

# Software Product Description

**PRODUCT NAME: DEC Remote Operation Service  
Development Kit for VMS, Version 4.0**

**SPD 32.90.00**

## DESCRIPTION

DEC Remote Operation Service Development Kit for VMS is a software package that facilitates the development of applications using DEC Remote Operation Service (DECros) for VMS (SPD 32.89.xx). The DECros Development Kit comprises an Abstract Syntax Notation 1 (ASN.1) cross-compiler called PLC409, Version 4.0. PLC409 is a product developed by MARBEN, S.A., and is distributed under a Digital Distributed Software (DDS) agreement.

PLC409 allows the cross-compilation of ASN.1 macros and data descriptions into "C" Programming Language, according to the International Standard Organization (ISO) standard IS 8824. PLC409 further allows the encoding/decoding of the resulting application variables according to Basic Encoding Rules (BER) defined in the ISO standard IS 8825. PLC409 is also compatible with the equivalent X.208 and X.209 International Telegraph and Telephone Consultative Committee (CCITT) Recommendations.

## Features

The major features of PLC409 are:

- ASN.1 macro and data description cross-compiler

The PLC409 cross-compiler allows the expansion of ASN.1 macro notations, analyses, and verifies the ASN.1 data types, allows the merging of several ASN.1 descriptions compiled separately, and generates the corresponding "C" Programming Language data structures as well as the corresponding BER encoding/decoding routine. More specifically, the ASN.1 cross-compiler is composed of the following components:

- ASN.1 Macro Preprocessor

The Macro Preprocessor performs lexical and syntactical analysis of ASN.1 macro definitions and references to macros. The preprocessor then expands the macros into ASN.1 data structures, while signaling possible errors and warnings.

- ASN.1 Data Structure Analyzer

The Data Structure Analyzer performs lexical and syntactical analysis of ASN.1 data structures. After a full semantical analysis to ensure ASN.1 tag consistency, the analyzer outputs an Intermediate Form file, and eventual error and warning messages.

- Linker

The Linker produces a single Intermediate Form file out of several such files, resolving external references.

- "C" Programming Language Generator

The C Language Generator translates an Intermediate Form file with no external references into the corresponding C data structures.

- ASN.1 Data Encoding/Decoding Environment

The Data Encoding/Decoding Environment provides facilities to encode and decode actual data according to the Basic Encoding Rules (BER), and includes a memory management system.

- The general encoding/decoding engines allow efficient and safe encoding and decoding of actual data according to BER, while providing verification and debugging facilities.

The engines are configured using the encoding/decoding matrixes output by the compiler's C Generator and are totally independent from the ASN.1 data structures.

- The Memory Management System allows for efficient use of a memory section, broken down into buffers. The Memory Management System allows the following operations:

Allocate/Release Buffer  
Read/Write Byte  
Assemble/Fragment Buffer  
Extend/Truncate Buffer

**HARDWARE REQUIREMENTS**

VAX, MicroVAX, VAXstation, or VAXserver configuration as specified in the System Support Addendum (SSA 32.90.00-x).

**SOFTWARE REQUIREMENTS**

*For Systems Using Terminals (No DECwindows Interface):*

VMS Operating System

*For Workstations Running VWS:*

VMS Operating System  
VMS Workstation Software

*For Workstations Running DECwindows:*

VMS Operating System (and necessary components of VMS DECwindows)

Refer to the System Support Addendum (SSA 32.90.00-x) for availability and required versions of prerequisite/optional software and for information regarding components of VMS DECwindows.

**ORDERING INFORMATION**

Software Licenses: QL-YU3A\*-\*\*

Software Media: QA-YU3A\*-\*\*

Software Documentation: QA-YU3AA-GZ

Software Product Services: QT-YU3A\*-\*\*

\* 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 on these or other services, please 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.

<sup>TM</sup> The DIGITAL Logo, CI, DEC, DECwindows, MicroVAX, TK, VAX, VAXcluster, VAXft, VAXserver, VAXstation, and VMS are trademarks of Digital Equipment Corporation.

# System Support Addendum

PRODUCT NAME: **DEC Remote Operation Service  
Development Kit for VMS, Version 4.0**

**SSA 32.90.00-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

*For Systems Using Terminals (No DECwindows Inter-  
face):*

VMS Operating System V5.3-V5.4

*For Workstations Running VWS:*

VMS Operating System V5.4

VMS Workstation Software V4.3

*For Workstations Running DECwindows:*

VMS Operating System V5.4 (and necessary components of VMS DECwindows)

*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).

### **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-YU3A\*-\*\*

Software Media: QA-YU3A\*-\*\*

Software Documentation: QA-YU3AA-GZ

Software Product Services: QT-YU3A\*-\*\*

\* 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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