 3900
VAXserver 4000 Model 300
VAXserver 6000-210, VAXserver 6000-220,
VAXserver 6000-310, VAXserver 6000-320,
VAXserver 6000-410, VAXserver 6000-420,
VAXserver 6000-510, VAXserver 6000-520

Processors Not Supported

MicroVAX I, VAXstation I, VAX-11/725, VAX-11/782,
VAXstation 8000

Processor Restrictions

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

Disk Space Requirements (Block Cluster Size = 1):

Disk space required for installation:	3,000 blocks (1.5 Mbytes)
Disk space required for use (permanent):	3,000 blocks (1.5 Mbytes)

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.

CLUSTER ENVIRONMENT

This layered product is fully supported when installed on
any valid and licensed VAXcluster* configuration without
restrictions. The *HARDWARE REQUIREMENTS* sec-
tions of this product's Software Product Description and
System Support Addendum detail any special hardware
required by this product.

* V5.x VAXcluster configurations are fully described
in the VAXcluster Software Product Description
(29.78.xx) and include CI, Ethernet, and Mixed In-
terconnect configurations.

SOFTWARE REQUIREMENTS

VMS Operating System V5.3–V5.4

VAX OSI Applications Kernel V1.1 (SPD 27.47.01)

VMS Tailoring

The VMS Required Saveset is required for full functionality of this layered product.

For more information on VMS classes and tailoring, refer to the VMS Operating System Software Product Description (SPD 25.01.xx).

OPTIONAL SOFTWARE

DEC Remote Operation Service Development Kit for VMS, V4.0 (SPD 32.90.xx)

The DEC Remote Operation Service Development Kit includes an ASN.1 Cross-Compiler to facilitate the development of ASN.1 compatible data structures, and to ensure efficient data encoding/decoding to and from the Basic Encoding Rule (BER) Transfer Syntax.

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, TK50 Streaming Tape

This product is also available as part of the VMS Consolidated Software Distribution on CDROM.

ORDERING INFORMATION

Software Licenses: QL-YU2A*-**

Software Media: QA-YU2A*-**

Software Documentation: QA-YU2AA-GZ

Software Product Services: QT-YU2A*-**

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

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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