# VAXELN Ada
# Installation Guide

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# VAXELN Ada Installation Guide

Order Number: AA–HH45C–TE

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This document contains instructions for installing VAXELN Ada on the VMS operating system. It also explains how to read the online release notes before or after installing the product. This document applies to VAXELN Ada Version 2.0 and all maintenance updates throughout that version.

| | |
|---|---|
| **Revision/Update Information:** | This revised manual supersedes the *VAXELN Ada Installation Guide* (Order Number AA–HH45B–TE) |
| **Operating System and Version:** | VMS Version 5.0 or higher.<br>VAXELN Version 3.1 or higher.<br>Future maintenance releases may require higher versions. |
| **Software Version:** | VAXELN Ada Version 2.0 |

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# Preface

This document describes how to install VAXELN Ada on the VMS operating system. It is intended for system managers. This document applies to VAXELN Ada Version 2.0 and all maintenance updates in that version. A major version number is represented by the digits to the left of the decimal point, and the maintenance update version number is indicated by the digits to the right of the decimal point.

Keep this document with your distribution kit. You will need it to install maintenance updates or to reinstall VAXELN Ada for any other reason.

At the back of this document are two Reader's Comments forms. If you have any comments about this document, fill out one form and mail it; your comments will be considered for the next revision of the installation guide.

For more information about installing VAXELN Ada on VMS systems, see your processor-specific installation/operations guide.

The installation procedure is described step-by-step and is, for the most part, self-explanatory. The system prompts you to answer questions and to change volumes, and waits for you to tell it to continue.

Defaults appear in brackets ([ ]) throughout the installation procedure. Text you type is indicated in red.

# Preparing to Install VAXELN Ada

Your bill of materials (BOM) and indented bills report (BIL) specify the number and contents of your media. Be sure to check the contents of your kit against this information. If your kit is damaged or if you find that parts of it are missing, call your Digital representative.

## Prerequisite Software

VAXELN Ada requires Version 5.0 or higher of the VMS operating system. It also requires VAX Ada Version 2.0 or higher and the VAXELN Toolkit Version 3.1 or higher.

The VMS operating system comes with a variety of support options, or classes. Classes include such features as networking and RMS journaling. To use VAXELN Ada, your system should be running a version of VMS that includes the classes listed in the Software Support Addendum (SSA), which comes with the Software Product Description (SPD).

## Accessing the Online Release Notes

VAXELN Ada provides online release notes. The prompt to display or print the release notes during the installation appears in step 4 of the installation procedure when you invoke VMSINSTAL with the OPTIONS N parameter.

To obtain the release notes after the installation, type or print the file SYS$HELP:VAXELN_ADA02*n*.RELEASE_NOTES. The *n* represents the maintenance update of VAXELN Ada covered in the release notes. Thus, in the case of VAXELN Ada Version 2.0, the release notes are in the file SYS$HELP:VAXELN_ADA020.RELEASE_NOTES.

Online HELP also directs you to the release notes file. After the installation, type the following command:

```
$ HELP VAXELN_ADA RELEASE_NOTES RETURN
```

## Installation Procedure Requirements

The installation takes approximately 15 minutes, depending on the type of media and your system configuration. Before installing VAXELN Ada, you must have the following privileges and resources:

- SETPRV privileges, or CMKRNL, WORLD, BYPASS, and SYSPRV privileges

- 5000 blocks of free disk space, minimum, during installation.
- If VAXELN Ada already exists on your system and the VAXELN Remote Debugger was specified as a known or shared image, VMSINSTAL automatically attempts to install the new version as a known or shared image. In this case, the installation will require the following number of global sections and global pages:

| Image | Global Sections | Global Pages |
|---|---|---|
| SYS$SYSTEM:RDBG$RDEBUG.EXE | 1 | 42 |
| SYS$SHARE:RDBG$SHARE.EXE | 2 | 186 |
| SYS$MESSAGE:RDBG$SHAREMSG.EXE | 1 | 68 |

  Note that if you are running VAXELN Ada on a VAXcluster, VMSINSTAL automatically installs new versions as known or shared images only on the machine on which the installation is actually performed. You must manually install new versions as known or shared images on other machines using the VMS Install Utility.

  See the Installing the VAXELN Remote Debugger as a Shared Image section for more information.

To determine the number of available global pages on your system, invoke the VMS Install Utility by typing the following commands:

```
$ INSTALL :== $INSTALL/COMMAND_MODE RETURN
$ INSTALL RETURN
```

Then type the following command:

```
INSTALL> LIST/GLOBAL/SUMMARY RETURN

        Summary of Local Memory Global Sections

    379 Global Sections Used,  31922/39978 Global Pages Used/Unused

INSTALL> EXIT RETURN
```

When you enter the LIST/GLOBAL/SUMMARY command, the system displays a summary of the number of global sections used, the number of global pages used, and the number of global pages unused. To exit from the VMS Install Utility, type the EXIT command.

**NOTE**

If the necessary number of global pages and global sections is not available, the DCL tables (SYS$LIBRARY:DCLTABLES.EXE) could be corrupted in some situations.

If there are fewer than the required number of global pages available, you can delete an existing known image with the VMS Install Utility, or you can increase the GBLPAGES system parameter by editing the file SYS$SYSTEM:MODPARAMS.DAT and then invoking the SYS$UPDATE:AUTOGEN command procedure. For more information on modifying system parameters and using AUTOGEN, see the *Guide to Setting Up a VMS System*.

You can determine the number of available global sections by invoking SYSGEN as follows:

```
$ RUN SYS$SYSTEM:SYSGEN RETURN
SYSGEN> USE CURRENT RETURN
SYSGEN> SHOW GBLSECTIONS RETURN
    .
    .
    .
SYSGEN> EXIT RETURN
```

Compare the maximum number of global sections with the number of global sections in use displayed by the VMS Install Utility. If the number of global sections used plus the number of global sections required for the remote debugger exceeds the maximum number of global sections, you must increase the number of available global sections before you can install the remote debugger as a shared image. To increase the number, you must increase the GBLSECTIONS system parameter by editing the file SYS$SYSTEM:MODPARAMS.DAT and then invoking the SYS$UPDATE:AUTOGEN command procedure. For more information on modifying system parameters and using AUTOGEN, see the *Guide to Setting Up a VMS System*.

If the number of global sections used plus the number of global sections required for the remote debugger is less than the maximum number of global sections, you can exit from SYSGEN and continue.

## User Account Quotas and Privileges

To use VAXELN Ada, each account must have TMPMBX and NETMBX privileges and the following requirements:

- Enqueue quota (ENQLM): 60 (minimum)
- Open file quota (FILLM): 50 (minimum)
- Paging file quota (PGFLQUOTA): 17000 pages (minimum)
- Subprocess creation quota (PRCLM): 2 (minimum)
- Working set size (WSDEF): 750 pages (minimum)

- Working set quota (WSQUOTA): 1500 pages (minimum)
- Working set extent (WSEXTENT): 2500 pages (minimum)

Use the VMS Authorize Utility (AUTHORIZE) to compare the current values of these quotas with the requirements for VAXELN Ada. The account used in the following example is the SYSTEM account:

```
$ SET DEFAULT SYS$SYSTEM RETURN
$ RUN AUTHORIZE RETURN
UAF> SHOW SYSTEM RETURN
```

To change the values of these quotas, use the VMS Authorize Utility's MODIFY command. For more information, see the *VMS Authorize Utility Manual*.

## VMS License Management Facility

The VMS License Management Facility (LMF) is available with Version 5.0 of the VMS operating system. Before installing VAXELN Ada, you should register and load your VAXELN Ada software license.

The license registration information you need is contained in the Product Authorization Key (PAK) that is shipped with VAXELN Ada. The PAK is a paper certificate that contains information about the license you have to run a particular piece of software.

During the installation, you are asked if you have registered the VAXELN Ada license and loaded the appropriate authorization key. You must register and load your license for VAXELN Ada before you run the Installation Verification Procedure (IVP) and use the software.

To register a license under VMS Version 5.0, first log in to a privileged account. Digital recommends that you register and load the license from the system manager's account. You then have a choice of two ways to perform the registration:

- Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your Product Authorization Key (PAK).
- Enter the DCL LICENSE REGISTER command with the appropriate qualifiers that correspond to information on the PAK.

Depending on the way in which you have registered the VAXELN Ada license, you also have a choice of two ways to load the license:

- Type YES in response to the appropriate question when you are running SYS$UPDATE:VMSLICENSE.COM.
- Enter the DCL LICENSE LOAD command.

Note that you need the CMKRNL, SYSNAM, and SYSPRV privileges to use this command. For complete information on using LMF, see the manual on the License Management Utility in the VMS documentation set.

## Using VMSINSTAL

After you log in to a privileged account to install VAXELN Ada, invoke VMSINSTAL, the command procedure that installs this product. An example of this procedure is shown in steps 1 and 2 of the Installing VAXELN Ada section.

The VMSINSTAL command procedure has the following syntax:

```
$ @SYS$UPDATE:VMSINSTAL VAXELN_ADA02n ddcu: [OPTIONS N]
```

**n**
Represents the maintenance update of VAXELN Ada. Refer to the label on the VAXELN Ada distribution kit or the bill of materials for the maintenance update number of your kit. For VAXELN Ada Version 2.0, the maintenance update is 0.

You can also type an asterisk (*) in place of VAXELN_ADA02*n*.

**ddcu:**
Represents a device name where the distribution volumes will be mounted for the VAXELN Ada installation media, where *dd* is the device code, *c* is the controller code, and *u* is the unit number. It is not necessary to use the console drive to install VAXELN Ada. If you do use the console drive, you should replace any media you removed from the drive. MUA0: is the device name used in the examples in this document.

**OPTIONS N**
Is an optional parameter you should provide if you want to be prompted to display or print the release notes. If you do not include the OPTIONS N parameter, VMSINSTAL does not prompt you to display or print the release notes. VMSINSTAL permits the use of several other options. For more information on the other options, see your processor-specific installation/operations guide.

VMSINSTAL requires the product and device names. If you do not supply these parameters, VMSINSTAL prompts you for them. VMSINSTAL will also prompt you for the optional parameter that indicates whether or not you want the release notes displayed or printed. If you wish to be prompted for the product and device names and to display or print the release notes, type the following:

```
$ @SYS$UPDATE:VMSINSTAL RETURN
```

When you invoke VMSINSTAL, it checks the following:

- Whether you logged in to a privileged account. Digital recommends that you install software from the system manager's account with your default device and directory set to SYS$UPDATE.
- Whether you have adequate quotas for installation. VMSINSTAL checks for the following quota values:
  - ASTLM = 24
  - BIOLM = 18
  - BYTLM = 18000
  - DIOLM = 18
  - ENQLM = 30
  - FILLM = 20

  VMSINSTAL then checks whether the following conditions exist. If so, discontinue the conditions before resuming the installation procedure.
  - Whether DECnet is up and running
  - Whether any users are logged in to the system

  If VMSINSTAL detects either of these conditions, you will be asked whether you want to continue the installation. If you want to continue, type YES. If you want to stop the installation, press RETURN.

## Installing VAXELN Ada

This section contains excerpts from the installation procedure and explains each step. Defaults appear in brackets throughout the installation procedure.

To abort the installation procedure at any time, press CTRL/Y. When you press CTRL/Y, the installation procedure deletes all files it has created up to that point and then returns you to DCL level. If you want to retry the installation procedure after pressing CTRL/Y, you must proceed from step 2.

### Step 1: Log in to a privileged account and set your default device and directory to SYS$UPDATE.

```
RETURN
Username: SYSTEM   RETURN
Password:          RETURN
$ SET DEFAULT SYS$UPDATE  RETURN
```

### Step 2: Invoke VMSINSTAL.

```
$ @VMSINSTAL VAXELN_ADA02n MUA0: OPTIONS N  RETURN

       VAX/VMS Software Product Installation Procedure VX.X


It is dd-mmm-yyyy at hh:mm.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]?  RETURN
```

If you are satisfied with the backup of your system disk, press RETURN. Otherwise, type NO and press RETURN to discontinue the installation. Digital recommends that you back up your system disk before installing any software.

### Step 3: Insert the installation kit volume.

```
Please mount the first volume of the set on MUA0:.
* Are you ready? YES  RETURN
The following products will be processed:

  VAXELN_ADA V2.n


        Beginning installation of VAXELN_ADA V2.n at hh:mm

%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

To indicate that you want to continue the installation, mount volume 1, type YES, and press RETURN.

### Step 4: Select a release notes option.

This step applies only if you specified OPTIONS N in step 2.

```
Release Notes Options:

    1. Display release notes
    2. Print release notes
    3. Both 1 and 2
    4. Copy release notes to SYS$HELP
    5. Do not display, print or copy release notes

* Select option [2]:  RETURN
```

If you select option 1, VMSINSTAL displays the release notes on line immediately. You can terminate the display at any time by pressing CTRL/C.

If you select option 2, VMSINSTAL prompts you for a queue name. Either type a queue name or press RETURN to send the file to the default output print device.

```
* Queue name [SYS$PRINT]: RETURN
```

If you select option 3, VMSINSTAL displays the release notes on line immediately. You can terminate the display at any time by pressing CTRL/C. VMSINSTAL then prompts you for a queue name. Either type a queue name or press RETURN to send the file to the default output print device. The VAXELN Ada release notes are then copied to SYS$HELP:VAXELN_ADA02*n*.RELEASE_NOTES.

If you select option 4, VMSINSTAL copies the release notes to SYS$HELP immediately.

If you select option 5, VMSINSTAL does not display, print, or copy the release notes; typically you select this option when you want to terminate the installation.

**NOTE**

This version of the release notes file installed by VMSINSTAL is labeled with the current product name and version number. Take care not to delete release notes for previous versions of VAXELN Ada.

Next, VMSINSTAL displays the following prompt:

```
* Do you want to continue the installation?: Y RETURN
%VMSINSTAL-I-RELMOVED, The product release notes have been successfully
 moved to SYS$HELP.
```

If you want to continue the installation, type YES and press RETURN. If you type NO or press RETURN, VMSINSTAL discontinues the installation. In either case, VMSINSTAL moves the release notes to SYS$HELP.

### Step 5: Select installation options.

```
* Do you want to purge files replaced by this installation [YES]? RETURN
```

The directories SYS$EXAMPLES, SYS$HELP, SYS$LIBRARY, SYS$MANAGER, SYS$SYSTEM, SYS$TEST, and ELN$ may contain previous versions of VAXELN Ada files. These files are replaced during the installation with new files, but the old files are not automatically purged. Purging is recommended. In response to the purging prompt, press RETURN to purge the files or type NO to keep them.

### Step 6: Respond to License Registration Queries.

VAXELN Ada supports the VMS License Management Facility (LMF). The installation procedure displays license information about your product and then asks if you have registered and loaded your authorization key for VAXELN Ada. The following is an example of such information:

```
        Product:        VAXELN_ADA
        Producer:       DEC
        Version:        2.n
        Release Date:   dd-mmm-yyyy

* Does this product have an authorization key registered and loaded?
```

If you have not registered and loaded your authorization key, you must answer "NO" to this question. If you answer "NO", the installation still continues.

### Step 7: Read informational messages.

The VAXELN Ada installation procedure produces a number of informational messages that report on the progress of the installation.

```
There are no more questions.  The remainder of the installation
procedure will take approximately 10 minutes.

This kit contains an Installation Verification Procedure (IVP) to
verify the correct installation of VAXELN ADA.  It can be invoked
after the conclusion of this procedure as follows:

        @SYS$TEST:VAXELN_ADA$IVP.COM

You must reinstall VAXELN Ada if you install a new version of the
VAXELN Toolkit.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...

Providing VAXELN Ada Run-Time Library images and objects.

%VMSINSTAL-I-RESTORE, Restoring product saveset C ...

Providing VAXELN Remote Debugger.

%VMSINSTAL-I-RESTORE, Restoring product saveset D ...

Providing IVP files.

%VMSINSTAL-I-SYSDIR, This product creates system disk directory
 VMI$ROOT:[SYSTEST.VAXELN_ADA].
%CREATE-I-EXISTS, VMI$ROOT:[SYSTEST.VAXELN_ADA] already exists

Providing example program files.


Providing HELP topic VAXELN_Ada.
```

The success of the installation is indicated by the following message:

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
```

If the installation procedure is successful, the files created by the procedure are moved to their target directories. The following files are created or modified by the installation procedure:

| | |
|---|---|
| SYS$COMMON:[SYSTEST.VAXELN_ADA] and contents | (new) |
| SYS$TEST:VAXELN_ADA$IVP.COM | (new) |
| ELN$:ADA$DMATH.EXE | (new) |
| ELN$:ADA$FMATH.EXE | (new) |
| ELN$:ADA$GMATH.EXE | (new) |
| ELN$:ADA$HMATH.EXE | (new) |
| ELN$:ADA$ELNRTL.EXE | (new) |
| ELN$:ADA$ELNVMS.EXE | (new) |
| ELN$:RTLSHARE.OLB | (modified) |
| ELN$:RTL.OLB | (modified) |
| ELN$:RTLOBJECT.OLB | (modified) |
| ELN$:ERROR_HANDLING.ADA | (new) |
| ELN$:SQRT_SERVER.ADA | (new) |
| ELN$:SQRT_SERVER_TESTER.ADA | (new) |
| SYS$SYSTEM:RDBG$RDEBUG.EXE | (new) |
| SYS$SHARE:RDBG$SHARE.EXE | (new) |
| SYS$MESSAGE:RDBG$SHAREMSG.EXE | (new) |
| SYS$HELP:RDBG$HELPLIB.HLB | (new) |
| SYS$HELP:HELPLIB.HLB | (new) |
| SYS$HELP:VAXELN_ADA02*n*.RELEASE_NOTES | (new) |

If you typed YES in response to the prompt that requests a file purge at step 5, previous versions of the VAXELN Ada files are now purged.

### Step 8: End the installation procedure.

```
   Installation of VAXELN_ADA V2.n completed at hh:mm

   VMSINSTAL procedure done at hh:mm

$ LOGOUT [RETURN]
SYSTEM     logged out at dd-mmm-yyyy hh:mm:ss.ss
```

When the product installation procedure is complete, you can choose to install more products, or to log out (as shown here.) If you removed any media from the console drive before beginning the installation, you should replace it now.

VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the system manager's account and you want to restore these symbols, you should log out and log in again.

## Installing VAXELN Ada on a VAXcluster

If you want to run VAXELN Ada on multiple nodes of a VAXcluster, first check to see that you have the appropriate software license. Then, follow these steps after installing VAXELN Ada:

1. Enter the LICENSE LOAD command to activate the license on each node in the VAXcluster on which VAXELN Ada is to be executed, as described in the *VMS License Management Utility Manual.*
2. If the other nodes do not share a common system disk with the installation node, you must run a separate installation on each node.
3. If previous versions of VAXELN Ada or remote debugger have been specified as known or shared images, VMSINSTAL automatically attempts to install the new versions as known or shared images. However, if you are running VAXELN Ada on a VAXcluster, VMSINSTAL automatically installs new versions as known or shared images only on the node on which the installation is actually performed. You must manually install new versions as known or shared images on other nodes using the VMS Install Utility.

# After the Installation

VAXELN Ada is now installed. The VAXELN Remote Debugger can be invoked with the DEBUG/REMOTE command.

If VAXELN Ada will be used extensively on your system, you can reduce system overhead and memory requirements by installing it as a shared image using the VMS Install Utility. For more information, see the Installing the VAXELN Remote Debugger as a Shared Image section.

# Running the Installation Verification Procedure

The VAXELN Ada installation procedure creates the files needed to run the Installation Verification Procedure (IVP) (see step 7 of the Installing VAXELN Ada section).

To run the IVP, execute the following command procedure:

```
$ @SYS$TEST:VAXELN_ADA$IVP.COM RETURN
```

The procedure compiles, links, and builds a VAXELN Ada test program to verify that the packages and run-time library have been properly installed. First, the following message is issued:

```
VAXELN Ada Version 2.n Installation Verification Procedure.
```

Then, a temporary program library is created and defined to be the current program library; the VAX Ada predefined units just installed in ADA$PREDEFINED are entered into the program library. Messages like the following are issued:

```
%ACS-I-CL_LIBCRE, Library SYS$SYSROOT:[SYSUPD.ADAELN$IVP_LIB] created
%ACS-I-CL_LIBIS, Current program library is
 SYS$SYSROOT:[SYSUPD.ADAELN$IVP_LIB]
```

The IVP consists of two programs that are compiled, linked, and then built into two versions of a bootable VAXELN system. One version is suitable for copying to a disk; the other is suitable for downline loading. The following messages are issued:

```
Compiling IVP programs.
Linking IVP programs.
%ACS-I-CL_LINKING, Invoking the VMS Linker for VAXELN target
%ACS-I-CL_LINKING, Invoking the VMS Linker for VAXELN target

An Installation Verification Program can be built for each target CPU
type.  Answer YES if you want an IVP built for any of the following targets.
NO is the default.

QBUS - MicroVAX I, MicroVAX II (KA630), KA620, MicroVAX 3500,
       MicroVAX 3600: RETURN
UBUS - 725, 730, 750: RETURN
62xx: RETURN
85xx,8700: RETURN
8800: RETURN
MicroVAX 2000: RETURN

The Installation Verification Procedure is building the system...

Verifying installation of VAXELN Remote Debugger.


Two bootable VAXELN Ada test systems have been provided for each specified
target.  They are in directory SYS$COMMON:[SYSTEST.VAXELN_ADA].

    VAXELN_ADA$IVP_target_DISK.SYS is a disk or tape-bootable system.
    VAXELN_ADA$IVP_target_DOWNLINE.SYS is a downline-loadable system.

Use the ELN$:COPYSYS.COM procedure to copy VAXELN_ADA$IVP_target_DISK.SYS
to a disk or tape and boot it on a target VAX, or use downline load
procedures to boot VAXELN_ADA$IVP_target_DOWNLINE.SYS.  See the VAXELN
Ada User's Manual for more details.
```

```
Any of these systems will verify that the execution environment of VAXELN
Ada has been correctly installed.  Because the IVP system does not include
the Network Service, you cannot use the VAXELN Remote Debugger on these
systems.

VAXELN Ada Version 2.n Installation Verification Procedure has completed.
```

After you run the IVP, you will have two bootable VAXELN systems available for you to verify that the VAXELN Ada execution environment is correct. SYS$COMMON:[SYSTEST.VAXELN_ADA]:VAXELN_ADA$IVP_*target*_DISK.SYS is a version that can be copied to a disk or tape using ELN$:COPYSYS.COM, and then booted on a target VAX processor; SYS$COMMON:[SYSTEST.VAXELN_ADA]:VAXELN_ADA$IVP_*target*_DOWNLINE.SYS is a version that can be downline-loaded. To verify that the VAXELN Ada execution environment is correct, you should boot one of these systems on a target VAX processor following the instructions in the *VAXELN Ada User's Manual*. When you boot one of these systems, the following messages should be displayed on your system console terminal:

```
VAXELN Ada Version 2.n Installation Verification Program

IVP_OK - Job 1 starting
IVP_OK - Job 2 starting
IVP_OK - Test task activated
IVP_OK - Test starting
IVP_OK - Test task finished

VAXELN Ada Version 2.n Installation Verification Program passed.
```

If you do not see these messages, or other messages are displayed, the execution environment may be incorrect and you should contact Digital for assistance.

## Error Conditions

If the VAXELN Ada installation procedure fails for any reason, a message like the following is displayed:

```
%VMSINSTAL-E-INSFAIL, The installation of VAXELN_ADA V2.n has failed.
```

An error during the installation can occur if one or more of the following conditions exist:

- Operating system version is incorrect.
- Prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient (see the Installation Procedure Requirements section).
- Process quotas required by VMSINSTAL are incorrect (see the Using VMSINSTAL section).

- The VMS HELP library is currently in use.
- The product was registered incorrectly or not registered.

For descriptions of the error messages generated by these conditions, see the *VMS System Messages and Recovery Procedures Reference Volume*, your processor-specific installation/operations guide, or the *VMS License Management Utility Manual*.

If you are notified that any of these conditions exist, you should take the appropriate action as described in the message. You may need to change a system parameter or increase an authorized quota value.

If the installation fails, you must restart the installation procedure from step 2.

## Installing the VAXELN Remote Debugger as a Shared Image

If VAXELN Ada will be used extensively on your system, you can reduce the system overhead and memory requirements by installing the VAXELN Remote Debugger as a shared image.

First, determine the number of available global pages and global sections on your system. See the Installation Procedure Requirements section for information on how to do this.

Then, invoke the VMS Install Utility and install the remote debugger as a shared image by typing the following commands:

```
$ RUN SYS$SYSTEM:INSTALL RETURN
INSTALL> REPLACE SYS$SYSTEM:RDBG$RDEBUG.EXE/OPEN -
_INSTALL>/SHARED/HEADER_RESIDENT RETURN
INSTALL> REPLACE SYS$SHARE:RDBG$SHARE.EXE/OPEN/SHARED/HEADER_RESIDENT RETURN
INSTALL> EXIT RETURN
```

By using the /HEADER_RESIDENT qualifier, you save disk I/O on image activation (at the expense of a permanently allocated page of memory). By using the REPLACE command, you guarantee that the installation will work whether the images are newly installed or were previously installed. If a file has not been previously installed, you may get a warning message; however, you can ignore the message because the file will be installed correctly.

To ensure that the remote debugger is installed as a shared image each time the system is bootstrapped, include the following lines in SYS$MANAGER:SYSTARTUP_V5.COM (the site-specific startup file):

```
$ INSTALL :== $INSTALL/COMMAND_MODE
$ INSTALL
REPLACE SYS$SYSTEM:RDBG$RDEBUG.EXE/OPEN/SHARED/HEADER_RESIDENT
REPLACE SYS$SHARE:RDBG$SHARE.EXE/OPEN/SHARED/HEADER_RESIDENT
EXIT
```

## Maintenance Updates

Digital may periodically issue maintenance updates of VAXELN Ada. Each update consists of an installation kit. You should install this kit as described in this document or in any documentation that may accompany the maintenance update.

Each time a maintenance update is released, the version number changes. For example, if the current version is 2.0, the version number of the first maintenance update will be 2.1. In addition, each maintenance update includes new release notes. The release notes describe the changes that have been made to VAXELN Ada since the previous release.

The update release notes are provided on line. You should read the release notes when you first install VAXELN Ada; they are also accessible at any time after the product is installed. For information on reading the release notes at the time that you install VAXELN Ada, follow the installation procedure through step 4. After VAXELN Ada is installed, display or print the file SYS$HELP:VAXELN_ADA02*n*.RELEASE_NOTES to locate the release notes (where *n* is the number of the current maintenance update), or type the following command:

```
$ HELP VAXELN_Ada Release_Notes RETURN
```

## Determining and Reporting Problems

If an error occurs while you are using VAXELN Ada and you believe that the error is caused by a problem with VAXELN Ada, take one of the following actions:

- If you purchased VAXELN Ada within the past 90 days and you think the problem is caused by a software error, you can submit a Software Performance Report (SPR).
- If you have a Basic or DECsupport Software Agreement, you should call your Customer Support Center. With these services, you receive telephone support that provides high-level advisory and remedial assistance. For more information, contact your local Digital representative.
- If you have a Self-Maintenance Software Agreement, you can submit a Software Performance Report (SPR).

If you find an error in the VAXELN Ada documentation, you should fill out and submit a Reader's Comments form from the back of the document in which the error was found. Include the section and page number where the error was found.

When you prepare to submit an SPR, please take the following steps:

1. Describe as accurately as possible the state of the system and the circumstance when the problem occurred. Include in the description the version number of VAXELN Ada being used. Demonstrate the problem with specific examples.
2. Reduce the problem to as small a size as possible.
3. Remember to include listings of any command files, relevant data files, and so on.
4. Provide a listing of the program.
5. If the program is longer than 50 lines, submit a copy of the program on machine-readable media (floppy diskette or magnetic tape). If necessary, also submit a copy of the program library used to build the application. Use the VMS Backup Utility to copy the program library to the machine-readable media. All media will be returned to you when the SPR is answered.
6. Report only one problem per SPR. This will facilitate a more rapid response.
7. Mail the SPR package to Digital.

Experience shows that many SPRs do not contain enough information to duplicate or identify the problem. Complete and concise information helps Digital give accurate and timely service to software problems.

## Sample Installation

This section contains a sample installation of VAXELN Ada. Note that this is only a sample. Sometimes the installation procedure is modified in maintenance updates of this product. Because this installation guide is not usually revised for maintenance updates, be sure to read the *Read Before Installing or Using VAXELN Ada* letter before you install this product. This letter notes any significant changes in the installation that vary from this sample.

```
$ SET DEFAULT SYS$UPDATE
$ @VMSINSTAL VAXELN_ADA020 MUA0: OPTIONS N

        VAX/VMS Software Product Installation Procedure V5.0


It is 25-APR-1989 at 17:22.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]? RETURN

The following products will be processed:

  VAXELN_ADA V2.0

        Beginning installation of VAXELN_ADA V2.0 at 17:23

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...

    Release Notes Options:

        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2
        4.  Copy release notes to SYS$HELP
        5.  Do not display, print or copy release notes

* Select option [2]: 4 RETURN
* Do you want to continue the installation? YES RETURN
%VMSINSTAL-I-RELMOVED , The product's release notes have been successfully
 moved to SYS$HELP.

 VAXELN Ada V2.0-00 Installation Procedure


This product requires that the following products already be installed:
        VMS Version 5.0 or higher,
        VAX Ada Version 2.0 or higher, and
        VAXELN Toolkit Version 3.1 or higher.

The installation procedure will now verify that these products are present.

%VAXELN_ADA-S-PREREQ_OK, prerequsisite software check completed

Checking to see if enough space is available for installation.

* Do you want to purge files replaced by this installation [YES]? RETURN

Checking for correct licensing agreements.

        Product:      VAXELN-ADA
        Producer:     DEC
        Version:      2.0
        Release Date: 15-MAR-1989


* Does this product have an authorization key registered and
  loaded? YES RETURN

There are no more questions.  The remainder of the installation
procedure will take approximately 10 minutes.

This kit contains an Installation Verification Procedure (IVP) to
verify the correct installation of VAXELN ADA.  It can be invoked
after the conclusion of this procedure as follows:

        @SYS$TEST:VAXELN_ADA$IVP.COM
```

```
You must reinstall VAXELN Ada if you install a new version of the
VAXELN Toolkit.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...

Providing VAXELN Ada Run-Time Library images and objects.

%VMSINSTAL-I-RESTORE, Restoring product saveset C ...

Providing VAXELN Remote Debugger.

%VMSINSTAL-I-RESTORE, Restoring product saveset D ...

Providing IVP files.

%VMSINSTAL-I-SYSDIR, This product creates system disk directory
 VMI$ROOT:[SYSTEST.VAXELN_ADA].
%CREATE-I-EXISTS, VMI$ROOT:[SYSTEST.VAXELN_ADA] already exists

Providing example program files.


Providing HELP topic VAXELN_Ada.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
        Installation of VAXELN_ADA V2.0 completed at 17:33

        VMSINSTAL procedure done at 17:34


$ @SYS$TEST:VAXELN_ADA$IVP.COM

VAXELN ADA Version 2.0 Installation Verification Procedure.

%ACS-I-CL_LIBCRE, Library SYS$SYSROOT:[SYSUPD.ADAELN$IVP_LIB] created
%ACS-I-CL_LIBIS, Current program library is
 SYS$SYSROOT:[SYSUPD.ADAELN$IVP_LIB]
Compiling IVP programs.
Linking IVP programs.
%ACS-I-CL_LINKING, Invoking the VMS Linker for VAXELN target
%ACS-I-CL_LINKING, Invoking the VMS Linker for VAXELN target

An Installation Verification Program can be built for each target CPU type.
Answer YES if you want a system image built for any of the following targets.
No is the default.

QBUS - MicroVAX I, MicroVAX II (KA630), KA620, MicroVAX 3500,
 MicroVAX 3600: YES [RETURN]
UBUS - 725, 730, 750: [RETURN]
62xx: [RETURN]
85xx,8700: [RETURN]
8800: [RETURN]
MicroVAX 2000: [RETURN]

The Installation Verification Procedure is building the system...

Q-bus IVP building ...
System image size is 520 pages (260K bytes)
System image size is 520 pages (260K bytes)

Verifying installation of VAXELN Remote Debugger.


Two bootable VAXELN Ada test systems have been provided for each specified
target.  They are in directory SYS$COMMON:[SYSTEST.VAXELN_ADA].
```

```
    VAXELN_ADA$IVP_target_DISK.SYS is a disk or tape-bootable system.
    VAXELN_ADA$IVP_target_DOWNLINE.SYS is a downline-loadable system.

Use the ELN$:COPYSYS.COM procedure to copy VAXELN_ADA$IVP_target_DISK.SYS
to a disk or tape and boot it on a target VAX, or use downline load
procedures to boot VAXELN_ADA$IVP_target_DOWNLINE.SYS.  See the VAXELN
Ada User's Manual for more details.

Any of these systems will verify that the execution environment of VAXELN
Ada has been correctly installed.  Because the IVP system does not include
the Network Service, you cannot use the VAXELN Remote Debugger on these
systems.


VAXELN ADA Version 2.0 Installation Verification Procedure has completed.

$ LOGOUT RETURN
  SYSTEM       logged out at 25-APR-1989 17:45:05.61
```

# How to Order Additional Documentation

## Technical Support

If you need help deciding which documentation best meets your needs, call 800-343-4040 before placing your electronic, telephone, or direct mail order.

## Electronic Orders

To place an order at the Electronic Store, dial 800-DEC-DEMO (800-332-3366) using a 1200- or 2400-baud modem. If you need assistance using the Electronic Store, call 800-DIGITAL (800-344-4825).

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| Internal[1] | ———— | SDC Order Processing - WMO/E15<br>*or*<br>Software Distribution Center<br>Digital Equipment Corporation<br>Westminster, Massachusetts 01473 |

[1]For internal orders, you must submit an Internal Software Order Form (EN-01740-07).

# Reader's Comments

**VAXELN Ada Installation Guide**
AA–HH45C–TE

Please use this postage-paid form to comment on this manual. If you require a written reply to a software problem and are eligible to receive one under Software Performance Report (SPR) service, submit your comments on an SPR form.

Thank you for your assistance.

| **I rate this manual's:** | Excellent | Good | Fair | Poor |
|---|---|---|---|---|
| Accuracy (software works as manual says) | ☐ | ☐ | ☐ | ☐ |
| Completeness (enough information) | ☐ | ☐ | ☐ | ☐ |
| Clarity (easy to understand) | ☐ | ☐ | ☐ | ☐ |
| Organization (structure of subject matter) | ☐ | ☐ | ☐ | ☐ |
| Figures (useful) | ☐ | ☐ | ☐ | ☐ |
| Examples (useful) | ☐ | ☐ | ☐ | ☐ |
| Index (ability to find topic) | ☐ | ☐ | ☐ | ☐ |
| Page layout (easy to find information) | ☐ | ☐ | ☐ | ☐ |

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| **I rate this manual's:** | Excellent | Good | Fair | Poor |
|---|---|---|---|---|
| Accuracy (software works as manual says) | ☐ | ☐ | ☐ | ☐ |
| Completeness (enough information) | ☐ | ☐ | ☐ | ☐ |
| Clarity (easy to understand) | ☐ | ☐ | ☐ | ☐ |
| Organization (structure of subject matter) | ☐ | ☐ | ☐ | ☐ |
| Figures (useful) | ☐ | ☐ | ☐ | ☐ |
| Examples (useful) | ☐ | ☐ | ☐ | ☐ |
| Index (ability to find topic) | ☐ | ☐ | ☐ | ☐ |
| Page layout (easy to find information) | ☐ | ☐ | ☐ | ☐ |

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