

Endless PL/I for OpenVMS

This document contains instructions for installing Endless PL/I on the OpenVMS operating system. It also explains how to read the online release notes before installing the product.

OPERATING SYSTEM AND VERSION

- OpenVMS VAX 5.5 or higher
- OpenVMS Alpha 6.2 or higher
- OpenVMS I64 8.3 or higher
- OpenVMS x86-64 9.2 or higher

SOFTWARE VERSION

- Endless PL/I V3.9 for OpenVMS VAX
- Endless PL/I V5.0 for OpenVMS Alpha
- Endless PL/I V5.0 for OpenVMS I64
- Endless PL/I V5.0 for OpenVMS x86-64

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· ESS-PFVIG-001

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Preface

1. Purpose of This Guide

This manual describes how to install Endless PL/I for OpenVMS on the VAX, Alpha, I64 and x86-64 platforms.

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

Reader's comments are important to the development of this document. If you have comments on this document, please take the time to email Endless Software Solutions support on support@es.solutions. Your comments will be considered for the next revision of this guide.

2. Intended Audience

This document is intended for system managers and applies to the current versions and all future maintenance-update versions to the current versions. A major version number is represented by the digits to the left of the decimal point, and a maintenance-update version number is indicated by the digits to the right of the decimal point.

3. Related Documentation

In addition to this guide, the PL/I documentation set includes:

- *Endless PL/I for OpenVMS User Manual*
- *Endless PL/I for OpenVMS Reference Manual*

This guide contains cross-references to the following OpenVMS documentation:

- OpenVMS system messages documentation

4. Conventions

Table 1, “Conventions Used in this Manual” lists the conventions used in this guide:

Table 1. Conventions Used in this Manual

Convention	Meaning
UPPERCASE TEXT	Uppercase letters indicate the name of a command, file, parameter, procedure, or utility.
\$ @SYS\$UPDATE:VMSINSTAL	In interactive examples, boldface type indicates user input. System output, such as prompts and messages, is not shown in boldface.
\$	The dollar sign indicates the DCL prompt. The operating-system prompt may be different on your system.

Convention	Meaning
Ctrl/x	In procedures, a sequence such as Ctrl/x indicates that you must hold down the key labeled Ctrl while you press another key or a pointing-device button.
Return	In procedures, a key name enclosed in a box indicates that you press a key on the keyboard.
:	Vertical ellipsis in an example indicates that information not directly related to the example has been omitted.
file-spec,...	Horizontal ellipsis indicates that the user can enter additional parameters, values, or information.
[logical-name]	Brackets in syntax diagrams indicate that the enclosed item is optional. (Brackets are required, however, as delimiters of a directory name in a file specification or in the syntax of a substring specification in an assignment statement. In addition, default responses appear in brackets ([]) throughout the installation procedure.)

5. Terminological Conventions

The word PL/I applies to Endless PL/I V3.9 for OpenVMS VAX, Endless PL/I V5.0 for OpenVMS Alpha, Endless PL/I V5.0 for OpenVMS I64 and Endless PL/I V5.0 for OpenVMS x86-64 unless otherwise indicated.

Preparing to Install PL/I

This chapter describes the preparations and requirements needed prior to installing Endless PL/I V3.9 for OpenVMS VAX and Endless PL/I V5.0 for OpenVMS Alpha.

Distribution media must be mounted in numerical order. The installation procedure prompts you to mount the volumes. For more information on how to mount distribution media, see your processor-specific installation/operations guide, which also details several options to the installation procedure.

This product provides online release notes. Endless Software Solutions strongly recommends that you read the release notes before proceeding with the installation. For information on accessing the release notes, see [Section 1.1, “Accessing the Online Release Notes”](#).

1.1. Accessing the 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 one of the following files depending on the OpenVMS operating system you are using:

```
ENDLESS PL/I V3.9 FOR OPENVMS VAX
```

```
SYS$HELP:PLI$038.RELEASE_NOTES
```

```
ENDLESS PL/I V5.0 FOR OPENVMS ALPHA
```

```
SYS$HELP:DPLI050.RELEASE_NOTES
```

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

```
$ HELP PLI RELEASE_NOTES Return
```

1.2. Prerequisite Software

To install PL/I, you must have OpenVMS VAX Version 5.5 (or a later version) or OpenVMS Alpha Version 6.2 already installed on your system.

1.3. License Registration

The OpenVMS License Management Facility (LMF) is available with all supported versions of the OpenVMS operating systems. To install this product on OpenVMS, first register your PL/I software license. This section contains all the information you need to register your PL/I license.

The Product Authorization Key (PAK), a certificate shipped with PL/I, contains the license-registration information you need to install and run individual software products.

The installation procedure asks if you have registered the PL/I license and loaded the appropriate authorization key. To run the Installation Verification Procedure (IVP), register and load your PL/I license *before* you begin the installation.

To register a license, first log in to the system manager's account, SYSTEM. You 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 PAK.
- Enter the LICENSE REGISTER command, at the DCL prompt, with the qualifiers that correspond to information on the PAK.

For complete information on using LMF, see the manual on the License Management Utility in the OpenVMS documentation set.

1.4. Installation Procedure Requirements

The following sections describe requirements for installing PL/I.

The installation requires approximately 5 to 30 minutes to complete, depending on your system configuration and the type of media you use. Before you begin, ensure that you have adequate privileges and system resources to support the installation.

1.4.1. Privileges and Disk Space

To install PL/I, you must be logged in to an account that has SETPRV or at least the following privileges:

- CMKRNL
- WORLD
- SYSPRV

Note that VMSINSTAL turns off BYPASS privilege at the start of the installation.

Table 1.1, “Disk Space Requirements” summarizes the disk space requirements for PL/I.

Table 1.1. Disk Space Requirements

Kit	Blocks During Installation	Blocks After Installation
Endless PL/I V3.9 for OpenVMS VAX	8500	5000
Endless PL/I V5.0 for OpenVMS Alpha	30,000	27,500

^aIf you choose to decompress the PL/I system library (PLI\$STARLET) during the installation, you will need an additional 4500 blocks.

To determine the number of free disk blocks on the current system disk, enter the following command at the DCL prompt:

```
$ SHOW DEVICE SYS$SYSDEVICE Return
```

1.4.2. System Parameters

Installing PL/I requires that certain system parameters be set at certain minimum values, as [Table 1.2](#), “Required Minimum Values for System Parameters” indicates. Depending on the kinds of programs and applications running at your site, you may need to set higher values for some parameters.

Table 1.2. Required Minimum Values for System Parameters

System Parameter	Minimum Value (Endless PL/I V3.9 for OpenVMS VAX)	Minimum Value (Endless PL/I V5.0 for OpenVMS Alpha)
GBLPAGES ^a	n + 1500	n + 7776
GBLSECTIONS ^a	n + 7	n + 3
PQL_DASTLM ^a	24	24
PQL_DBIOLM ^a	18	18
PQL_DDIOLM ^a	18	18

^aThe values listed are the minimum required on a permanent basis. After the installation, you may raise but not lower these values.

Note

In [Table 1.2](#), “Required Minimum Values for System Parameters”, the values for GBLPAGES and for GBLSECTIONS are the numbers of unused global pages and unused global sections needed on your system to install PL/I successfully.

The values shown for GBLPAGES and GBLSECTIONS apply when the currently installed compiler is a known image or when you plan to install the compiler as a known image after the installation. If the compiler is not currently installed as a known image, the requirement is 1 free global section and 400 free global pages (enough to replace DCLTABLES.EXE).

The following sections describe how to check and change the values of the system parameters.

1.4.2.1. Checking System Parameter Values

To check the values of your system parameters, enter the following command at the DCL prompt to invoke the System Generation Utility (SYSGEN):

```
$ RUN SYS$SYSTEM:SYSGENReturn
SYSGEN>
```

At the SYSGEN> prompt, enter the SHOW command to display the value of a system parameter. The values displayed should equal or exceed the value of each system parameter listed in [Table 1.2](#), “Required Minimum Values for System Parameters”, unless the compiler is not currently installed as a known image or to be

installed as a known image after the installation. The following example displays the current value of the GBLPAGES system parameter:

```
SYSGEN> SHOW GBLPAGESReturn
```

After checking the parameters with the SHOW command, enter the EXIT command at the SYSGEN> prompt to return to DCL level.

Note

You must ensure that your system has the necessary SYSGEN quotas for global pages and global sections for the installation. Failure to do so could cause the DCL tables to be corrupted.

1.4.2.2. Calculating the Values for GBLPAGES and GBLSECTIONS

To determine the number of free global pages on your system, invoke the OpenVMS Install Utility, as follows:

```
$ INSTALL Return

INSTALL> LIST/GLOBAL/SUMMARY Return

      Summary of Local Memory Global Sections

309 Global Sections Used,  28866/13134 Global Pages Used/Unused

INSTALL> EXIT Return
```

When you enter these commands, the system displays a summary of the number of global sections used and the number of global pages used and unused (free). To exit from the OpenVMS Install Utility, use the EXIT command.

PL/I requires the minimum number of free global pages indicated in [Table 1.2, “Required Minimum Values for System Parameters”](#). If the number of free pages is less than the required minimum in [Table 1.2, “Required Minimum Values for System Parameters”](#), you can use the OpenVMS Install Utility to delete an existing known image. You also can increase the maximum value of the GBLPAGES system parameter, a parameter that establishes the limit on the total number of global pages that can be created. To increase this limit, use the OpenVMS System Generation Utility (SYSGEN) to edit the file SYS\$SYSTEM:MODPARAMS.DAT. Then invoke the AUTOGEN command procedure, SYS\$UPDATE:AUTOGEN.COM. For more information on the AUTOGEN command procedure, see your processor-specific installation/operations guide.

To determine the number of free global sections, first invoke SYSGEN as follows:

```
$ RUN SYS$SYSTEM:SYSGEN Return
SYSGEN> USE CURRENT Return
SYSGEN> SHOW GBLSECTIONS Return
```

Parameter name	Current	Default	Minimum	Maximum	Unit	Dynamic
-----	-----	-----	-----	-----	----	-----
GBLSECTIONS	512	250	20	4095	Sections	

```
SYSGEN> EXIT Return
```

The last number displayed is the maximum number of global sections that can be made known to the OpenVMS operating system (the maximum number of global sections that you can set). Use the OpenVMS Install Utility to determine the number of global sections that are in use. Add the number that are in use to the minimum that must be free to install PL/I (indicated in [Table 1.2, “Required Minimum Values for System Parameters”](#)). If the sum exceeds the maximum number of global sections that you can set, then increase the number of free global sections until you have enough free to install PL/I. To increase the maximum value of the GBLSECTIONS system parameter, use SYSGEN to edit the file SYS\$SYSTEM:MODPARAMS.DAT. Then invoke the SYS\$UPDATE:AUTOGEN.COM procedure. For more information on the AUTOGEN.COM procedure, see your processor-specific installation/operations guide.

If the number of global sections used plus the number provided in [Table 1.2, “Required Minimum Values for System Parameters”](#) is less than the maximum number of global sections, you can exit from SYSGEN and continue.

A simpler method of finding the number of free global sections and pages available on your system is to use the WRITE command with the F\$GETSYI lexical function. The following example shows how to display this information at your terminal (the default device for SYS\$OUTPUT):

```
$ WRITE SYS$OUTPUT F$GETSYI ("FREE_GBLPAGES") Return
15848
$ WRITE SYS$OUTPUT F$GETSYI ("FREE_GBLSECTS")Return
24
```

If the values displayed by the system are greater than the values in [Table 1.2, “Required Minimum Values for System Parameters”](#), you need not increase the values for these parameters. If the value of free global pages or global sections is less than the value in [Table 1.2, “Required Minimum Values for System Parameters”](#), increase the maximum values of the GBLPAGES and GBLSECTIONS system parameters.

[Section 1.4.2.3, “Changing System Parameter Values with AUTOGEN”](#) describes the procedures for increasing these values as well as those of other system parameters. See the OpenVMS documentation on system management and operations for more information.

1.4.2.3. Changing System Parameter Values with AUTOGEN

Use the AUTOGEN command procedure to change system parameters. AUTOGEN automatically adjusts values for parameters that are associated with the ones you reset manually. To change system parameters with AUTOGEN, edit the following file:

```
SYS$SYSTEM:MODPARAMS.DAT
```

For example, to change the setting for the WSMAX system parameter, add to the file:

```
WSMAX = 1024
```

To change the setting for incremental SYSGEN parameters, add to the file:

```
ADD_GBLPAGES = 2000
```

Then run the AUTOGEN procedure to recalculate your system parameters. Enter the following command at the DCL prompt:

```
$ @SYS$UPDATE:AUTOGEN GETDATA REBOOTReturn
```

AUTOGEN performs an automatic system shutdown and reboots when it has finished. Rebooting your system makes the new parameter values active. You may also wish to add the [NO]FEEDBACK parameter to the AUTOGEN command line.

1.4.3. Process Account Quotas and Privileges

To use PL/I, each process account must have TMPMBX and NETMBX privileges and the requirements shown in Table 1.3, “Process Account Quotas”.

Table 1.3. Process Account Quotas

Account Quotas	Minimum
AST limit (ASTLM)	24
Buffered I/O quota (BIOLM)	18
Buffered I/O byte count quota (BYTLM)	18,000
Direct I/O quota (DIOLM)	18
Enqueue quota (ENQLM)	30
Open file limit (FILLM)	20
Paging file quota (PGFLQUOTA)	4096 pages
Subprocess creation quota (PRCLM)	by user requirement
Working set size (WSDEF)	500 pages (optimally, 1024 to 2048 pages)

Note

The quotas listed (the paging file in particular) are only the minimum required to compile small programs. Compiling larger modules can require larger values for BYTLM and PGFLQUO. When compiling large modules you should also set WSDEF to at least 2048 pages to prevent excessive page faulting.

Use the OpenVMS Authorize Utility (AUTHORIZE) to compare the current values of these quotas with the requirements for PL/I. For example, 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 OpenVMS Authorize Utility's MODIFY command. For more information, see the *VMS Authorize Utility Manual*.

1.4.4. Using VMSINSTAL

After you log in to a privileged account to install PL/I, invoke VMSINSTAL, the command procedure that installs these products. Steps 1 and 2 of the installation procedure in [Section 2.1, “Installation Procedure for Endless PL/I V3.9 for OpenVMS VAX”](#) and [Section 2.2, “Installation Procedure for Endless PL/I V5.0 for OpenVMS Alpha”](#) show an example of this procedure.

Use one of the following commands to invoke the VMSINSTAL procedure:

ENDLESS PL/I V3.9 FOR OPENVMS VAX

```
$ @SYS$UPDATE:VMSINSTAL PLI039 ddcu: [OPTIONS N]
```

ENDLESS PL/I V5.0 FOR OPENVMS ALPHA

```
$ @SYS$UPDATE:VMSINSTAL DPLI050 ddcu: [OPTIONS N]
```

ddcu:

Represents a device name where the distribution volumes will be mounted for the PL/I 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 PL/I. If use the console drive, you should replace any media you removed from the drive. MUA0: is the device name used in examples in this manual.

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 ask you if you wish 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.

If you do not supply product and device names, VMSINSTAL prompts you for them. To be prompted for the product and device names and to display or print the release notes, enter the following command:

```
$ @SYS$UPDATE:VMSINSTAL Return
```

When you invoke VMSINSTAL, it checks to determine:

- If you are logged in to a privileged account. ESS recommends that you install software from the system manager's account with your default device and directory set to SYS\$UPDATE.
- If you have adequate quotas for installation. VMSINSTAL checks for the following quota values:
 - ASTLM = 24

- BIOLM = 18
 - BYTLM = 18,000
 - DIOLM = 18
 - ENQLM = 30
 - FILLM = 20
- If users are logged in to the system. If VMSINSTAL detects that users are logged in to the system, it asks if you want to continue the installation. To continue, enter YES. To stop the installation, press Return.

1.4.5. Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. ESS recommends that you back up your system disk before installing any software. Use the backup procedures that are established at your site. For information on using the OpenVMS Backup Utility to perform a system backup, see the *OpenVMS System Manager's Manual*.

Installing PL/I

This chapter describes the installation procedures for PL/I. Please perform the tasks described in [Chapter 1, *Preparing to Install PL/I*](#) and read the release notes before you begin the procedures in this chapter.

Section 2.1, “Installation Procedure for Endless PL/I V3.9 for OpenVMS VAX” explains each step in the installation procedure for OpenVMS VAX. Section 2.2, “Installation Procedure for Endless PL/I V5.0 for OpenVMS Alpha” explains the installation procedure for OpenVMS Alpha.

2.1. Installation Procedure for Endless PL/I V3.9 for OpenVMS VAX

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 the files it has created up to that point and 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 PLI03n MUA0: OPTIONS N Return

VAX/VMS Software Product Installation Procedure V5.4

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, enter NO and press Return to discontinue the installation.

STEP 3: INSERT THE FIRST INSTALLATION KIT VOLUME.

```
Please mount the first volume of the set on MUA0:.
* Are you ready? YES Return
```

The following products will be processed:

PLI V3.n

Beginning installation of PLI V3.n at *hh:mm*

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

STEP 4: SELECT A RELEASE NOTES OPTION.

This step applies only if you specified OPTIONS N in step 2. Release notes included with this kit are always copied to SYS\$HELP.

Additional Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

* 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. After you view them, VMSINSTAL copies the release notes to SYS\$HELP.

If you select option 2, VMSINSTAL prompts you for a queue name. Enter a queue name, or press Return to send the file to the default output print device. After you print them, VMSINSTAL copies the release notes to SYS\$HELP.

* 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. Enter a queue name, or press Return to send the file to the default output print device. The Endless PL/I V3.9 for OpenVMS VAX release notes are then copied to SYS\$HELP.

If you select option 4, VMSINSTAL does not display, print, or copy the release notes; typically this option is selected when the user wants 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 (for example, PLI\$035.RELEASE_NOTES). Take care not to delete release notes for previous versions of Endless PL/I V3.9 for OpenVMS VAX.

Next, VMSINSTAL displays the following prompt:

* Do you want to continue the installation [N]?: **Y Return**

```
%VMSINSTAL-I-REMOVED, The product's release notes have been successfully
moved to SYS$HELP.
    VAX PL/I Installation is commencing ...
```

If you want to continue the installation, enter Y and press Return. If you enter N or press Return, VMSINSTAL discontinues the installation. In either case, VMSINSTAL moves the release notes to SYS\$HELP.

STEP 5: INSERT THE SUBSEQUENT INSTALLATION KIT VOLUMES.

```
%BACKUP-I-READYREAD, mount volume 2 on _MUA0: for reading

Enter "YES" when ready: YES Return
```

VMSINSTAL prompts you to insert the next volume and waits for you to enter YES after inserting it. If you enter NO, VMSINSTAL displays the prompt again. This prompt is displayed only if your installation kit contains more than one volume.

STEP 6: RESPOND TO LICENSE REGISTRATION QUERIES.

PL/I supports the OpenVMS License Management Facility (LMF). The installation procedure displays license information about your product and then asks if you have registered and loaded your product authorization key (PAK) for Endless PL/I V3.9 for OpenVMS VAX. The following is an example of such information:

```
Product:      PLI
Producer:     DEC
Version:      3.n
Release Date: dd-mm-yyyy

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

If you have not registered and loaded your PAK, answer NO to this question. To install Endless PL/I V3.9 for OpenVMS VAX successfully, stop the installation now, register and load your PAK, and restart the installation.

STEP 7: SELECT INSTALLATION OPTIONS.

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

The directories SYS\$HELP, SYS\$MESSAGE, SYS\$LIBRARY and SYS\$SYSTEM may contain previous versions of PL/I 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 enter NO to keep them.

```
Do you want to run the IVP after the installation [YES]? Return
```

The Installation Verification Procedure (IVP) checks if the installation procedure was successful. Press Return to run the IVP after the installation. If you do not want to run the IVP, enter NO in response to the prompt.

The dialogue continues:

```
Do you want to decompress PLI$STARLET? [YES]? Return
```

You can install the Endless PL/I V3.9 for OpenVMS VAX system library in either a compressed or decompressed form.

If you install a compressed system library, the library uses about 2100 blocks less disk space than in its uncompressed form. However, during compilations that include modules from the library, the system uses more CPU time.

If you install an uncompressed system library, the installation requires more time because the library is uncompressed during the installation. Also, the decompressed form requires that about 4500 additional blocks be available during the installation procedure.

STEP 8: READ INFORMATIONAL MESSAGES.

The Endless PL/I V3.9 for OpenVMS VAX installation procedure produces a number of informational messages that report on the progress of the installation. The messages include a list of all new and modified files written during the Endless PL/I V3.9 for OpenVMS VAX installation. See [Appendix B, Files Created During Installation](#) for a list of these files.

```
Your OpenVMS system will now be modified to include the
following new and modified files:
      :
```

The file SYS\$MANAGER:PLI\$STARTUP.COM contains commands to be executed at system startup to allow for the best compilation performance. You may want to invoke this command file from your system's site specific start up file. This command file does not have to be invoked for correct operation of VAX PL/I.

If you requested that files be purged at step 7, previous versions of the Endless PL/I V3.9 for OpenVMS VAX files are now purged.

The following message indicates a successful installation:

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

If the installation procedure is successful, the new or modified files are moved to their target directories.

The SYS\$HELP:HELPLIB.HLB and SYS\$LIBRARY:DCLTABLES.EXE files are updated to include the new versions of the PL/I HELP text and the command line definition, respectively.

STEP 9: OBSERVE THE INSTALLATION VERIFICATION PROCEDURE.

If you chose to run the IVP in step 7, VMSINSTAL now calls the IVP to verify that PL/I was installed successfully.

```
IVP test ASSIGN...
IVP test CONV...
IVP test BIF...
```

```

IVP test IO...
IVP test SYSERV...
IVP test LANG...

VAX PL/I V3.n-nnn Installation Verification Procedure completed successfully.
*** VAX PL/I Installation Verification Procedure ***
      ***** Ending at dd-mmm-yyyy hh:mm:ss.ss *****
Installation of PLI V3.n completed at hh:mm

```

STEP 10: END THE INSTALLATION PROCEDURE.

```

Installation of PL/I V3.n completed at hh:mm

VMSINSTAL procedure completed 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 continue to use the system manager's account and you want to restore these symbols, you should log out and log in again.

2.1.1. Error Conditions

If the installation procedure fails for any reason, a message such as the following is displayed:

```
%VMSINSTAL-E-INSFAIL, The installation of VAX PL/I V3.n has failed.
```

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

- Incorrect operating system version
- Incorrect prerequisite software version
- Insufficient quotas necessary for successful installation (see [Section 1.4.3, "Process Account Quotas and Privileges"](#))
- Process quotas required by VMSINSTAL are incorrect (see [Section 1.4.3, "Process Account Quotas and Privileges"](#))
- OpenVMS HELP library currently in use
- PAK for Endless PL/I V3.9 for OpenVMS VAX registered incorrectly, not registered, or unloaded.

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

If you are notified that any of these conditions exist, 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, restart the installation procedure from step 2. If the installation fails due to an IVP failure, contact Endless Software Solutions.

2.1.2. Installing Endless PL/I V3.9 for OpenVMS VAX as a Shared Image

If Endless PL/I V3.9 for OpenVMS VAX will be used extensively on your system, you can reduce the system overhead and memory requirements by installing it as a shared image. To perform the installation on a system that is currently running, use the OpenVMS Install Utility while you are logged in to a privileged account. If errors occur, see the *OpenVMS Messages Utility Reference Manual*.

First, determine the number of available global pages and global sections on your system. See [Section 1.4, “Installation Procedure Requirements”](#) for information on how to do so.

If you have enough available global pages and global sections, install Endless PL/I V3.9 for OpenVMS VAX as a shared image using the supplied Endless PL/I V3.9 for OpenVMS VAX startup procedure.

```
SYSS$MANAGER:PLI$STARTUP.COM
```

This procedure installs the compiler and run-time library as shared images.

Update the system startup file to install Endless PL/I V3.9 for OpenVMS VAX.

To ensure that Endless PL/I V3.9 for OpenVMS VAX is installed as a shared image each time the system is bootstrapped, include the following line in SYSS\$MANAGER:SYSTARTUP_V5.COM (the site-specific startup file):

```
$ @SYSS$MANAGER:PLI$STARTUP
```

2.2. Installation Procedure for Endless PL/I V5.0 for OpenVMS Alpha

This section explains each step in the installation procedure and contains excerpts from it. 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 the files it has thus far created and returns you to DCL level. 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 DPLI04n MUA0: OPTIONS N Return
```

OpenVMS AXP Software Product Installation Procedure V1.5

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, enter NO and press Return to stop the installation.

STEP 3: INSERT THE FIRST INSTALLATION KIT VOLUME.

Please mount the first volume of the set on MUA0:.

* Are you ready? **YES Return**

The following products will be processed:

DPLI V4.*n*

Beginning installation of DPLI V4.*n* at *hh:mm*

%VMSINSTAL-I-RESTORE, Restoring product save set A...

STEP 4: SELECT A RELEASE NOTES OPTION.

This step applies only if you specified OPTIONS N in step 2. Release notes included with this kit are always copied to SYS\$HELP.

Additional Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

* 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. After you view them, VMSINSTAL copies the release notes to SYS\$HELP.

If you select option 2, VMSINSTAL prompts you for a queue name. Press Return to send the file to the default output print device. Enter a queue name to send them to another printer. After you print them, VMSINSTAL copies the release notes to SYS\$HELP.

* 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. Enter a queue name,

or press Return to send the file to the default output print device. The Endless PL/I V5.0 for OpenVMS Alpha release notes are then copied to SYS\$HELP.

If you select option 4, VMSINSTAL does not display, print, or copy the release notes. Typically this option is selected when the user wants 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 (for example, DPLI040.RELEASE_NOTES). Take care not to delete release notes for previous versions of PL/I.

Next, VMSINSTAL displays the following prompt:

```
%VMSINSTAL-I-REMOVED, The product's release notes have been moved to SYS$HELP.
```

```
DEC PL/I for OpenVMS AXP(tm) Systems V4.0
      :
```

```
*-----*
*   Installation Command Procedure for   *
*   DEC PL/I for OpenVMS AXP Systems V4.0 *
*-----*
```

The DEC PL/I for OpenVMS AXP Systems V4.0 kit contains the compiler, message files and help files. These files require 11,000 blocks during and after installation.

STEP 5: INSERT THE SUBSEQUENT INSTALLATION KIT VOLUMES.

```
%BACKUP-I-READYREAD, mount volume 2 on _ddcu: for reading
```

Enter "YES" when ready: **YES Return**

VMSINSTAL prompts you to insert the next volume and waits for you to enter YES after inserting it. If you enter NO, VMSINSTAL displays the prompt again. This prompt is displayed only if your installation kit contains more than one volume.

STEP 5A: RESPOND TO COMPILER INSTALLATION QUERY.

```
* Do you want to install the DEC PL/I compiler [YES]?
```

The DEC PL/I for OpenVMS AXP Systems Version 4.0 kit contains the compiler, message files, and help files. These files require 11,000 blocks during installation and will occupy 11,000 blocks after the installation.

STEP 5B: RESPOND TO QUERY ON COMPRESSED OR UNCOMPRESSED SYSTEM LIBRARY.

```
* Do you want to decompress PLI$STARLET [NO]?
```

PLI\$STARLET, the PL/I system library, is supplied in a compressed format, which requires less disk space but also causes the system to use more CPU time during compilations that include modules from the library. To accept the compressed format, enter NO.

Decompressing PLI\$STARLET requires approximately 4520 additional blocks during and after the installation. Decompressing also means that the installation will require more CPU time. To decompress the system library, enter YES.

STEP 5C: RESPOND TO EXAMPLE PROGRAMS QUERY.

```
* Do you want to install the DEC PL/I examples [YES]?
```

The DEC PL/I Version 4.0 kit contains a set of example programs using many features of DEC PL/I and OpenVMS AXP. The example files require 250 blocks during and after installation.

STEP 6 : RESPOND TO LICENSE REGISTRATION QUERIES.

```
Product:      PLI
Producer:     DEC
Version:      4.n
Release Date: dd-mm-yyyy
```

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

Endless PL/I V5.0 for OpenVMS Alpha supports the OpenVMS License Management Facility (LMF). The installation procedure displays license information about DEC PL/I and asks if you have registered and loaded your authorization key for Endless PL/I V5.0 for OpenVMS Alpha.

If you have not registered and loaded your Product Authorization Key (PAK), answer NO to this question. To complete the installation successfully, stop the installation, register and load your Product Authorization Key, and restart the installation.

STEP 7: SELECT INSTALLATION OPTIONS.

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

The directories SYS\$HELP, SYS\$MESSAGE, SYS\$LIBRARY, and SYS\$SYSTEM may contain previous versions of PL/I files. These files are replaced during the installation with new files, but the old files are not automatically purged. Purging is recommended. Press Return to purge the old files. Enter NO to keep the old files.

The dialogue continues:

```
* Do you want to run the IVP after the installation [YES]? Return
```

The Installation Verification Procedure (IVP) determines whether or not the installation procedure has succeeded. Press Return to run the IVP. To avoid running the IVP, enter NO.

This kit contains a file summarizing the new features, changes, restrictions, and compatibility issues in DEC PL/I. Named DPLI\$040.RELEASE_NOTES, the file is in SYS\$HELP:. The release notes contain information that is important to DEC PL/I programmers. Please inform your user community of this file's existence.

```
Installing OpenVMS AXP DEBUG Version T2.0-PLI.000 in SYS$COMMON:[DECPLI]...
%VMSINSTAL-I-RESTORE, Restoring product save set E ...
```

STEP 8: READ INFORMATIONAL MESSAGES.

The Endless PL/I V5.0 for OpenVMS Alpha installation procedure produces several informational messages that report on the progress of the installation. The informational messages include a list of all new and modified files created during the Endless PL/I V5.0 for OpenVMS Alpha installation. See [Appendix B, Files Created During Installation](#) for a list of these files.

This kit will install the following definition file:

```
SYS$LIBRARY:PLI$STARLET.TLB
```

This kit provides several example files in SYS\$COMMON:[SYSHLP.EXAMPLES.DECPLI]. The names of the files are abbreviations keyed to the functions of the examples. The IVP (Installation Verification Procedure) will be left in SYS\$TEST:DPLI\$IVP.COM. After the installation is complete, you can invoke the command file at any time to reverify that DEC PL/I is installed and working correctly.

An optional startup file has been placed in SYS\$STARTUP:DPLI\$STARTUP.COM. The file installs the DEC PL/I compiler, run-time library, and message files as shared images to improve the performance of using the DEC PL/I compiler or applications written in PL/I.

To improve the performance of using the DEC PL/I compiler or applications written in PL/I, the startup file installs the DEC PL/I compiler, run-time library, and message files as shared images.

If you wish to use this file, add the following DCL command to SYS\$MANAGER:SYSTARTUP_VMS.COM

```
$ @SYS$STARTUP:DPLI$STARTUP.COM
```

All questions regarding the installation have now been asked. The installation of DEC PL/I V4.0 will now continue for 5 to 30 minutes depending on your configuration and the options requested.

```
Installing DEC PL/I compiler...
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
```

```
Installing DEC PL/I definition files...
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
```

```

Installing DEC PL/I example programs...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
%VMSINSTAL-I-SYSDIR, This product creates system directory
[SYSHLP.EXAMPLES.DECPLI].

Installing OpenVMS AXP DEBUG Version T2.0-PLI.000 in SYS$COMMON:[DECPLI]...
%VMSINSTAL-I-RESTORE, Restoring product save set E ...

Your OpenVMS system will now be updated to include the following new and
modified files:

```

The file SYS\$MANAGER:DPLI\$STARTUP.COM contains commands to be executed at system startup to allow for the best compilation performance. You may want to invoke this command file from your system's site-specific startup file. This command file does not have to be invoked for correct operation of DEC PL/I.

If you requested that files be purged at step 7, previous versions of the Endless PL/I V5.0 for OpenVMS Alpha files are now purged.

The following message indicates that the installation has been successful:

```

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

```

If the installation procedure is successful, the new or modified files are moved to their target directories.

The SYS\$HELP:HELPLIB.HLB and SYS\$LIBRARY:DCLTABLES.EXE files are updated to include the new versions of the PL/I HELP text and the command line definition, respectively.

STEP 9: OBSERVE THE INSTALLATION VERIFICATION PROCEDURE.

If you chose to run the IVP in step 7, VMSINSTAL now calls the IVP to verify that PL/I was installed successfully.

```

*-----*
*   Installation Verification Procedure   *
* DEC PL/I for OpenVMS AXP(tm) Systems V4.0 *
*-----*

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IVP test ASSIGN...
IVP test CONV...
IVP test BIF...
IVP test IO...
IVP test SYSERV...

***** DEC PL/I V4.0-001 Installation Verification Successful *****

```

STEP 10: END THE INSTALLATION PROCEDURE.

```

*-----*

```

```

* Completed Installation Verification for *
* DEC PL/I for OpenVMS AXP(tm) Systems V4.0 *
*-----*

Installation of DPLI V4.0 completed at hh:mm

Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI$ROOT:[SYSUPD]DPLI040.VMI_DATA

VMSINSTAL procedure completed 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 additional products or to log out (as shown here). If you removed any media from the console drive before beginning the installation, replace it now.

VMSINSTAL deletes or changes entries in the process symbol tables during the installation. To continue to use the system manager's account and to restore these symbols, log out of the account and log in.

2.2.1. Error Conditions

If the installation procedure fails, a message similar to the following is displayed:

```
%VMSINSTAL-E-INSFAIL, The installation of DEC PL/I V4.n has failed.
```

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

- Incorrect operating system version
- Incorrect prerequisite software version
- Insufficient quotas necessary for successful installation (see [Section 1.4.3, "Process Account Quotas and Privileges"](#))
- Process quotas required by VMSINSTAL are incorrect (see [Section 1.4.3, "Process Account Quotas and Privileges"](#))
- OpenVMS HELP library currently in use
- PAK for Endless PL/I V5.0 for OpenVMS Alpha registered incorrectly, not registered, or unloaded

For descriptions of the error messages generated by these conditions, see the OpenVMS system messages documentation or your processor-specific installation/operations guide.

If you are notified that any of these conditions exist, follow the instructions 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. If the installation fails due to an IVP failure, contact Endless Software Solutions.

2.2.2. Installing Endless PL/I V5.0 for OpenVMS Alpha as a Shared Image

If you plan to use Endless PL/I V5.0 for OpenVMS Alpha extensively, you can reduce system overhead and memory requirements by installing Endless PL/I V5.0 for OpenVMS Alpha as a shared image. To perform the installation on a system that is currently running, log into a privileged account and use the OpenVMS Install Utility.

First, determine the number of available global pages and global sections on your system. See [Section 1.4, “Installation Procedure Requirements”](#) for information on how to do this.

If you have enough available global pages and global sections, install Endless PL/I V5.0 for OpenVMS Alpha as a shared image using the supplied startup procedure:

```
SYS$MANAGER:DPLI$STARTUP.COM
```

This procedure installs the compiler and run-time library as shared images.

Update the system startup file to install Endless PL/I V5.0 for OpenVMS Alpha.

To ensure that Endless PL/I V5.0 for OpenVMS Alpha is installed as a shared image each time the system is bootstrapped, include the following line in SYS\$MANAGER:SYSTARTUP_V5.COM (the site-specific startup file):

```
$ @SYS$MANAGER:DPLI$STARTUP
```

After the Installation

PL/I is now installed and can be invoked by all users with the DCL command, PLI.

The installation procedure modifies the DCL command table so that the PLI command is recognized and processed. However, the previous command table is still in effect for those users who are currently logged in. All logged-in users who want to use the PLI command for the newly installed product must log out of the system and log in again.

If PL/I is used extensively on your system, you can reduce system overhead requirements by installing it as a shareable image using the OpenVMS Install Utility. For more information, read [Section 2.1.2, “Installing Endless PL/I V3.9 for OpenVMS VAX as a Shared Image”](#) or [Section 2.2.2, “Installing Endless PL/I V5.0 for OpenVMS Alpha as a Shared Image”](#).

3.1. Running the Installation Verification Procedure Separately

The Installation Verification Procedure (IVP) is usually run at installation. You can also run it separately at any time to ensure the integrity of installed files if you have problems with your system. The following command procedures execute the IVP:

```
ENDLESS PL/I V3.9 FOR OPENVMS VAX
```

```
$ @SYS$SYSROOT:[SYSTEST]PLI$IVP.COM Return
```

```
ENDLESS PL/I V5.0 FOR OPENVMS ALPHA
```

```
$ @SYS$SYSROOT:[SYSTEST]DPLI$IVP.COM Return
```

If the IVP fails, one of the following messages is displayed, depending upon which OpenVMS system you are using:

```
ENDLESS PL/I V3.9 FOR OPENVMS VAX
```

```
*** VAX PL/I Installation Verification Procedure ***
**** Beginning at dd-mm-yyyy hh:mm:ss.ss ****

IVP test ASSIGN...

***** VAX PL/I Installation Verification FAILED *****

*** VAX PL/I Installation Verification Procedure ***
**** Ending at dd-mm-yyyy hh:mm:ss.ss ****
```

ENDLESS PL/I V5.0 FOR OPENVMS ALPHA

```

*-----*
*   Installation Verification Procedure   *
* DEC PL/I for OpenVMS AXP(tm) Systems V4.0 *
*-----*

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**** Beginning at dd-mmm-yyyy hh:mm:ss.ss ****

IVP test ASSIGN...

***** DEC PL/I Installation Verification FAILED *****

*** DEC PL/I Installation Verification Procedure ***
***** Ending at dd-mmm-yyyy hh:mm:ss.ss ****

```

3.2. Installing PL/I on a VMSccluster

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

1. Execute the LICENSE LOAD command to activate the license on each node in the VMSccluster on which PL/I is to be executed.
2. To use the product on other nodes in the VMSccluster, you must replace the version of the DCL tables installed on the other VMSccluster nodes. To do this, perform the following steps:
 - a. Log in to a node on the cluster.
 - b. Run INSTALL and enter the following command at the INSTALL> prompt:

```
INSTALL> REPLACE SYS$LIBRARY:DCLTABLES.EXE Return
```

- c. Repeat steps a and b for each node of the cluster.

As a faster alternative, you can use the SYSMAN utility to replace the DCL tables on all cluster nodes. To do this, perform the following steps.

1. Log in to a node on the cluster.
2. Run SYSMAN and enter the following commands at the SYSMAN> prompt:

```

SYSMAN> SET ENVIRONMENT/CLUSTER Return
SYSMAN> DO INSTALL REPLACE SYS$LIBRARY::DCLTABLES.EXE Return

```

You need do this on only one node of the cluster, and all nodes will be updated.

3.3. Maintenance Updates

Digital may periodically issue maintenance updates of PL/I. Each update consists of an installation kit. You should install this kit as described herein 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 3.0, the version number of the first maintenance update will be 3.1. In addition, the maintenance update includes new release notes. The release notes describe the changes that have been made to PL/I since the previous release.

The update release notes are online. To locate the release notes after installing PL/I, type or print one of the following files:

```
ENDLESS PL/I V3.9 FOR OPENVMS VAX
```

```
SYS$HELP:PLI$038.RELEASE_NOTES
```

```
ENDLESS PL/I V5.0 FOR OPENVMS ALPHA
```

```
SYS$HELP:DPLI050.RELEASE_NOTES
```

or, enter the following command:

```
$ HELP PLI RELEASE_NOTES Return
```

3.4. Determining and Reporting Problems

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

- If you purchased PL/I 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, 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 service representative.
- If you have a Self-Maintenance Software Agreement, you can submit a Software Performance Report (SPR).

If you find an error in the PL/I documentation, complete and submit a Reader's Comments form from the back of the manual containing the error. Include the section and page number on which the error occurred.

Sample Installation

This appendix contains sample installations of Endless PL/I on OpenVMS. Note that these are only sample installations. The installation procedure may be modified in maintenance updates of this product. Because this installation guide is not always revised for maintenance updates, be sure to read the *Read Before Installing or Using PL/I* letter before you install this product. The letter notes any significant changes in the installation that vary from this sample.

A.1. Installing Endless PL/I on OpenVMS VAX Systems

```

Welcome to VAX/VMS V5.4

Username: SYSTEM
Password:
    Welcome to VAX/VMS version V5.4 on node GULCH
    Last interactive login on Tuesday, 10-DEC-1991 10:11
    Last non-interactive login on Friday, 12-DEC-1991 14:07

$ @SYS$UPDATE:VMSINSTAL PLI035 MUA0: OPTIONS N

    VAX/VMS Software Product Installation Procedure V5.4

It is 13-DEC-1991 at 13:31.
Enter a question mark (?) at any time for help.

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

The following products will be processed:

    PLI V3.5

    Beginning installation of PLI V3.5 at 13:32

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

Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

* Select option [2]:
* Queue name [SYS$PRINT]:
Job PLI$035.RELEASE_NOTES (queue SYS_PRINT, entry 312) started on GULCH_LPA0

```

* Do you want to continue the installation? Y
%VMSINSTAL-I-REMOVED , The product's release notes have been successfully moved to SYS\$HELP.

Product: PLI
Producer: DEC
Version: 3.5
Release Date: 13-DEC-1991

* Does this product have an authorization key registered and loaded? Y
* Do you want to purge files replaced by this installation [YES]?

This kit contains an Installation Verification Procedure (IVP) to verify the correct installation of VAX PL/I. The IVP will be left in:

SYS\$COMMON:[SYSTEST]PLI\$IVP.COM

After the installation is complete, you can invoke the command file at any time to verify that VAX PL/I is installed and working correctly.

* Do you want to run the IVP after the installation [YES]?

This kit contains a file summarizing the new features, changes, restrictions, and compatibility issues in this release of VAX PL/I. This file is named PLI\$035.RELEASE_NOTES and has been placed in SYS\$HELP:.

This file contains information valuable to VAX PL/I programmers. Please inform your user community of this file's existence.

The VAX PL/I system interface library PLI\$STARLET.TLB can be installed either in compressed form or in decompressed form. The compressed form of the library requires approximately 1500 blocks less disk space, but requires more CPU time during compilations of programs that include modules from the library. Installing the decompressed form of the library will require more time for this installation to complete, because the library decompression is performed by the installation; also, the decompressed form will require approximately 3000 additional blocks to be available during the installation procedure.

* Do you want to decompress PLI\$STARLET [YES]?

You have answered all of the questions for this installation. The installation will now execute in 5 to 30 minutes without further intervention, depending on your configuration, installation media, and so forth.

```
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
Decompressing PLI$STARLET...
```

```
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSTEST.PLI].
```

```
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSHLP.EXAMPLES.PLI].
```

Your VMS system will now be modified to include the following new and modified files:

[SYSEXEC]PLI\$COMPILER.EXE	[new]
[SYSHLP]HELPLIB.HLB	[modified]
[SYSHLP]PLI\$035.RELEASE_NOTES	[new]
[SYSHLP.EXAMPLES.PLI]*.*	[new]
[SYSLIB]DCLTABLES.EXE	[modified]
[SYSLIB]PLI\$STARLET.TLB	[new]
[SYSMGR]PLI\$STARTUP.COM	[new]
[SYSMMSG]PLI\$COMPILER_MSG.EXE	[new]
[SYSTEST]PLI\$IVP.COM	[new]
[SYSTEST.PLI]*.*	[new]

The file SYS\$MANAGER:PLI\$STARTUP.COM contains commands to be executed at system startup to allow for the best compilation performance. You may want to invoke this command file from your system's site specific start up file. This command file does not have to be invoked for correct operation of VAX PL/I.

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

```
*** VAX PL/I Installation Verification Procedure ***
**** Beginning at 13-DEC-1991 13:51:50.06 ****
```

```
IVP test ASSIGN...
IVP test CONV...
IVP test BIF...
IVP test IO...
IVP test SYSERV...
IVP test LANG...
```

```
***** VAX PL/I V3.5 Installation Verification Successful *****
```

```
*** VAX PL/I Installation Verification Procedure ***
***** Ending at 13-DEC-1991 13:55:41.14 *****
Installation of PLI V3.5 completed at 13:55
```

A.2. Installing Endless PL/I on OpenVMS Alpha Systems

```
$ @sys$update:vmsinstal dpli040 ddcu: options n
```

OpenVMS ALPHA Software Product Installation Procedure V1.5

It is 26-OCT-1993 at 14:05.

Enter a question mark (?) at any time for help.

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

The following products will be processed:

DPLI V4.0

Beginning installation of DPLI V4.0 at 14:05

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

Release notes included with this kit are always copied to SYS\$HELP.

Additional Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

* Select option [2]: 2

* Queue name [SYS\$PRINT]:

%VMSINSTAL-I-REMOVED, Product's release notes have been moved to SYS\$HELP.

DEC PL/I for OpenVMS AXP(tm) Systems V4.0

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```

*-----*
*      Installation Command Procedure for      *
*      DEC PL/I for OpenVMS AXP Systems V4.0   *
*-----*
```

The DEC PL/I for OpenVMS AXP Systems V4.0 kit contains the compiler, message files and help files. These files require 11000

blocks during installation and will occupy 11000 blocks after the installation.

* Do you want to install the DEC PL/I compiler [YES]?

PLI\$STARLET is supplied in compressed (reduced data) format. This format saves disk space, but requires more CPU time during compilation. Decompressing PLI\$STARLET will require an additional 4520 blocks of disk space.

* Do you want to decompress PLI\$STARLET [NO]?

The DEC PL/I V4.0 kit contains a set of example programs using many features of DEC PL/I and OpenVMS. The example files require 250 blocks during installation and will occupy 250 blocks after installation.

* Do you want to install the DEC PL/I examples [YES]?

The debugger which is currently installed on this system does not contain any special support for the PL/I language.

The DEC PL/I V4.0 kit contains a special version of the OpenVMS AXP Debugger. This debugger supports debugging programs compiled with the DEC PL/I compiler. The debugger will require 13500 blocks during installation and 13500 after installation.

Note

If you chose to install this debugger, it will not replace the existing system debugger, but will instead be installed in SYS\$COMMON:[DECPLI]. Please see the release notes on how to select between the DEC PL/I special debugger and the system debugger. If you chose not to install the debugger at this time, you may install it later from this same kit. Future releases of the OpenVMS AXP operating system may supersede this special version of the debugger.

The release notes for the debugger may be found in:

SYS\$COMMON:[DECPLI]PLI_DEBUGGER.RELEASE_NOTES

Please inform your user community of the existence of this debugger.

* Do you want to install the special debugger [YES]?

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

* Do you want to run the IVP after the installation [YES]?

Product: PLI
Producer: DEC
Version: 4.0
Release Date: 22-NOV-1993

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

This kit contains a file summarizing the new features, changes, restrictions, and compatibility issues in this release of DEC PL/I. This file is named DPLI040.RELEASE_NOTES and has been placed in SYS\$HELP:. This file contains information valuable to DEC PL/I programmers. Please inform your user community of this file's existence.

This kit will install the following definition file:

```
SYS$LIBRARY:PLI$STARLET.TLB
```

This kit provides several examples in SYS\$COMMON:[SYSHLP.EXAMPLES.DECPLI]. The names of the files reflect the topic being demonstrated by the programs.

The IVP (Installation Verification Procedure) will be left in SYS\$TEST:DPLI\$IVP.COM. After the installation is complete, you can invoke the command file at any time to reverify that DEC PL/I is installed and working correctly.

An optional startup file has been placed in SYS\$STARTUP:DPLI\$STARTUP.COM. The file installs the DEC PL/I compiler, run-time library, and message files as shared images to improve the performance of using the DEC PL/I compiler or applications written in PL/I. If you wish to use this file, add the following DCL command to SYS\$MANAGER:SYSTARTUP_VMS.COM

```
$ @SYS$STARTUP:DPLI$STARTUP.COM
```

All questions regarding the installation have now been asked. The installation of DEC PL/I V4.0 will now continue for 5 to 30 minutes depending on your configuration and the options requested.

Installing DEC PL/I compiler...

```
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
```

Installing DEC PL/I definition files...

```
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
```

Installing DEC PL/I example programs...

```
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
```

```
%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSHLP.EXAMPLES.DECPLI].
```

```
%CREATE-I-EXISTS, VMI$COMMON:[SYSHLP.EXAMPLES.DECPLI] already exists
```

Installing OpenVMS AXP DEBUG Version T2.0-PLI.000 in SYS\$COMMON:[DECPLI]...

```
%VMSINSTAL-I-RESTORE, Restoring product save set E ...
```

Your OpenVMS system will now be updated to include the following new and modified files:

```
[SYSHLP]DPLI040.RELEASE_NOTES
```

```
[new]
```

[SYSEXEC]DPLI\$COMPILER.EXE	[new]
[SYMSMSG]DPLI\$COMPILER_MSG.EXE	[new]
[SYSHLP]HELPLIB.HLB	[modified]
[SYSLIB]DCLTABLES.EXE	[modified]
[SYSTEST.DECPLI]DPLI\$IVPASSIGN.PLI	[new]
[SYSTEST.DECPLI]DPLI\$IVPCONV.PLI	[new]
[SYSTEST.DECPLI]DPLI\$IVPCONV.CMP	[new]
[SYSTEST.DECPLI]DPLI\$IVPBIF.PLI	[new]
[SYSTEST.DECPLI]DPLI\$IVPIO.PLI	[new]
[SYSTEST.DECPLI]DPLI\$IVPIO4.IDX	[new]
[SYSTEST.DECPLI]DPLI\$IVPLANG.PLI	[new]
[SYSTEST.DECPLI]DPLI\$IVPPRINT.PLI	[new]
[SYSTEST.DECPLI]DPLI\$IVPSYSERV.PLI	[new]
[SYSTEST]DPLI\$IVP.COM	[new]
[SYS\$STARTUP]DPLI\$STARTUP.COM	[new]
[SYSLIB]PLI\$STARLET.TLB	[new]
[DECPLI]DBG\$HELP.HLB	[new]
[DECPLI]DBG\$HELP.PS	[new]
[DECPLI]DBG\$HELP.TXT	[new]
[DECPLI]DBG\$UIHELP.HLB	[new]
[DECPLI]DBGTBKMSG.EXE	[new]
[DECPLI]DEBUG.EXE	[new]
[DECPLI]DEBUGSHR.EXE	[new]
[DECPLI]DEBUGISHR.EXE	[new]
[DECPLI]PLI_DEBUGGER.RELEASE_NOTES	[new]
[DECPLI]SETUP_PLI_DEBUGGER.COM	[new]
[DECPLI]VMSDEBUGCUSTUIL.UID	[new]
[DECPLI]VMSDEBUGUIL.UID	[new]
[SYSHLP.EXAMPLES.DECPLI]AREA-EXAMPLE.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]BUILD_PHONE.COM	[new]
[SYSHLP.EXAMPLES.DECPLI]CONSTANTS.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]DATABASE.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]DECOVF.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]ENTRY.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]EXAMPLES.TXT	[new]
[SYSHLP.EXAMPLES.DECPLI]GET_COMMAND_LINE.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]GLOBAL.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]INTOVF.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]KEYS.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]LINES.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]MTH\$DEXP.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]MTH\$HEXP.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]OLDFILE.DAT	[new]
[SYSHLP.EXAMPLES.DECPLI]OPERATIONS.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]OTS\$CVT_TO_L.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]OTS\$CVT_TZ_L.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]PARTLIST.TLB	[new]
[SYSHLP.EXAMPLES.DECPLI]PHONE.FDL	[new]
[SYSHLP.EXAMPLES.DECPLI]PHONE.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]RANDOM.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]SCREEN.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]SIGN_EXTEND.PLI	[new]
[SYSHLP.EXAMPLES.DECPLI]STATE.TXT	[new]

```

[SYSHLP.EXAMPLES.DECPLI]UM-02-01.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-06-01.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-07-01.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-02.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-03.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-04.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-05.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-06.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-07.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-08.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-09.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-10.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-11-SORTED.DAT    [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-11-UNSORTED.DAT  [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-11.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-12-SORTED.DAT    [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-12-TEMP.DAT      [new]
[SYSHLP.EXAMPLES.DECPLI]UM-11-12.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-13-01.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-13-02.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-14-01.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]UM-14-02.PLI          [new]
[SYSHLP.EXAMPLES.DECPLI]USER_OPEN.PLI         [new]
[SYSHLP.EXAMPLES.DECPLI]WILDCARD.PLI          [new]
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

```

```

*-----*
*   Installation Verification Procedure   *
* DEC PL/I for OpenVMS AXP(tm) Systems V4.0 *
*-----*

```

```

IVP test ASSIGN...
IVP test CONV...
IVP test BIF...
IVP test IO...
IVP test SYSERV...

```

```

***** DEC PL/I V4.0-001 Installation Verification Successful *****

```

```

*-----*
* Completed Installation Verification for *
* DEC PL/I for OpenVMS AXP(tm) Systems V4.0 *
*-----*

```

```

Installation of DPLI V4.0 completed at 14:08

```

```

Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

```

```

Creating installation data file: VMI$ROOT:[SYSUPD]DPLI040.VMI_DATA

```

```

VMSINSTAL procedure done at 14:09

```

```
$ logout  
SYSTEM      logged out at 26-OCT-1993 14:12:08.23
```

Files Created During Installation

This appendix lists the files created during installation. Table B.1, “Files Created During Installation” lists the Endless PL/I V3.9 for OpenVMS VAX files, and Table B.2, “Files Created During Installation” lists the Endless PL/I V5.0 for OpenVMS Alpha files.

ENDLESS PL/I V3.9 FOR OPENVMS VAX

Table B.1. Files Created During Installation

Directory	File Name	Status
[SYSEXEC]	PLI\$COMPILER.EXE	new
[SYSHLP]	HELPLIB.HLB	modified
[SYSHLP]	PLI\$03n.RELEASE_NOTES	new
[SYSHLP.EXAMPLES.PLI]	AREA-EXAMPLE.PLI	new
[SYSHLP.EXAMPLES.PLI]	BUILD_PHONE.COM	new
[SYSHLP.EXAMPLES.PLI]	CONSTANTS.PLI	new
[SYSHLP.EXAMPLES.PLI]	DATABASE.PLI	new
[SYSHLP.EXAMPLES.PLI]	DECOVF.PLI	new
[SYSHLP.EXAMPLES.PLI]	ENTRY.PLI	new
[SYSHLP.EXAMPLES.PLI]	EXAMPLES.TXT	new
[SYSHLP.EXAMPLES.PLI]	GET_COMMAND_LINE.PLI	new
[SYSHLP.EXAMPLES.PLI]	GLOBAL.PLI	new
[SYSHLP.EXAMPLES.PLI]	INTOVF.PLI	new
[SYSHLP.EXAMPLES.PLI]	KEYS.PLI	new
[SYSHLP.EXAMPLES.PLI]	LINES.PLI	new
[SYSHLP.EXAMPLES.PLI]	MTH\$DEXP.PLI	new
[SYSHLP.EXAMPLES.PLI]	MTH\$HEXP.PLI	new
[SYSHLP.EXAMPLES.PLI]	OLDFILE.DAT	new
[SYSHLP.EXAMPLES.PLI]	OPERATIONS.PLI	new
[SYSHLP.EXAMPLES.PLI]	OTS\$CVT_TO_L.PLI	new
[SYSHLP.EXAMPLES.PLI]	OTS\$CVT_TZ_L.PLI	new
[SYSHLP.EXAMPLES.PLI]	PARTLIST.TLB	new

Directory	File Name	Status
[SYSHLP.EXAMPLES.PLI]	PHONE.FDL	new
[SYSHLP.EXAMPLES.PLI]	PHONE.PLI	new
[SYSHLP.EXAMPLES.PLI]	RANDOM.PLI	new
[SYSHLP.EXAMPLES.PLI]	SCREEN.PLI	new
[SYSHLP.EXAMPLES.PLI]	SIGN_EXTEND.PLI	new
[SYSHLP.EXAMPLES.PLI]	STATE.TXT	new
[SYSHLP.EXAMPLES.PLI]	UM-02-01.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-06-01.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-07-01.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-02.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-03.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-04.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-05.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-06.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-07.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-08.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-09.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-10.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-11-SORTED.DAT	new
[SYSHLP.EXAMPLES.PLI]	UM-11-11-UNSORTED.DAT	new
[SYSHLP.EXAMPLES.PLI]	UM-11-11.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-11-12-SORTED.DAT	new
[SYSHLP.EXAMPLES.PLI]	UM-11-12-TEMP.DAT	new
[SYSHLP.EXAMPLES.PLI]	UM-11-12.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-13-01.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-13-02.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-14-01.PLI	new
[SYSHLP.EXAMPLES.PLI]	UM-14-02.PLI	new
[SYSHLP.EXAMPLES.PLI]	USER_OPEN.PLI	new
[SYSHLP.EXAMPLES.PLI]	WILDCARD.PLI	new
[SYSLIB]	DCLTABLES.EXE	modified

Directory	File Name	Status
[SYSLIB]	PLI\$STARLET.TLB	new
[SYSMGR]	PLI\$STARTUP.COM	new
[SYSMMSG]	PLI\$COMPILER_MSG.EXE	new
[SYSTEST]	PLI\$IVP.COM	new
[SYSTEST.PLI]	all files	new
[SYSTEST.PLI]	PLI\$IVPASSIGN.PLI	new
[SYSTEST.PLI]	PLI\$IVPBIF.PLI	new
[SYSTEST.PLI]	PLI\$IVPCONV.CMP	new
[SYSTEST.PLI]	PLI\$IVPCONV.PLI	new
[SYSTEST.PLI]	PLI\$IVPIO.PLI	new
[SYSTEST.PLI]	PLI\$IVPIO4.IDX	new
[SYSTEST.PLI]	PLI\$IVPLANG.PLI	new
[SYSTEST.PLI]	PLI\$IVPPRINT.PLI	new
[SYSTEST.PLI]	PLI\$IVPSYSERV.PLI	new
[SYSTEST]	PLI\$IVP.COM	new

ENDLESS PL/I V5.0 FOR OPENVMS ALPHA

Table B.2. Files Created During Installation

Directory	File Name	Status
[SYSHLP]	DPLI040.RELEASE_NOTES	new
[SYSEXEC]	DPLI\$COMPILER.EXE	new
[SYSMMSG]	DPLI\$COMPILER_MSG.EXE	new
[SYSHLP]	HELPLIB.HLB	modified
[SYSLIB]	DCLTABLES.EXE	modified
[SYS\$STARTUP]	DPLI\$STARTUP.COM	new
[SYSLIB]	PLI\$STARLET.TLB	new
[DECPLI]	DBG\$HELP.HLB	new
[DECPLI]	DBG\$HELP.PS	new
[DECPLI]	DBG\$HELP.TXT	new
[DECPLI]	DBG\$UIHELP.HLB	new
[DECPLI]	DBGTBKMSG.EXE	new
[DECPLI]	DEBUG.EXE	new

Directory	File Name	Status
[DECPLI]	DEBUGSHR.EXE	new
[DECPLI]	DEBUGISHR.EXE	new
[DECPLI]	PLI_DEBUGGER.RELEASE_NOTES	new
[DECPLI]	SETUP_PLI_DEBUGGER.COM	new
[DECPLI]	VMSDEBUGCUSTUIL.UID	new
[DECPLI]	VMSDEBUGUIL.UID	new
[SYSHLP.EXAMPLES.DECPLI]	AREA-EXAMPLE.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	BUILD_PHONE.COM	new
[SYSHLP.EXAMPLES.DECPLI]	CONSTANTS.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	DATABASE.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	DECOVF.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	ENTRY.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	EXAMPLES.TXT	new
[SYSHLP.EXAMPLES.DECPLI]	GET_COMMAND_LINE.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	GLOBAL.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	INTOVF.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	KEYS.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	LINES.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	MTH\$DEXP.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	MTH\$HEXP.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	OLDFILE.DAT	new
[SYSHLP.EXAMPLES.DECPLI]	OPERATIONS.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	OTS\$CVT_TO_L.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	OTS\$CVT_TZ_L.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	PARTLIST.TLB	new
[SYSHLP.EXAMPLES.DECPLI]	PHONE.FDL	new
[SYSHLP.EXAMPLES.DECPLI]	PHONE.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	RANDOM.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	SCREEN.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	SIGN_EXTEND.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	STATE.TXT	new

Directory	File Name	Status
[SYSHLP.EXAMPLES.DECPLI]	UM-02-01.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-06-01.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-07-01.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-02.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-03.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-04.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-05.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-06.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-07.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-08.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-09.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-10.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-11-SORTED.DAT	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-11-UNSORTED.DAT	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-11.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-12-SORTED.DAT	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-12-TEMP.DAT	new
[SYSHLP.EXAMPLES.DECPLI]	UM-11-12.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-13-01.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-13-02.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-14-01.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	UM-14-02.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	USER_OPEN.PLI	new
[SYSHLP.EXAMPLES.DECPLI]	WILDCARD.PLI	new