Installation Guide:
VAX PrintServer Client

Order Number: AA–HL83D–TE

This manual describes how to install the PrintServer client software on a VAX/VMS system. It also describes how to verify the installation and how to modify system startup files.

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digital equipment corporation
maynard, massachusetts

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<SET_TRADEMARK_TABLE>(Printserver_list)

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Contents

PREFACE vii

CHAPTER 1 PREINSTALLATION REQUIREMENTS 1–1

1.1 HARDWARE REQUIREMENTS 1–2

1.2 SOFTWARE REQUIREMENTS 1–2

1.3 PREINSTALLATION ITEM 1–3

1.4 PREINSTALLATION DATA 1–4
1.4.1 PrintServer Node Name 1–4
1.4.2 PrintServer Node Address 1–4

1.5 REQUIRED DISK SPACE 1–5

1.6 APPROXIMATE INSTALLATION TIME 1–5

CHAPTER 2 INSTALLATION PROCEDURE 2–1

2.1 VMSINSTAL CONVENTIONS 2–2
2.1.1 VMSINSTAL Release Notes 2–2
2.1.2 Running the VMSINSTAL Procedure 2–2

CHAPTER 3 POSTINSTALLATION REQUIREMENTS 3–1

3.1 UPDATING THE SYSTEM STARTUP FILE 3–1

3.2 CHANGING DEFAULT PARAMETERS 3–1

3.3 ADDITIONAL REQUIREMENTS FOR VAXCLUSTERS 3–3

3.4 LPS$$FORM 3–4

CHAPTER 4 SYSTEM MESSAGES 4–1

4.1 MESSAGE FORMAT 4–1

4.2 SEVERITY LEVEL 4–2

4.3 MESSAGE DESCRIPTIONS 4–2

APPENDIX A SAMPLE INSTALLATION SESSIONS A–1

A.1 INSTALLING A SINGLE PRINTSERVER A–1
A.1.1 PrintServer Client Upgrade A–3

APPENDIX C FILES AND LIBRARIES ADDED DURING INSTALLATION C–1

C.1 NEW FILES C–1

C.2 NEW LIBRARIES C–2
C.2.1 Device Control Library C–2
C.2.2 Font Metrics Library C–3

APPENDIX D TROUBLESHOOTING PROCEDURES D–1

D.1 PRINTSERVER IS NOT PRINTING JOBS D–1

D.2 DATA IS NOT PRINTING CORRECTLY D–2

INDEX Index–1

Preface

Intended Audience

The *Installation Guide: VAX PrintServer Client* is directed at the VAX/VMS user with system management responsibilities. This manual describes how to install the PrintServer software, verify the installation, and make any required changes to the system startup files. This requires a knowledge of DECnet–VAX, the network control program (NCP), and the VAX/VMS installation utility (VMSINSTAL).

Document Structure

The manual contains the following chapters and appendixes:

- Chapter 1 provides an overview of the PrintServer and describes the preinstallation requirements.
- Chapter 2 describes the installation procedure dialog.
- Chapter 3 describes the postinstallation requirements.
- Chapter 4 describes error messages and recovery procedures.
- Appendix A contains a sample installation session.
- Appendix B contains a copy of the verification procedure output.
- Appendix C contains a list of the files and libraries created on the client system during the installation procedure.
- Appendix D describes the steps used to troubleshoot a PrintServer that does not print.

Associated Documents

The installation procedures are based on the VMSINSTAL command procedure of VAX/VMS. Additional information on this procedure can be found in the *Guide to VAX/VMS Software Installation*.

The following documents are also associated with the PrintServer:

- *Management/User's Guide: VAX PrintServer Client*
- *Management Guide: VAX PrintServer Supporting Host*
- *Installation Guide: VAX PrintServer Supporting Host*
- *PostScript Language Reference Manual*
- *PostScript Language Tutorial and Cookbook*
- *PostScript Translators Reference Manual*
- *Programmer's Supplement: PostScript Printers*
- *PrintServer 40 Operator's Guide*
- *PrintServer 20 Operator's Guide*

Conventions

The following conventions are used throughout this document:

Convention	Meaning
UPPERCASE CHARACTERS	Indicate that you should type the word or letter as shown in examples.
Lowercase characters	Indicate that you should substitute a word or value of your choice in examples.
[ ]	Indicate that the enclosed item is optional. Given several options, select only one.
{ }	Enclose lists from which one alternative must be chosen. The choices are listed vertically or separated by a vertical bar (|).

Convention	Meaning
...	Indicate that the preceding item(s) can be repeated one or more times.
Ctrl/x	Indicates that you should press the CONTROL key while you simultaneously press another key, for example, CTRL/Z, CTRL/C, CTRL/O.
Return	Indicates that you should press the RETURN key.
Italics	Used for emphasis and to introduce new terms.
	In ‘‘Message Section,’’ used to indicate specific name of directory, file, area, and so on.
Red	Used in examples and instructions to indicate user input.

NOTE

Every effort has been made to replicate the appearance of window displays in the printed examples contained in this manual. In some cases, however, lines must divide in places where they do not break in the window display in order to accommodate the margins of this book.

Chapter 1

Preinstallation Requirements

DIGITAL'S family of network printers is a group of compatible printers that can be shared by a number of systems. Each family member directly supports the POSTSCRIPT page description language, as well as ANSI/SIXEL, ReGIS, and Tektronix 4010/4014 protocols through client-based translators that convert these protocols into POSTSCRIPT code.

Assigned a node name and a number, each PrintServer is a DECnet node on an Ethernet network and communicates with other nodes on the network, using Phase IV DECnet protocol. The other nodes that use the PrintServer as a remote printing facility are referred to as *clients* and must be running the PrintServer client software.

One node provides support functions to the PrintServer and is referred to as the *supporting host*. Although a PrintServer can only have one supporting host at a time, it can have backup supporting hosts, in case the primary host is not available. The node that functions as the supporting host can also be a PrintServer client, but this is not a requirement.

The PrintServer software is packaged in two distribution kits:

1. The client software distribution kit contains two components:
   - The client component includes a print symbiont and distribution software. The print symbiont processes print requests from one or more PrintServer queues. The distribution software transmits the request and associated data over the Ethernet to the remote printer.
   - The translation component on the client contains translators to convert ANSI/SIXEL, ReGIS, and Tektronix 4010/4014 files into POSTSCRIPT files.

2. The supporting host software distribution kit contains two components:
   - The management component includes support for remote server management and remote storage of event-logging data and PrintServer configuration data. It also provides for the down-line loading of the PrintServer.
   - The PrintServer component is the software that is down-line loaded into the printer and includes distribution services, local server management, and a POSTSCRIPT interpreter. The interpreter processes POSTSCRIPT commands and generates imaging data for the printer controller.

Installation of the supporting host software is described in the *Installation Guide: VAX PrintServer Supporting Host*. This manual describes the installation of the client software.

1.1 Hardware Requirements

You must have the following hardware to run your PrintServer:

- The client system hardware must include an appropriate Ethernet controller. The controller must be connected by a transceiver cable to a transceiver on the Ethernet. This hardware is not part of the PrintServer product. Client systems and the PrintServer can be on the same Ethernet or on separate Ethernets, as long as they are connected by an Ethernet.
- The client system must also have an input device that corresponds to the software distribution kit. The distribution kits are available on the following media:
  - — Magnetic tape (1600 bits/inch)
  - — TK50 cartridge

1.2 Software Requirements

This section describes what software you need to use the PrintServer.

- The client system must be running on VAX/VMS, Versions 4.7, 5.0, or 5.1.
- The client system must be running DECnet–VAX.

- You must have the client software distribution kit, which should include the following:
  - — Software labeled VAX PrintServer Client Software, Version 3.0, on one of the media listed in Section 1.1.
  - — *Installation Guide: VAX PrintServer Client*
  - — *Management/User's Guide: VAX PrintServer Client*
  - — *PostScript Language Reference Manual*
  - — *PostScript Language Tutorial and Cookbook*
  - — *PostScript Translators Reference Manual*
  - — *Programmer's Supplement: PostScript Printers*

The availability of a PrintServer is not a requirement for the installation of the client software. However, the installation verification procedure (IVP) does require an operating printer.

The installation procedure uses the VMSINSTAL utility.

Refer to the *System Support Addendum* for tailoring classes and prerequisite product requirements for this product.

1.3 Preinstallation Item

You must STOP/RESET all LPSxx queues before reinstalling this product. The installation starts the queues with the newly installed software.

NOTE

The device control library is replaced, not updated. If you have added device control modules to the library, you should extract them and copy them to a directory that is not affected by the installation. When the installation is complete, move your device control modules back to the library.

1.4 Preinstallation Data

The installation procedure asks for information about your PrintServer. Before you begin the installation, determine and record the following information for each PrintServer that will provide printing services for this client system:

- PrintServer node name
- PrintServer node address

1.4.1 PrintServer Node Name

The DECnet node name is used as the PrintServer's name and as part of the print queue name. The name must be unique for your DECnet network and must consist of an alphanumeric string of one to six characters with at least one alphabetic character.

Examples:

HALLEY
LPS40
2001AD

1.4.2 PrintServer Node Address

The DECnet node address is assigned to the PrintServer by the customer site network manager. A node address is a unique decimal value assigned to each node in a network. The format of the address is:

```
[area-number.]node-number
```

where:

area-number is a number in the range 1 to 63. If the area number is omitted, the default is the area number of the client node.

node-number is a number in the range 1 to 1023.

Example:

```
4.125
```

If this is not the first time you have installed the PrintServer software, you can find this address by issuing the following command:

```
$ MC NCP SHOW NODE printserver_name CHARACTERISTICS
```

The system responds with the PrintServer node address:

```
Node Volatile Characteristics as of dd-mmm-yyyy hh:mm:ss

Remote node = 4.125 (HALLEY)
```

1.5 Required Disk Space

The installation of the client software requires approximately 3500 available disk blocks. After installation, the client software requires approximately 2700 disk blocks.

1.6 Approximate Installation Time

The time to install the PrintServer software on the client system depends in part on the type of distribution media and in part on the concurrent activity on the system. The installation should take about 30 minutes. This includes starting the installation verification procedure (IVP). Note, however, that the IVP may not complete until some time after the installation has ended. For example, if the PrintServer is not running at the time, the IVP job remains pending in the print queue until the printer is started.

Chapter 2

Installation Procedure

This chapter describes the installation of PrintServer client software on a VAX/VMS system, using the VMSINSTAL procedure. If you are not familiar with the VMSINSTAL utility, refer to the *Guide to VAX/VMS Software Installation*.

Perform the following steps before you begin the installation procedure:

1. Assemble preinstallation data.
2. Extract and copy any device control library modules from LPS$DEVCTL.TLB that you have created to a directory that is unaffected by the installation procedure. The installation procedure replaces the device control library.
3. Make a backup copy of the client software distribution media.
4. Mount the distribution media on an appropriate input device.
5. Make sure that the DECnet network software is running on the client system.
6. Check that you have enough disk space—a minimum of 3500 blocks.
7. Check that the Queue Manager is running. If the Queue Manager is not running, the installation starts it.
8. Log in to the system manager's account.

2.1 VMSINSTAL Conventions

VMSINSTAL is interactive in that it not only displays instructions but also requests and accepts data items as required by the product being installed. The material that is displayed falls into four categories: instructions, statements, queries, and messages.

- Instructions guide you through the procedure or provide you with information about queries.
- Statements inform you of the status or progress of the installation procedure.
- Queries are preceded by an asterisk (*) and may be followed by default responses enclosed in brackets ([ ]). The query is terminated by either a colon (:) or a question mark (?). Type your response after the colon or question mark and press Return. You can choose the default response by pressing Return. If you are not sure of the response, enter a question mark (?) and press Return. VMSINSTAL displays explanatory text and repeats the prompt.

  The use of VMSINSTAL OPTIONS A (autoanswer) is not recommended, as the installation dialog can vary on subsequent installation passes.
- VMSINSTAL-specific messages are documented in the *Guide to VAX/VMS Software Installation*. Messages specific to the installation of the client software are in this manual.

2.1.1 VMSINSTAL Release Notes

A machine-readable copy of the *VAX PrintServer Release Notes* is included on the software distribution media. Access to the notes depends on the version of VMS that is running on the client system.

Use the VMSINSTAL OPTIONS N to request the release notes options.

2.1.2 Running the VMSINSTAL Procedure

Invoke the VMSINSTAL procedure as follows:

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

VMSINSTAL displays its banner line, the date, and time. It may also display warning messages if you have not followed the preparatory suggestions. You have the option of continuing the installation or exiting to modify the conditions. If DECnet is running as required, you get the following messages:

```
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? Y
```

Enter YES to continue.

You will then be asked:

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

Press Return to continue; enter NO to exit and take corrective action.

```
* Where will the distribution volumes be mounted: MUA0:
```

Enter the device name. In this example, the device name is MUA0:.

VMSINSTAL then instructs you to enter the products to be processed from the first distribution volume set.

```
* Products: LPSVC030
* Options: N
```

where:

LPSVC030 is the product name that refers to Version 3.0 of the PrintServer client software.

OPTIONS N is the release notes option, which gives you the option to display and print a copy of the release notes.

VMSINSTAL displays the name and version of the product being installed, the start time of the installation, and messages confirming the restoration of each save set on the distribution media. For multivolume media, you are prompted to mount successive volumes.

If you enter OPTIONS N at the VMSINSTAL command line, the following options are displayed on VMS, Version 4 systems:

```
   Release Notes Options:
          (1) Display release notes
          (2) Print release notes
          (3) Both 1 and 2

* Select option [3]:
* Queue name [SYS$PRINT]:
```

The following release notes options are displayed for Version 5 systems:

```
   Release Notes Options:
          (1) Display release notes
          (2) Print release notes
          (3) Both 1 and 2
          (4) Copy the release notes to SYS$HELP
          (5) Do not display, print, or copy release notes

* Select option [2]: 4
* Do you want to continue the installation? Y
```

NOTE

Unless you select option 5, the release notes are always moved to SYS$HELP, even if you do not take the release notes option.

If you enter NO, the installation is terminated.

NOTE

If you must exit prematurely by typing Ctrl/y, the installation procedure traps to a cleanup routine. The cleanup routine instructs you not to press Ctrl/y during the cleanup period. If you continue to press Ctrl/y after getting this notice, the installation may not fully clean up and may leave your machine in an indeterminate state.

VMSINSTAL then asks if you want to run the installation verification procedure (IVP) as part of the VMSINSTAL procedure. If the PrintServers are not operational or unavailable, stop/reset the installed queues after the installation has completed. Then, start the IVP once the PrintServers are running.

NOTE

It may be desirable to have the IVP in the queue ready to print as long as the queue is stopped.

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

If you press Return, the IVP is automatically queued to the PrintServer at the end of the installation. If you don't want the IVP to run, enter NO.

VMSINSTAL now asks:

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

Press Return if you want to save disk space; enter NO if you think the files may still be of use.

VMSINSTAL displays information about setting up PrintServer access data in the client's network database. It prompts you for the node name and node number of each PrintServer to be used by this client. Press Ctrl/z to reprompt for node name and node address.

```
* Enter PrintServer node name:

* Enter PrintServer node address:
```

After you enter the node address, VMSINSTAL displays both the node name and node address and asks you to confirm the entries.

```
* Is the above information correct [YES]?
```

If you enter NO, VMSINSTAL notifies you that the prior definition is canceled. It then prompts you again for the information, using the previous data as the default.

```
* Are there any more PrintServers to be defined for this client? [NO]?
```

If there are no more PrintServers to be installed, enter the default by pressing Return.

Next, the installation procedure determines if a directory exists for the layup files by checking the directory name defined in the logical LPS$LAYUP or the default directory if LPS$LAYUP is not defined. If no directory is found, you are asked to specify the device and directory name for the layup files. You can also select a new directory if a directory already exists.

```
%LPS40C-I-CRENEWLOG, Creating new LPS$LAYUP logical definition.

* Enter the device you want for LPS$LAYUP [SYS$SYSDEVICE]:

* Enter the directory you want for LPS$LAYUP [LPS$CLIENT]:
[user_layup]
```

When you enter your directory name, VMSINSTAL returns with messages indicating that the directory does not exist and verifies that you want to create the directory.

```
% LPS40C-E-DIRNOEXIST, Directory [USER_LAYUP] does not currently
      exist on your system.

* Do you want to create directory [USER_LAYUP] [NO]?   Y
```

Now you have the opportunity to create a *search list*, a list of directories for VMSINSTAL to search to find the layup files.

```
* Do you want to add another logical definition [NO]?
```

If you enter YES, VMSINSTAL asks for another device and directory name. If you press Return, VMSINSTAL asks you which directory you choose for the layup files. It uses the first directory you named as the default choice.

```
* Enter the device you want for LPS$LAYUP [SYS$SYSDEVICE]:

SYS$SYSDEVICE

* Enter the directory you want for LPS$LAYUP [LPS$CLIENT]:
[USER_LAYUP]

* Do you want to add another logical definition [NO]?

Which directory should be used for this layup installation?
    [SYS$SYSDEVICE:[LPS$CLIENT]]:
```

Next, the installation procedure asks you what type of PrintServer you are installing. You enter PRINTSERVERxx

where:

xx is either 20 or 40.

```
* What type of printserver is node node-name? [PRINTSERVER40]:
```

VMSINSTAL then checks for existing queues for the PrintServers you defined. If print queues exist, VMSINSTAL executes a STOP/QUEUE/RESET command.

VMSINSTAL asks you if you want to set up generic queues. A generic queue has specific data types associated with it. For example, a generic ReGIS queue calls the ReGIS-to-POSTSCRIPT translator every time a job is printed on that queue.

```
* Do you want to set up a generic queue of data type data-type
 for printserver pserver-name [YES]?
```

If you press Return to any of the generic queue questions, you are further prompted for a name to assign to that queue. Default names are supplied.

```
* Enter generic queue name for data type data-type [data-type_node-name]:
```

VMSINSTAL generates an LPS$STARTUP.COM file to establish print queues for the PrintServers that you have defined. On VMS, Version 4 systems, LPS$STARTUP.COM is located in SYS$MANAGER:. On VMS, Version 5 systems, LPS$STARTUP.COM is located in SYS$STARTUP:. If you require more than the options provide, modify the LPS$STARTUP.COM file after the installation has completed.

VMSINSTAL displays a message for the system manager, describing the procedure file and giving instructions on how to implement it.

VMSINSTAL then moves files from their temporary locations during installation to their permanent directories.

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

Previously, the PrintServer client installation asked you for generic queue names for each node on which this client can print files. Based on what you enter, the installation procedure builds the installation verification procedure (IVP) command file.

NOTE

If you later delete or change any generic queue names, you must reinstall the client to create a new IVP command file or edit the IVP command file located in SYS$TEST. Otherwise, your IVP command file does not work.

At this point, if requested at the beginning of the installation procedure, the installation verification procedure (IVP) is started. The files, LPS$IVP_ANSI.DAT, LPS$IVP_REGIS.DAT, LPS$IVP_TEK4014.DAT, and LPS$IVP_LAYUPDEF.DAT are sent to each PrintServer that was defined. These print jobs complete some time after the installation procedure ends. The time depends on each PrintServer's print load. If a PrintServer is not running and accepting jobs at the time, the corresponding print request remains in the client's PrintServer queue until the PrintServer becomes active again. (Although the print request is waiting for the PrintServer, its status on a SHOW QUEUE command is Printing.)

After any requested IVP jobs are started, VMSINSTAL issues its terminating messages:

```
    ** The PrintServer Client IVP has completed successfully **

        Installation of LPSVC V3.0 completed at hh:mm

        VMSINSTAL procedure done at hh:mm
$
```

When you complete the installation, log out.

```
$ lo
  SYSTEM       logged out at dd:mmm:yyyy hh::mm:ss
```

Chapter 3

Postinstallation Requirements

The following PrintServer-related operations should be performed after the installation of the client software. Because these operations affect system files, they should be performed by a system or cluster manager.

3.1 Updating the System Startup File

Be sure that the system startup file contains the command procedure call shown below. Note that on VMS, Version 5 systems, the system-wide startup file is SYS$STARTUP:SYSTARTUP_V5.COM.

```
$ @SYS$MANAGER:LPS$STARTUP.COM (VMS V4.7)

$ @SYS$STARTUP:LPS$STARTUP.COM (VMS V5)
```

If the file is not present, add it.

The LPS$STARTUP command procedure initializes and starts the PrintServer's device and generic queues. You can modify the command procedure for your particular system. Refer to the *Management/User's Guide: VAX PrintServer Client* for information on initializing PrintServer queues.

3.2 Changing Default Parameters

The print symbiont for the PrintServer initially provides the following three parameters with the default values shown:

- DATA_TYPE = ANSI
- PAGE_SIZE = A

- SHEET_SIZE = A

A system-wide logical name is defined for each generic queue (a queue with a default data type) that is requested during the installation procedure. Only the default DATA_TYPE can be defined during installation.

For example, if you name a generic queue for ReGIS data during the installation of a PrintServer named IGUANA, the following system-wide logical name is defined:

```
$ DEFINE/SYSTEM/EXECUTIVE LPS$REGIS_IGUANA_PARAMETER "DATA_TYPE=REGIS"
```

These defaults can be changed by defining or redefining the system-wide logical names in the LPS$STARTUP.COM file. These logical names are in the form LPS$*queue-name*_PARAMETER

where:

queue-name is the name of the queue whose jobs are to take the defaults.

For example, to add the default sheet size LEGAL, redefine the logical name as follows:

```
$ DEFINE/SYSTEM/EXECUTIVE LPS$REGIS_IGUANA_PARAMETER
"DATA_TYPE=REGIS,SHEET_SIZE=LEGAL"
```

Parameters specified by the LPS$*queue-name*_PARAMETER logical name follow the same rules as those entered in the PRINT/PARAMETER command, with one exception. In the PRINT command, parameters containing special characters or delimiters are enclosed in double quotation marks ("), but in the LPS$*queue-name*_PARAMETER system-wide logical name, they are not enclosed in extra quotation marks. Compare the following sample PRINT command with the sample logical name definition:

```
$ PRINT/PARAMETER=(DATA_TYPE=ANSI,"SHEET_LIMIT=(4,10)",SHEET_COUNT=3)

$ DEFINE/SYSTEM/EXECUTIVE LPS$ANSI_IGUANA_PARAMETER "DATA_TYPE=ANSI,_
  SHEET_LIMIT=(4,10),SHEET_COUNT=3"
```

In the PRINT command, the SHEET_LIMIT=(4,10) parameter must be enclosed in double quotation marks. In the logical name definition, the SHEET_LIMIT=(4,10) parameter must not be enclosed in extra double quotation marks.

NOTE

If an error is generated parsing the translated string, then the print symbiont ignores the parameter causing the error, as well as the remaining parameters.

The client selects default values for parameters, from lowest to highest priority, as follows:

- Values defaulted by the symbiont
- Defaults established by LPS$*queue-name*_PARAMETER logical name
- Defaults established in the PRINT request

If you specify one or more of the parameters PAGE_SIZE, SHEET_SIZE, or INPUT_TRAY in the PRINT command, the client ignores all three in the LPS$*queue-name*_PARAMETER logical name.

See the *Management/User's Guide: VAX PrintServer Client* for more information on the print parameters.

3.3 Additional Requirements for VAXclusters

Systems that are part of a VAXcluster have additional postinstallation requirements.

The LPS$STARTUP.COM file generated or updated during an installation must be executed on all other members of the cluster. When the installation procedure has completed on your node, a system manager or the cluster manager should execute the following command at all other nodes in the cluster.

For VMS, Version 4 systems:

```
$ @SYS$COMMON:[SYSMGR]LPS$STARTUP.COM
```

For VMS, Version 5 systems:

```
$ @SYS$COMMON:[SYS$STARTUP]LPS$STARTUP.COM
```

Include this command in the system startup command file of each cluster member.

Only one device queue is created for the cluster. The queue is initialized and started from the node performing the installation.

If it is necessary to have the device queue originate from a different node on the cluster, perform the following steps:

- Stop the existing LPS40$*node-name* queue.
- Edit the file LPS$STARTUP.COM to redefine the symbol CLIENT_ INSTALLED_NODE to the name of the chosen node.
- Reinvoke LPS$STARTUP.COM from the chosen node.

3.4 LPS$$FORM

The installation defines the LPS$*psnode-name* device queue with a special form, LPS$$FORM. This form prevents problems on your client system if you have redefined the default form for other products on that system.

Do not change the contents of the LPS$$FORM in the device control library SYS$LIBRARY:LPS$DEVCTL.TLB. Any module beginning with **LPS$$** is reserved by DIGITAL and must not be modified. However, you may add your own modules to the device control library. The module must be written in POSTSCRIPT. For more information, see the *Programmer's Supplement: POSTSCRIPT Printers*.

Chapter 4

System Messages

This chapter contains the system messages issued by and unique to the PrintServer client installation procedure. Refer to the *Guide to VAX/VMS Software Installation* for explanations of messages issued by VMSINSTAL. Refer to the *VAX/VMS System Messages and Recovery Procedures Reference Manual* for explanations of messages issued by the Authorize utility.

4.1 Message Format

System messages issued during the installation procedure have the following format:

```
%LPS-S-ident, text
--LPS-S-ident, text
```

where:

% is the prefix to all messages.

LPS is the source designation of the messages.

S is the severity level of the message.

ident is an abbreviation of the message text.

text is the expanded text of the message.

- - is the prefix to all continuation messages.

4.2 Severity Level

PrintServer system messages have the following severity levels:

Code	Meaning
S	Success — successful completion of the request.
I	Informational — may or may not require user action.
W	Warning — request may not have completed and may require user action.
E	Error — system encountered an error which may be recoverable.
F	Fatal — system encountered a fatal error and cannot continue processing this request.

4.3 Message Descriptions

The following message descriptions are alphabetized by the ident portion of the message code. The message prefix, source designation, and severity code are not shown.

BADKIT, *filename* is missing or defective
Call DIGITAL Field Service

Explanation: Your software kit is missing a file or is defective in some way.

User Action: Call your local DIGITAL representative.

BADKIT, Installation procedure internal error
Call DIGITAL Field Service

Explanation: Your software kit is missing a file or is defective in some way.

User Action: Call your local DIGITAL representative.

BADLAYSPECN, *device:[directory_name]* was not entered as a search string element

Explanation: You entered the name of a directory that was not in the logical definition of LPS$LAYUP.

User Action: Enter a directory included in the list of logical names for LPS$LAYUP.

BAD_NODE_ADDRESS, Invalid node address

Explanation: You entered a node address using the wrong syntax.

User Action: Enter a valid node address or press ? for help.

BAD_NODE_NAME, Invalid node name

Explanation: You entered a node name using the wrong syntax.

User Action: Enter a valid node name or press ? for help.

CLEANING_UP, User Action may be reqd, DO NOT USE CTRL/Y

Explanation: There is a problem with the installation. Any system parameters that were changed up to the point of failure are being restored to their original values.

User Action: Refer to the troubleshooting information in this installation guide.

DEVINV, Device *device_name*: does not currently exist on your system

Explanation: You entered a device name that did not exist on your system.

User Action: Enter a valid device name.

DIRNOEXIST, Directory *[directory_name]* does not currently exist on your system

Explanation: You named a new directory for the layup files. A subsequent question asks if you want to create this directory.

User Action: Enter YES or NO to the subsequent question.

EMPTYDIR, An empty directory specification was entered, please enter something

Explanation: You did not enter a directory specification when one was requested.

User Action: Enter a directory specification.

IGNORED_DEFINITION, Canceling definition of node *node-name* at user's request

Explanation: You informed the system that the information you entered for the specified node is not correct.

User Action: Enter the correct information when the system repeats the prompt.

INSTALL_INCOMPLETE, Installation discontinued at user's request

Explanation: You discontinued the installation after choosing a release notes option.

User Action: Restart the installation at a later time.

INVDIR, *directory* is not a syntactically valid directory name

Explanation: You entered a directory name that uses either illegal characters, too many characters, or too many sublevels.

User Action: Enter a valid directory name. (Check the VMS documentation for information on directory names.)

INVQUENAM, Invalid queue name

Explanation: You entered a queue name using the wrong syntax.

User Action: Enter a valid queue name or press ⌐ ? for help.

KNOWN_NODE_ADDRESS, Duplicate node address. *node-addr* is already known to *local-node* as a PrintServer node with name *node-name*

Explanation: The node address you entered was previously recorded with the specified node name during this installation session.

User Action: Check your node information and reenter the data.

KNOWN_NODE_NAME, Duplicate node name. *node-name* is already known to *local-node* as a PrintServer node with address *node-addr*

Explanation: The node name you entered was previously recorded with the specified node address during this installation session.

User Action: Check your node information and reenter the data.

MUSTDEF, A valid layup definition directory must exist in order to proceed

Explanation: Your answers to layup-related questions did not create a valid logical name LPS$LAYUP, with existing directories equivalent to it.

User Action: Answer the layup questions when they are repeated. Remember that before you can create a new layup directory, all the directories above the new directory must exist.

NEED_ATLEAST_ONE_PS, At least one PrintServer must be defined in order to continue with the installation of client software on *local-node*

Explanation: You are trying to exit the node identification portion of the installation procedure without defining a PrintServer node.

User Action: You must define at least one PrintServer to continue the installation. If you want to leave the installation procedure, press Ctrl/y.

NOCRETDIR, Unable to create directory *directory*

Explanation: The installation procedure could not create a layup directory. You may be using either an invalid device or incorrect protection.

User Action: Try a different directory specification. If this does not work, abort the installation and use DCL commands to check the device name and protection. Remember that before you can create a new layup directory, all the directories above the new directory must exist.

NOLOGNAM, Cannot translate logical SYS$NODE (DECnet not running)

Explanation: LPS$STARTUP.COM is executed and DECnet is not running.

User Action: You should configure your SYSTARTUP.COM file to ensure that DECnet is started before the LPS$STARTUP.COM is started.

NOT_ENOUGH_DISK_SPACE, *local-node* requires *decimal-number* disk blocks for this installation

Explanation: Not enough disk blocks are available to install this software. The installation procedure is aborted.

User Action: Ensure that you have at least the specified number of free disk blocks and restart the installation.

NOT_LOCAL_NODE, Node *local-node* cannot be a PrintServer node

Explanation: You defined your client node as a PrintServer node, which is not allowed. You are reprompted for a valid PrintServer node name.

User Action: Enter a valid PrintServer node name.

NO_NETWORK, Network must be running to install this software

Explanation: The DECnet software is not running on your system. The installation procedure is aborted.

User Action: Start the DECnet software. Restart the installation.

NO_QUEUE, Queue utility must be available to install this software

Explanation: The Queue utility could not be found. The installation procedure is aborted. *This error applies to MicroVMS V4.7 only.*

User Action: Install the Queue utility by installing the VMS mandatory update.

TOPDIR, *[directory-name]* is invalid. Layup directory must be a top-level directory.

Explanation: You specified a subdirectory without its top-level directory. (The directory name you specified began with a period (.).)

User Action: Enter a directory specification that includes a top-level directory name.

Appendix A

Sample Installation Sessions

The first sample session represents the installation of a single Version 3.0 PrintServer on a node that did not previously have client software. The second sample session represents the installation of multiple Version 3.0 PrintServers on a node that is already running the client software.

Messages and questions may vary due to system conditions, whether or not you are installing over a previous version of the software, and what options you choose.

A.1 Installing a Single PrintServer

```
Username: DPS_INSTALL
Password:
 Welcome to VAX/VMS version V5.0 on node HCFS05
    Last interactive login on Tuesday, 24-JAN-1989 07:55
    Last non-interactive login on Tuesday, 24-JAN-1989 08:00

$ @sys$update:vmsinstal
 VAX/VMS Software Product Installation Procedure V5.0

It is 24-JAN-1989 at 08:28.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? y
* Are you satisfied with the backup of your system disk [YES]?
* Where will the distribution volumes be mounted: MUA0:

Enter the products to be processed from the first distribution volume set.
* Products: LPSVC030
* Options: N
The following products will be processed:

  LPSVC V3.0
```

```
 Beginning installation of LPSVC V3.0 at 08:29

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

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

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

A working PrintServer environment includes a number of clients
(DECnet nodes that require remote printing facilities) and one
or more PrintServers (laser printers). This installation procedure
will install the Client software.

You will be asked for the following DECnet node information for each
PrintServer that is required to be accessed by the client

 Node Name  Node Address

Enter CTRL/Z to reprompt for Node name and Node address

* Enter PrintServer node name: pawn10

* Enter PrintServer node address: 55.905

PrintServer node name:          PAWN10
PrintServer node address:       55.905

* Is the above information correct [YES]?

* Are there any more PrintServers to be defined for this client [NO]?
%LPSVC-I-CRENEWLOG, Creating new LPS$LAYUP logical definition

* Enter the device you want for LPS$LAYUP [SYS$SYSDEVICE:]:

* Enter the directory you want for LPS$LAYUP [[LPS$CLIENT]]:

* Do you want to add another logical definition [NO]? Y

* Enter the device you want for LPS$LAYUP [SYS$SYSDEVICE:]:

* Enter the directory you want for LPS$LAYUP [[LPS$CLIENT]]: [USER_LAYUP]
%LPSVC-E-DIRNOEXIST, Directory [USER_LAYUP] does not currently exist on
your system

* Do you want to create directory [USER_LAYUP] [NO]? Y
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$SYSDEVICE:[USER_LAYUP].

* Do you want to add another logical definition [NO]? N
```

```
* Which directory should be used for this layup installation
[SYS$SYSDEVICE:[LPS$CLIENT]]:
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%LPSVC-I-ADDXLTR, Adding ANSI translator
%LPSVC-I-ADDXLTR, Adding Tektronix translator
%LPSVC-I-ADDXLTR, Adding ReGIS translator

* What type of PrintServer is node PAWN10 ? [PrintServer40]: PRINTSERVER20

* Do you want to set up a generic queue of data type ANSI for PrintServer
PAWN10 [YES]? N

* Do you want to set up a generic queue of data type REGIS for PrintServer
PAWN10 [YES]? N

* Do you want to set up a generic queue of data type TEK4014 for PrintServer
PAWN10 [YES]? N

* Do you want to set up a generic queue of data type POSTSCRIPT for
PrintServer PAWN10 [YES]?

* Enter generic queue name for data type POSTSCRIPT [PS_PAWN10]:

Include the following line in your System startup procedure

$ @SYS$STARTUP:LPS$STARTUP.COM

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
 Beginning the LPSVC V3.0 Installation Verification Procedure. A print job
 will be sent to each queue that was established during the installation

 Refer to the VAX Installation Guide: PrintServer Client for additional
 information and Post-installation Instructions
Job LPS$IVP_ANSI (queue LPS20$PAWN10, entry 117) started on LPS20$PAWN10
Job LPS$IVP_REGIS (queue LPS20$PAWN10, entry 118) pending
pending status caused by queue busy
Job LPS$IVP_TEK4014 (queue LPS20$PAWN10, entry 119) pending
pending status caused by queue busy
Job LPS$IVP_LAYUPDEF (queue LPS20$PAWN10, entry 120) pending
pending status caused by queue busy

 ** The PrintServer Client IVP has completed successfully **
 Installation of LPSVC V3.0 completed at 08:47
```

A.1.1 PrintServer Client Upgrade

```
Username: DPS_INSTALL
Password:
 Welcome to VAX/VMS version V5.0 on node HCFS05
    Last interactive login on Tuesday, 24-JAN-1989 09:08
    Last non-interactive login on Tuesday, 24-JAN-1989 09:03

$ @SYS$UPDATE:VMSINSTAL LPSVC030 MUA0

 VAX/VMS Software Product Installation Procedure V5.0
```

```
It is 24-JAN-1989 at 10:04.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]? Y

The following products will be processed:

  LPSVC V3.0

 Beginning installation of LPSVC V3.0 at 10:04

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED, The product's release notes have been successfully
moved to SYS$HELP.

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

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

A working PrintServer environment includes a number of clients
(DECnet nodes that require remote printing facilities) and one
or more PrintServers (laser printers). This installation procedure
will install the Client software.

You will be asked for the following DECnet node information for each
PrintServer that is required to be accessed by the client

 Node Name  Node Address

Enter CTRL/Z to reprompt for Node name and Node address

* Enter PrintServer node name: PAWN10

* Enter PrintServer node address: 55.905

PrintServer node name:          PAWN10
PrintServer node address:       55.905

* Is the above information correct [YES]?

* Are there any more PrintServers to be defined for this client [NO]?
%LPSVC-I-LOGDEFN, LPS$LAYUP has the following logical definition
   "LPS$LAYUP" = "SYS$SYSDEVICE:[LPS$CLIENT]" (LNM$SYSTEM_TABLE)
 = "SYS$SYSDEVICE:[USER_LAYUP]"

* Do you want to redefine the logical LPS$LAYUP [NO]?
%LPSVC-I-CHECKLOG, Checking current LPS$LAYUP logical definition

* Which directory should be used for this layup installation
[SYS$SYSDEVICE:[LPS$CLIENT]]:
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...

* What type of PrintServer is node PAWN10 ? [PrintServer40]: PRINTSERVER20

* Do you want to set up a generic queue of data type ANSI for PrintServer
PAWN10 [YES]? N

* Do you want to set up a generic queue of data type REGIS for PrintServer
PAWN10 [YES]? N
```

```
* Do you want to set up a generic queue of data type TEK4014 for
PrintServer PAWN10 [YES]? N

* Do you want to set up a generic queue of data type POSTSCRIPT for
PrintServer PAWN10 [YES]?

* Enter generic queue name for data type POSTSCRIPT [PS_PAWN10]:

Include the following line in your System startup procedure

$ @SYS$STARTUP:LPS$STARTUP.COM

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
 Beginning the LPSVC V3.0 Installation Verification Procedure. A print job
 will be sent to each queue that was established during the installation

 Refer to the VAX Installation Guide: PrintServer Client for
 additional information and Post-installation Instructions
Job LPS$IVP_ANSI (queue LPS20$PAWN10, entry 121) pending
   pending status caused by queue busy
Job LPS$IVP_REGIS (queue LPS20$PAWN10, entry 122) pending
   pending status caused by queue busy
Job LPS$IVP_TEK4014 (queue LPS20$PAWN10, entry 123) pending
   pending status caused by queue busy
Job LPS$IVP_LAYUPDEF (queue LPS20$PAWN10, entry 124) pending
   pending status caused by queue busy

 ** The PrintServer Client IVP has completed successfully **
 Installation of LPSVC V3.0 completed at 10:29

 VMSINSTAL procedure done at 10:30
$
```

Appendix C

Files and Libraries Added During Installation

During the installation of the PrintServer client software, new files and libraries are added to the system.

C.1 New Files

The following files are added to the specified directories during the installation procedure:

File Name	Directory
LPS$SMB.EXE	SYS$SYSTEM
LPS$MSG.EXE	SYS$MESSAGE
LPSVC030.RELEASE_NOTES	SYS$HELP
LPS$STARTUP.COM	SYS$STARTUP (VMS, Version 5)
TRN$ANSI_PS.EXE	SYS$SHARE
TRN$LAYUPDEF_PS.EXE	SYS$SHARE
TRN$REGIS_PS.EXE	SYS$SHARE
TRN$TEK4014_PS.EXE	SYS$SHARE
LPS$SINGLEHOLES.LUP	LPS$LAYUP
LPS$DOUBLEHOLES.LUP	LPS$LAYUP
LPS$HOLES.LUP	LPS$LAYUP

File Name	Directory
LPS$NUP.LUP	LPS$LAYUP
LPS$IVP.COM	SYS$SYSROOT:[SYSTEST]
LPS$IVP_ANSI.DAT	SYS$SYSROOT:[SYSTEST.LPSVC]
LPS$IVP_REGIS.DAT	SYS$SYSROOT:[SYSTEST.LPSVC]
LPS$IVP_TEK4014.DAT	SYS$SYSROOT:[SYSTEST.LPSVC]
LPS$IVP_LAYUPDEF.DAT	SYS$SYSROOT:[SYSTEST.LPSVC]

C.2 New Libraries

During the first installation of the client software, two new libraries—a device control library and a font metrics library—are added to the client system during the installation procedure. Both libraries are located in the SYS$SYSROOT:[SYSLIB] directory defined as SYS$SHARE.

If you are replacing the client software with a newer version, the installation procedure updates the font metrics library as necessary. The device control library is always replaced. If you have added device control modules to this library, they will be deleted during the installation.

C.2.1 Device Control Library

The device control library supplied in the client software distribution kit contains the POSTSCRIPT modules listed in this section, which are used to control the operation of the PrintServer.

The device control library is replaced, not updated, when you install a new version of the client software. If you have added device control modules to this library, they will be deleted during the installation. Therefore, before you install the new software, you should copy the modules you created to another library. When the installation is complete, reinsert them in the device control library.

Library File	Modules
LPS$DEVCTL.TLB	LPS$$EOJ
	LPS$$JOBJOG
	LPS$$FLAGPAGE
	LPS$$FLUSHPAGES
	LPS$$LOADDICT
	LPS$$MESSAGEPAGE
	LPS$$SETCONTEXT
	LPS$$SETINPUTTRAY
	LPS$$SETNUMBERUP
	LPS$$SETOUTPUTTRAY
	LPS$$PAGELIMIT
	LPS$$PAGEORIENTATION
	LPS$$SETPAGESIZE
	LPS$$SETSHEETCOUNT
	LPS$$SETSHEETLIMIT
	LPS$$SETSHEETSIZE
	LPS$$TRAILPAGE
	LPS$$DECMCSENCODING
	LPS$ERRORHANDLER
	LPS$$FINDFONT_ISOLATIN1_DECMCS_V40
	LPS$$ISOLATIN1ENCODING

C.2.2 Font Metrics Library

The font metrics library supplied in the client software distribution kit contains the font metrics for the 29 fonts available on DIGITAL's PrintServers.

The font metrics library is updated, not replaced, when you install a new version of the client software.

Library File	Modules
LPS$FONT_METRICS.TLB	ADOBE_FONT_METRICS_SPEC
	AVANTGARDE_BOOK
	AVANTGARDE_DEMI
	AVANTGARDE_BOOKOBLIQUE
	AVANTGARDE_DEMIOBLIQUE
	COURIER
	COURIER_BOLD
	COURIER_OBLIQUE
	COURIER_BOLDOBLIQUE
	HELVETICA
	HELVETICA_BOLD
	HELVETICA_OBLIQUE
	HELVETICA_BOLDOBLIQUE
	LUBALINGRAPH_BOOK
	LUBALINGRAPH_DEMI
	LUBALINGRAPH_BOOKOBLIQUE
	LUBALINGRAPH_DEMIOBLIQUE
	NEWCENTURYSCHLBK_ROMAN
	NEWCENTURYSCHLBK_BOLD
	NEWCENTURYSCHLBK_ITALIC
	NEWCENTURYSCHLBK_BOLDITALIC
	SOUVENIR_LIGHT
	SOUVENIR_DEMI
	SOUVENIR_LIGHTITALIC
	SOUVENIR_DEMIITALIC
	SYMBOL
	TIMES_ROMAN
	TIMES_BOLD
	TIMES_ITALIC
	TIMES_BOLDITALIC

Appendix D

Troubleshooting Procedures

The following troubleshooting procedures are provided to diagnose error conditions at your client node.

D.1 PrintServer Is Not Printing Jobs

If the PrintServer is not printing, either from the installation verification procedure or from normal everyday use, perform the following three steps:

1. Check the PrintServer device queue characteristics.

Execute the following instruction inserting the name of the PrintServer device queue:

```
$  SHOW QUEUE dev-queue-name/FULL
```

For example, the characteristics for the PrintServer device queue LPS40$FANG on node VIPER are as follows:

```
$  SHOW QUEUE LPS40$FANG/FULL

Printer queue LPS40$FANG, on VIPER::FANG, mounted form LPS$$FORM
(stock=DEFAULT)
    /BASE_PRIORITY=4 /FORM=DEFAULT /LIBRARY=LPS$DEVCTL /OWNER=[SYSTEM]
    /PROCESSOR=LPS$SMB /PROTECTION=(S:E,O:D,G:R,W:W) /SCHEDULE=(NOSIZE)
    /SEPARATE=(FLAG,RESET=(LPS$$EOJ),TRAILER)
$
```

If the queue characteristics do not match, delete the device queue and all generic queues that point to it. Then execute the LPS$STARTUP.COM file. Note that for VMS, Version 4 systems,

LPS$STARTUP is located in SYS$MANAGER:. For VMS, Version 5 systems, LPS$STARTUP is located in SYS$STARTUP:.

```
$  STOP/RESET/QUEUE generic-queue-1
$  STOP/RESET/QUEUE other-generic-queues
$  STOP/RESET/QUEUE LPS40$pserver-name
$  DELETE/QUEUE generic-queue-1
$  DELETE/QUEUE other-generic-queues
$  DELETE/QUEUE LPS40$pserver-name
$  @SYS$MANAGER:LPS$STARTUP
```

Recheck the queue characteristics. If they are correct and the job still does not print, go to the next step.

2. Check the network database.

Execute the following instruction, inserting the node name of the PrintServer:

```
$  MC NCP SHOW NODE pserver-name
```

Check that the PrintServer node is defined in the network database and that the node name and node address are correct. If the node is not defined, redefine it properly.

Recheck the node characteristics. If correct and the job still does not print, go to the next step.

3. Check for required files.

Refer to Appendix C for the list of files. If any of these files is missing, reinstall the client software. If the correct files are present and if the jobs are still not printing, call your DIGITAL Field Service representative.

D.2 Data Is Not Printing Correctly

If one or more data types are not printing correctly, run the installation verification procedure (IVP) to verify that the data syntax translators are operating properly. Execute the following command file:

```
$  @SYS$SYSROOT:[SYSTEST.LPSVC]LPS$IVP
```

If the output matches the IVP output in Appendix B, the problem may be in the input data. If the output does not match the IVP output in Appendix B, submit a Software Performance Report to DIGITAL.

Index

C

Changing default parameters • 3–1

D

Device control library • C–2
Device queue
  LPS$$FORM • 3–4
Disk space • 1–5

F

Files
  added during installation • C–1
Font metrics library • C–3

G

Generic queues • 2–6

I

Installation procedure • 2–2
  installation questions • 2–2 to 2–7
  installation verification • 2–4
  messages • 4–1
  new files • C–1
  new libraries • C–2
  preinstallation checklist • 2–1
  release notes • 2–2
  sample installation sessions • A–1
  VMSINSTAL conventions • 2–2
Installation requirements
  disk space • 1–5
  hardware • 1–2
  installation time • 1–5
  node name • 1–4
  PrintServer node address • 1–4
  software • 1–2
  updating system startup file • 3–1
  VAXcluster • 3–3
Installation time • 1–5
Installation verification
  in installation procedure • 2–4

J

Job not printing • D–1

L

Libraries
  added during installation • C–2
LPS$$FORM • 3–4

M

Messages • 4–1
  descriptions • 4–2 to 4–7
  format • 4–1
  severity level • 4–2

N

Node address
  PrintServer • 1–4, 2–5

Node name • 2–5

P

Preinstallation data • 1–4
  node address • 1–4
  node name • 1–4
Preinstallation item • 1–3
  start/reset queues • 1–3
PrintServer • 1–1
  Ethernet • 1–1
  hardware requirements • 1–2
  node address • 1–4, 2–5
  node name • 1–4
  software components • 1–1
  software requirements • 1–2

Q

Queue
  reinitializing • 2–6

R

Release notes • 2–2

S

Sample installation sessions • A–1
Search list • 2–6
System messages
  See Messages
System startup file • 3–1

T

Troubleshooting procedures
  data not printing • D–2
  jobs not printing • D–1

V

VAXcluster • 3–3
VMSINSTAL
  conventions • 2–2
VMSINSTAL (Cont.)
  installation questions • 2–2 to 2–7
  release notes • 2–2