AA–N686H–TE

VAX ACMS

Installation Guide

May 1991

This document provides information about installing VAX ACMS Version 3.2.

Revision/Update Information: This is a revised manual.

Operating System: VMS Version 5.4-1 or higher

Software Version: VAX ACMS Version 3.2

digital equipment corporation
maynard, massachusetts

May 1991

The information in this document is subject to change without notice and should not be construed as a commitment by Digital Equipment Corporation. Digital Equipment Corporation assumes no responsibility for any errors that may appear in this document.

The software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license.

No responsibility is assumed for the use or reliability of software on equipment that is not supplied by Digital Equipment Corporation or its affiliated companies.

Restricted Rights: Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

© Digital Equipment Corporation 1991.

All Rights Reserved.
Printed in U.S.A.

The postpaid Reader's Comments forms at the end of this document request your critical evaluation to assist in preparing future documentation.

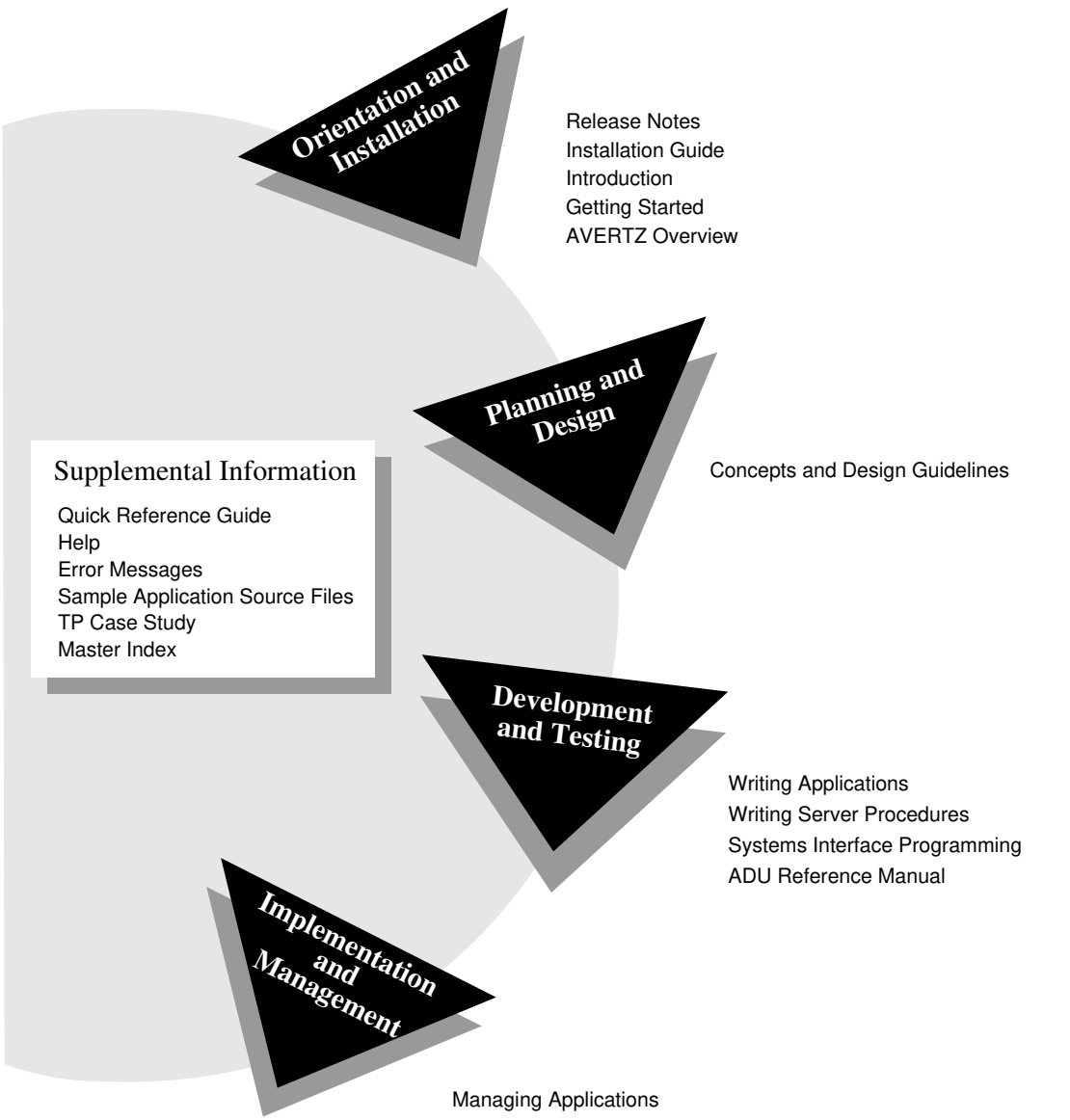
The following are trademarks of Digital Equipment Corporation:

ACMS, ALL-IN-1, CDD/Plus, DEC, DECdtm, DECforms, DECnet, DECtrace, DIBOL, EDT, MicroVAX, Rdb/VMS, VAX, VAX C, VAX CDD, VAX COBOL, VAX DATATRIEVE, VAX DBMS, VAX FMS, VAX FORTRAN, VAX Rdb/ELN, VAX RMS, VAX SMG, VAX SQL, VAX 8200, VAX 8800, VAX 9000, VAXcluster, VAXELN, VAXset, VIDA, VMS, VT, and the DIGITAL logo.

This document is available on line.

This document was prepared using VAX DOCUMENT, Version 1.2.

ACMS Information for the Application Development Life Cycle



ACMS Information	Description
Release Notes†	Information about the latest release of the software
VAX ACMS Installation Guide	Step-by-step presentation of installation requirements, the installation procedure, and post-installation tasks
VAX ACMS Introduction	Overview of VAX ACMS software and documentation
VAX ACMS Getting Started	Step-by-step tutorial for developing a simple ACMS application
VAX ACMS AVERTZ Overview	Description of the AVERTZ online sample application
VAX ACMS Concepts and Design Guidelines	Description of how to design an ACMS application
VAX ACMS Writing Applications	Description of how to write task, task group, application, and menu definitions using the Application Definition Utility (ADU)
VAX ACMS Writing Server Procedures	Description of how to write programs to use with tasks and how to debug tasks and programs
VAX ACMS Systems Interface Programming	Description of using Systems Interface (SI) Services to submit tasks to an ACMS system
VAX ACMS ADU Reference Manual	Reference information about commands, phrases, and clauses of the Application Definition Utility (ADU) used to write an ACMS application
VAX ACMS Managing Applications	Description of how to authorize, install, run, and manage ACMS applications, and how to control the ACMS system and its components
VAX ACMS Quick Reference Guide	List of ACMS syntax with brief descriptions
Help†	Help about ACMS and its utilities
Error Messages†	Explanations and user actions for error messages returned by ACMS utilities and commands
Sample Applications†	Sample applications: AVERTZ, based on the transaction processing requirements of a fictional car rental firm; EMPLOYEE, the tutorial application from *VAX ACMS Getting Started*
A TP System Case Study: Database and Application Development	Step-by-step description of the development of a complex ACMS application
VAX ACMS Master Index	Comprehensive listing of all index entries in the documentation set

†Available on line only.

Contents

Preface ix

Technical Changes and New Features xiii

1 Planning an Installation or Upgrade

1.1 Recommended Order for Installing Software 1–1
1.2 Upgrading Software in a Distributed System 1–2
1.2.1 Configuration Issues 1–2
1.2.2 Recommended Order for Upgrading Software 1–3
1.2.3 Determining Software Version Numbers 1–3
1.3 Product Dependencies 1–4

2 Preparing to Install ACMS

2.1 Types of ACMS Kits 2–1
2.2 Required Operating System Components 2–2
2.3 Prerequisite Software 2–2
2.4 Requirements for Optional Software 2–3
2.4.1 Products That Require a Minimum Version 2–3
2.4.2 Products That Do Not Terminate Installation 2–4
2.5 VMS License Management Facility 2–5
2.6 Installation Procedure Requirements 2–5
2.6.1 Time 2–5
2.6.2 Privileges 2–6
2.6.3 Disk Space 2–6

2.6.4 System Parameters 2–7
2.6.4.1 Checking System Parameter Values 2–8
2.6.4.2 Calculating the Values for GBLPAGES and GBLSECTIONS 2–8
2.6.4.3 Changing System Parameter Values with AUTOGEN 2–9
2.6.4.4 Setting the CLISYMTBL Dynamic System Parameter 2–9
2.6.5 Process Account Quotas 2–10
2.6.6 VMSINSTAL Requirements 2–11
2.6.7 Backing Up Your System Disk 2–11
2.6.8 ACMS Requirements 2–11

3 Installing ACMS

3.1 Installation Verification Procedure 3–1
3.2 Aborting the Installation 3–2
3.3 Installation Procedure 3–2
3.3.1 Invoking VMSINSTAL 3–2
3.3.2 Installation Questions 3–3
3.3.3 Informational Messages 3–12
3.3.4 Running the Installation Verification Procedure 3–13
3.3.5 Completing the Installation Procedure 3–13
3.4 Recovering from System and Installation Failures 3–13
3.4.1 System Failures 3–14
3.4.2 ACMS Installation Failures 3–14
3.4.3 Recovering from Errors 3–15
3.5 Accessing the Online Release Notes 3–16
3.6 Files and Logical Names Installed on Your System 3–16

4 After Installing ACMS

4.1 Editing the VMS System Files 4–2
4.1.1 Editing the System Startup File 4–2
4.1.2 Editing the System Shutdown File 4–2
4.2 Rebuilding the LSE Files 4–3
4.3 Modifying ACMS Parameters 4–3
4.4 Authorizing Applications, Devices, Users, and Processes 4–3
4.4.1 Authorizing New Applications 4–4
4.4.2 Authorizing New Devices 4–4
4.4.3 Authorizing New Users 4–4
4.4.4 Authorizing ACMS Processes 4–4
4.5 User Account Requirements 4–5
4.5.1 Privileges 4–5
4.5.2 User Account Quotas 4–5
4.6 Running ACMS_POST_INSTALL.COM 4–7

4.7 VAXcluster Considerations 4–13
4.8 Enabling Distributed Processing 4–14
4.9 Compiling the BLISS Library File 4–14
4.10 Compiling the Pascal ACMSPAS.PAS File 4–15
4.11 Enhancing ACMS Performance 4–15
4.12 Modifying the Help File and Message Text 4–15
4.13 Determining and Reporting Problems 4–16

5 Running the ACMS IVP

5.1 Functions of the IVP 5–1
5.2 Starting the IVP 5–2
5.3 Errors Running the IVP 5–3

A Sample Installations

A.1 Sample Development System Kit Installation A–1
A.2 Sample Run-Time Option Kit Installations A–5
A.2.1 Sample Run-Time Option Kit Installation With CDD Installed A–5
A.2.2 Sample Run-Time Option Kit Installation Without CDD Installed A–8
A.3 Sample Remote Access Option Kit Installation A–12

B Creating Transaction Logs for DECdtm Services

B.1 Prerequisites for Creating a Transaction Log B–1
B.2 Planning the Size and Location of Transaction Logs B–1
B.2.1 Determining the Size of Transaction Logs B–2
B.2.2 Determining the Location for Transaction Logs B–2
B.3 Setting Up and Creating Transaction Logs B–3
B.3.1 Setting Up the Transaction Logs B–3
B.3.2 Creating the Transaction Logs B–4
B.4 Example of Setting Up and Creating Transaction Logs B–4

C Software Version Requirements

Index

Tables

1–1	Determining Software Version Numbers	1–3
2–1	Timetable for Installing ACMS	2–5
2–2	Disk Space Requirements	2–6
2–3	Required System Parameter Values	2–7
2–4	Process Account Quotas	2–10
3–1	ACMS Save Set Descriptions	3–12
4–1	User Account Quotas	4–5
4–2	Global Sections and Pages Required for Shared Utility Images	4–9
B–1	Transaction Log Requirements	B–4
C–1	DECtrace Software Version Requirements	C–1
C–2	LSE Software Version Requirements	C–2
C–3	Rdb/VMS Software Version Requirements	C–2
C–4	CDD/Plus Software Version Requirements	C–2
C–5	DBMS Software Version Requirements	C–3
C–6	VDD Software Version Requirements	C–3
C–7	DECforms Software Version Requirements	C–3
C–8	TDMS Software Version Requirements	C–4
C–9	ACMS Software Version Requirements	C–4

Preface

This installation guide describes how to install the following ACMS software kits:

- ACMS Development System kit
- ACMS Run-Time Option kit
- ACMS Remote Access Option kit

Intended Audience

Read this manual if you are responsible for installing and maintaining software for ACMS. To perform the installation procedures described in this manual, you must have access to a privileged VMS system manager's account and be familiar with the VMS installation procedure, VMSINSTAL.

Operating System Information

For ACMS Version 3.2, you must be running Version 5.4-1 (or higher) of the VMS operating system.

For information on the relationship of other software products with this version of ACMS, refer to the System Support Addendum (SSA) that comes with the Software Product Description (SPD). Use the SPD/SSA to verify which versions of your operating system are compatible with this version of ACMS.

Structure

This manual has five chapters and three appendixes:

Chapter 1	Describes the recommended order for updating layered products used with ACMS, and special dependencies and considerations.
Chapter 2	Explains how to prepare your system for installing ACMS.
Chapter 3	Describes how to install the ACMS software and sample applications and run the Installation Verification Procedure (IVP). It also tells you how to recover from system and installation failures.
Chapter 4	Describes postinstallation procedures that prepare your VMS system for running ACMS.
Chapter 5	Describes how to run the ACMS IVP separately from the installation procedure.
Appendix A	Contains a sample installation for each ACMS kit.
Appendix B	Describes considerations for creating DECdtm services software log files.
Appendix C	Contains tables illustrating which versions of transaction processing related products are compatible.

Related Documents

Detailed information on the VMS installation procedure can be found in the *VMS Installation and Operations* manual for the particular device you use. That guide describes the following procedures:

- Handling and mounting the distribution media
- Readying the current system and target system devices

For information on recommended system management and operations policies and procedures, refer to your site management guide and the volumes in the VMS documentation set that pertain to system management and operations.

Two other manuals contain information about managing your ACMS system once it is installed:

- *VAX ACMS Managing Applications*

  Explains how to start and stop the ACMS system, monitor system performance, and perform some tuning operations. This manual also discusses installing applications, and authorizing users, applications, and devices.

- *VAX ACMS Release Notes*

  Contains information about new features and current restrictions for ACMS. The *VAX ACMS Release Notes* are available to you on line. They are stored in the file SYS$HELP:ACMS032.RELEASE_NOTES during the ACMS installation procedure. The installation procedure allows you to print the *VAX ACMS Release Notes* at the start of the installation.

VAX ACMS Systems Interface Programming gives directions for building the BLISS library file and an environment file for Pascal agents.

Conventions

This document uses the following conventions:

Convention	Description
new term	New terms are highlighted in bold type.
`User input`	In examples, user input is highlighted in red type for hardcopy documentation and in bold type for online documentation.
italics	Use of italic type indicates emphasis on a word or phrase. Titles of manuals are also italicized.
Return	A key name in a box indicates that you press that key on the terminal keyboard.
Ctrl/x	This symbol indicates that you press the Ctrl (control) key and hold it down while pressing the specified key (indicated here by x).
WORD	Uppercase text indicates the name of a routine, the name of a file, the name of a file protection code, or the abbreviation for a system privilege.
WORD	In format descriptions, an uppercase word is an optional keyword.
word	In format descriptions, a lowercase word indicates a required element.
. . .	In examples, a vertical ellipsis indicates that information not directly related to the example has been omitted.

Technical Changes and New Features

The run-time only kit no longer requires that CDD/Plus be installed. However, some functions of this kit are not supplied if CDD/Plus is not installed. See Chapter 2 for a list of the differences between installations with and without CDD/Plus present.

If CDD/Plus is not installed, the system prompts you during the ACMS run-time only installation to determine whether you wish to continue, and gives you the option of discontinuing the installation, if you need to install CDD/Plus.

DECdtm services Version 1.1-2 is included with ACMS V3.2. If a lower version of DECdtm services is installed on your system, the installation procedure installs DECdtm services Version 1.1-2, and requires you to reboot the system to load the DECdtm services. When you install DECdtm Version 1.1-2, the ACMS Installation Verification Procedure (IVP) is not run automatically; you must run the IVP manually.

1

Planning an Installation or Upgrade

This chapter discusses the recommended order and software-related issues for installing and upgrading the VMS operating system and VAX layered products in a distributed transaction processing (TP) system.

1.1 Recommended Order for Installing Software

To ensure timely and problem-free installation of software on your system, install the VMS operating system and VAX layered products in the following order:

1. VMS operating system
2. LSE software
3. Rdb/VMS software
4. DECtrace software
5. CDD/Plus software
6. VDD software
7. DBMS software
8. TDMS software
9. DECforms software
10. ACMS software

The remaining sections in this chapter describe the software-related issues that you need to consider before upgrading software in a distributed system.

1.2 Upgrading Software in a Distributed System

Upgrading software in a distributed transaction processing system is complex, because of the dependencies among the software products. The process becomes even more complex when you take into account the dependencies that are created from multiple versions that exist for each of the individual software products.

Because you cannot upgrade all nodes in a distributed environment simultaneously, and because the upgrade process may last several days, a clear methodology is required to ensure smooth and timely introduction of new software versions.

1.2.1 Configuration Issues

A simple, distributed configuration in a TP system consists of an ACMS front-end node and an ACMS back-end node. You can configure ACMS on each node for the processing of specific tasks. Likewise, the roles of the layered products on each node are distinct. For example, the front-end node can be the submitter node for the VAX Data Distributor (VDD) software and the back-end node can be considered the destination node. For simple configurations, the upgrade process is straightforward:

1. Upgrade the software on the front-end nodes.
2. Upgrade the software on the back-end nodes.

Upgrading in this order ensures the system delivers the same version of software to the front-end node and the back-end node.

However, this simple rule cannot be applied to a configuration in which a node is both a front end and a back end. To successfully upgrade a more complex configuration, apply these two key points:

- A component built by a previous software version is compatible with the upgraded version of the software.

  For example, DECforms Version 1.2 can execute a form created by DECforms Version 1.1, without any modification. You can also copy this component from a node on which DECforms Version 1.1 is installed to a node with DECforms Version 1.2. The DECforms Version 1.1 form executes correctly, as long as you do not rebuild the form using Version 1.2.

- Do not rebuild a component under the new software version until you upgrade all nodes to which it may possibly be shipped.

1.2.2 Recommended Order for Upgrading Software

To upgrade software in a distributed system, follow these steps:

1. Upgrade all software on the front-end-only nodes.
2. Upgrade all software on nodes that are both front-end and back-end nodes.
3. Upgrade all software on back-end nodes.

Note *Do not modify by recompilation any application components (unless required by the installation procedure) until you upgrade all the nodes that compose the distributed application.*

1.2.3 Determining Software Version Numbers

Before upgrading the VMS operating system or VAX layered products, identify the software and version levels to be installed. To ensure compatibility among the software and versions on your system, first check the software versions currently installed, as described in Table 1–1. Then, refer to the tables in Appendix C, which describe the version requirements for the current operating system and software.

Table 1–1 Determining Software Version Numbers

Product	At the DCL prompt, enter:	The system displays:
ACMS	`$ ACMS/SHOW SYSTEM`	`ACMS V3.2 Current System State: STOPPED`

CDD/Plus	`$ DICTIONARY OPERATOR`	`Welcome to CDO V1.2 The CDD/Plus V4.2 User Interface`
		`Type HELP for help`
		`CDO> EXIT`

DBMS	`$ DBO`	`%DBO-F-NOCOMMAND, no DBO command present for VAX DBMS V4.2`
		`-DBO-I-TYPHELP`
		`type HELP DBO for more information`

DECforms	`$ FORMS DEVELOP filename`	The version number on the editor screen. Enter QUIT to return to the DCL prompt.
DECtrace	`$ COLLECT SHOW VERSION`	`DECtrace Version V1.0A`
LSE	`$ LSEDIT filename`	`SHOW VERSION QUIT`
Rdb/VMS	`$ RDO SHOW VERSION`	`Current version of RDO is: Rdb/VMS V4.0`
TDMS	`$ RDU SHOW VERSION`	`VAX RDU V1.9`

Note *ACMS executes the DCL command ANALYZE/IMAGE during the installation procedure to determine the version numbers of software installed on the system. These numbers may differ slightly from the numbers you get when using the commands listed in Table 1–1.*

1.3 Product Dependencies

Keep in mind the following product-related issues when upgrading software:

- ACMS

  ACMS Version 3.1 and Version 3.0 are compatible in front-end and back-end communication respectively; for example, a Version 3.1 front-end node can submit tasks to and display exchange steps from a Version 3.0 back-end. ACMS Versions 3.2 and 3.1 are compatible as long as certain logical names are defined. For more information, refer to *VAX ACMS Release Notes*.

  ACMS copies DECforms forms (.FORM) and shareble images (.EXC), TDMS request library files (.RLB), ACMS application definitions, and ACMS application database files (.ADB) from back-end to front-end nodes, if the versions or dates of the files on the back end are more recent.

- DECforms

  DECforms Version 1.1 and 1.2 forms can be executed by Versions 1.2 and 1.3.

- TDMS

  TDMS request libraries generated since the release of Version 1.7 are compatible with all later versions of TDMS.

- CDD/Plus

  CDD/Plus Versions 4.1 through 4.3 are interoperable in a distributed environment as long as features of the new version are not requested by the previous version. CDD/Plus is not referenced in the run-time system by the layered products (except possibly by Rdb/VMS and DBMS, although this is not advised) except in the case of module recompilation. However, do not recompile or add features until the upgrade is complete.

- VDD

  In a distributed environment, the versions of the Data Distributor are independent between the sending and the receiving node. The transport mechanism used is Rdb/VMS, and is dependent upon the versions of Rdb/VMS at the sending and receiving nodes. You do not have to install the Data Distributor at both nodes.

- Rdb/VMS

  Rdb/VMS modules are upwardly compatible, meaning that modules compiled under Rdb/VMS Version 3.1 execute correctly, if Rdb/VMS is upgraded to Version 4.0 on the system. Remote access between different versions of Rdb/VMS is possible as long as features unique to the newer version are not requested of the previous version.

  Because Rdb/VMS is the base data repository for many products, particularly CDD/Plus, Data Distributor, and DECtrace in a transaction processing system, you must convert all databases (RMU/CONVERT) used by these products after you upgrade Rdb/VMS. DECdecision and TEAMDATA are also affected when you upgrade Rdb/VMS. Refer to the product-specific information for more details.

- VAX DBMS

  Remote access between different versions of Rdb/VMS is possible as long as features unique to the newer version are not requested of a previous version.

- DECtrace

  There are no product-related issues regarding DECtrace on distributed systems.

- LSE (the LSE component of LSE/SCA)

  There are no product-related issues regarding LSE on distributed systems.

2

Preparing to Install ACMS

This chapter discusses the preparations and requirements necessary for installing ACMS software, Version 3.2.

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

ACMS provides online release notes and gives you the option of printing or displaying the release notes during the installation procedure. Digital strongly recommends that you read the release notes before proceeding with the installation in case they contain some important information regarding the installation procedure.

2.1 Types of ACMS Kits

ACMS comes in three different software packages:

- ACMS development system component software

  This software provides the full facilities of ACMS. You can define, build, and debug multiple-step tasks, task groups, menus and applications, as well as use the ACMS queuing facility. The development kit includes the run-time option component software and remote access option component software. It also includes the Request Interface (RI) software.

  The ACMS Version 3.2 samples and the ACMS RI samples are available only for installation with the ACMS development system component software.

- ACMS run-time option component software

  This software runs existing applications or programs under the control of ACMS. It also allows you to define menus, applications, task groups, and single-step tasks that use DCL servers, if CDD/Plus is installed. The run-time option component software, when installed with CDD/Plus, includes a subset of the development system software, excluding the ACMS Task Debugger, the ability to define multiple-step tasks that use procedure servers, and the Request Interface (RI) software. The ACMS run-time option component software includes the remote access option component software.

- ACMS remote access option component software

  This software is suitable for installation on a network node that does not have any ACMS applications running on it, but requires access to ACMS applications running on another network node. The remote kit allows users to log in to ACMS, handles the terminal I/O associated with their tasks, and makes calls to perform the processing work for users' tasks among one or more remote nodes. You can also use the ACMS queuing capabilities when you have the remote kit installed. You cannot modify the standard ACMS menu using the remote software; you must have the run-time or development software to do that.

2.2 Required Operating System Components

To install ACMS Version 3.2, you must have VMS Version 5.4-1 or higher installed. For distributed processing with ACMS, you must have DECnet software installed.

ACMS requires that several VMS Version 5.4-1 base classes be present. All kits require the VMS Required Save Set, System Programming Support, and Utilities classes. In addition, the development and run-time only kits require the Programming Support class of VMS, while the remote kit requires the Network Support class.

2.3 Prerequisite Software

ACMS Version 3.2 has the following prerequisite software:

- VMS

  VMS Version 5.4-1 is required for all ACMS kits.

- DECdtm services

  Version 1.1-2 of DECdtm services is required for all ACMS kits. This software is shipped with your ACMS Version 3.2 kit.

- CDD/Plus

  If you are installing the development kit, ACMS requires that CDD/Plus Version 4.2A or higher be installed on your system. If CDD/Plus is not installed or a lower version of CDD/Plus is installed, VMSINSTAL terminates the installation procedure.

  If you are installing the run-time kit, CDD/Plus Version 4.2A is required for the run-time kit to be fully functional. You must install CDD/Plus prior to installing the run-time kit, if you plan to use the ACMS Application Definiition Utility (ADU). However, the run-time kit may be used without CDD/Plus present. The following changes to a run-time kit installation take place if CDD/Plus is not in place during the installation:

  - ACMS system workspaces are not inserted into CDD/Plus.
  - ADU images and related help files are not supplied.
  - ACMSIVP.ADB is not built during the IVP; instead, the supplied version is used.
  - LSE environment files for ACMS are not supplied.
  - The command procedure (ACMS$MENU_CUST.COM) that defines the ACMS command menu and the default menu is not supplied.

  CDD/Plus is not required for the remote software kit.

Note *In the course of upgrading the CDD/Plus database, new versions of files may be created. The current version of CDD/Plus works only with version 1 files. Therefore, you must rename earlier versions to filename.old, or purge, and rename the latest version of the CDD files to version 1.*

2.4 Requirements for Optional Software

The following sections describe the version requirements for optional software.

2.4.1 Products That Require a Minimum Version

- DECforms

  DECforms software is optional for all kits. If DECforms is installed, Version 1.3 or higher is required. Lower versions cause the installation to terminate.

- TDMS

  TDMS software is optional for all kits. If TDMS is installed, Version 1.7 or higher is required. Lower versions cause the installation to terminate.

- DECtrace

  DECtrace software is optional for all kits. If DECtrace is installed, Version 1.0A or higher is required. Lower versions cause the installation to terminate.

2.4.2 Products That Do Not Terminate Installation

The following products allow the installation to continue if a lower version of the software is present.

- LSE

  LSE software is optional for all kits. If LSE is installed on your system, the ACMS installation procedure automatically installs an LSE template that can be used with the ACMS ADU. This template is not installed for the remote kit, or a run-time kit without CDD/Plus installed. The ACMS LSE template can be used only with LSE Version 2.3 or higher.

  If a version lower than Version 2.3 of LSE is installed, the installation procedure displays an informational message and asks whether you want to continue.

- TEAMDATA

  TEAMDATA software is optional for all kits. If TEAMDATA is installed, only TEAMDATA Version 1.3 or higher is compatible with ACMS Version 3.2. If you have a lower version of TEAMDATA installed, the installation procedure displays a warning message and asks if you want to continue with the installation. If you decide to continue without upgrading your TEAMDATA software, you cannot use TEAMDATA with ACMS until you install Version 1.3 or higher.

- Rdb/VMS

  Rdb/VMS software is optional for all kits. If a version of Rdb/VMS lower than Version 4.0 is installed, the installation procedure displays a warning message indicating that, to use DECdtm transaction services with ACMS and Rdb, you must have Rdb Version 4.0 or higher installed. You are given the option to continue or stop the installation.

- VAX DBMS

  VAX DBMS software is optional for all kits. If a version of VAX DBMS lower than Version 4.2 is installed, the installation procedure displays a warning message indicating that, to use DECdtm transaction services with ACMS and VAX DBMS, you must have VAX DBMS Version 4.2 or higher installed. You are given the option to continue or stop the installation.

The System Support Addendum (SSA) contains a complete list of the products that are compatible with this version of ACMS. The SSA is part of the Software Product Description (SPD).

2.5 VMS License Management Facility

The VMS License Management Facility (LMF) is available with Version 5.4-1 of the VMS operating system. In order to install ACMS on a VMS Version 5.4-1 system, you must register and load your software license.

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

You must register and load your ACMS license *before* you perform the installation. During the installation, you are asked if you have registered the ACMS license and loaded the appropriate authorization key. You cannot install the ACMS software unless you do this first.

To register a license under VMS Version 5.4-1, first log in to the system manager's account, SYSTEM. You then have a choice of two ways to perform the registration:

- Run the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your PAK.
- Issue the LICENSE REGISTER and LICENSE LOAD commands with the appropriate qualifiers that correspond to information on the PAK.

For complete information on using LMF, see the manual on the License Management Utility in the VMS Version 5.4-1 documentation set.

2.6 Installation Procedure Requirements

The following sections discuss various requirements for installing ACMS.

2.6.1 Time

Table 2–1 lists the time required for installing each ACMS kit. The times listed in Table 2–1 are estimates based on an installation on a VAX 11/780 system and include running the ACMS IVP.

Table 2–1 Timetable for Installing ACMS

Kit	Time Required
Development Kit and the Sample Applications	45 minutes
Run-Time Kit	35 minutes
Remote Kit	25 minutes

2.6.2 Privileges

To install ACMS, you must be logged in to the SYSTEM account, or any account with similar privileges. The SYSTEM account has all the privileges required for the installation.

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

2.6.3 Disk Space

Installing ACMS requires a certain amount of free storage space during the installation. Once ACMS is installed, less storage space is required. Table 2–2 summarizes the storage requirements for ACMS during and after installation.

Table 2–2 Disk Space Requirements

Kit	Blocks During Installation	Blocks After Installation
Remote Kit	10,800	6,100
Run-Time Kit	20,350	10,700
Development Kit	22,000	11,300
ACMS Version 3.2 Sample Application	1,200	1,200
Request Interface (RI) Sample Application	2,150	2,150

If you are installing any of the sample applications, add the number of blocks required for the sample applications to the number of blocks required for your type of kit.

If you are installing the ACMS Version 3.2 sample application without also installing the development kit, you must allow 800 blocks for installation overhead. For example, if you are installing the ACMS Version 3.2 sample application and the RI sample application, you must allow for a total of 4,150 blocks of free space on your system disk (1,200 + 2,150 + 800 = 4,150).

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
```

Note *If disk quotas are enabled for the account running the IVP, the Installation Verification Procedure fails. The installation procedure informs you of this and continues.*

2.6.4 System Parameters

Table 2–3 lists the minimum required system parameter values for the installation. Depending on the kinds of programs and applications running at your site, you might need higher values for some settings.

Table 2–3 Required System Parameter Values

System Parameter	Value
CLISYMTBL[1]	250
GBLPAGES[2]	n + 3,500
GBLPAGFIL	2,048
GBLSECTIONS[2]	n + 55
IRPCOUNTV	100
LRPCOUNTV	20
PQL_DASTLM[3]	20
PQL_DBIOLM[3]	12
PQL_DDIOLM[3]	20
SRPCOUNTV	150
VIRTUALPAGECNT	19,000

[1]The CLISYMTBL dynamic system parameter must be set to a minimum value of 250 during the installation procedure. If the CLISYMTBL setting is set to a value less than 250, you must reset the value to 250 or more before installing ACMS. You can lower the setting to its original value once the installation is finished.

[2]The n variable refers to the system parameter values that are currently in use. To install ACMS, the allocated system parameter value must be less than the sum of n plus the number indicated. The numbers indicated represent the unused portion of these parameters. (See Section 2.6.4.2.)

[3]These dynamic system parameters must be set permanently to values equal to or greater than the values listed. Do not lower these values after the installation.

The following sections show you how to check system parameter values, set the CLISYMTBL dynamic system parameter with the VMS System Generation Utility (SYSGEN), calculate values for the GBLPAGES and GBLSECTIONS system parameters, and change parameter values with the VMS AUTOGEN command procedure.

2.6.4.1 Checking System Parameter Values

To check the values of your system parameters, enter the following command at the DCL prompt to invoke SYSGEN:

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

At the SYSGEN> prompt, enter the SHOW command to display the value of each system parameter. Make sure that the values displayed equal or exceed the value of each parameter listed in Table 2–3. The following command displays the value for the LRPCOUNTV system parameter:

```
SYSGEN>  SHOW LRPCOUNTV
```

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

2.6.4.2 Calculating the Values for GBLPAGES and GBLSECTIONS

To install and run ACMS, you must set the correct values for the GBLPAGES and GBLSECTIONS system parameters.

The values for GBLPAGES and GBLSECTIONS in Table 2–3 (excluding the value of n) indicate the number of unused pages or sections you must have available on your system for the installation to process successfully. To calculate whether your system has a sufficient number of unused global pages and global sections, perform the following steps:

1. Send output to the terminal from the F$GETSYI lexical function using the following DCL commands:

   ```
   $  WRITE SYS$OUTPUT F$GETSYI("FREE_GBLPAGES")
   3420
   $  WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS")
   72
   ```

2. Determine if the number of unused pages (3420 in the example) is equal to or greater than the number specified in Table 2–3. If the number of unused pages is less than the number listed in the table, you need to increase the allocation value for GBLPAGES. (In this example, it is necessary to increase the number of GBLPAGES allocated, because the 3500 indicated in Table 2–3 exceeds the number available.)

3. Determine if the number of unused global sections (72 in the example) is equal to or greater than the number specified in Table 2–3. If the value is less than the number required in Table 2–3, you need to increase the allocation value of the GBLSECTIONS parameter.

Section 2.6.4.3 describes the procedures for increasing these values as well as those of other system parameters. Refer to the VMS documentation on system management and operations for more information.

2.6.4.3 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, you must edit the following file:

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

For example, to change the setting for the LRPCOUNTV system parameter, add this line to the file:

```
LRPCOUNTV = 20
```

Note *The CLISYMTBL value is not modified using this procedure. See Section 2.6.4.4.*

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

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

AUTOGEN performs an automatic system shutdown and reboots when it has finished. Rebooting your system makes the new parameter values active. For more information about using AUTOGEN, see the instructions on modifying system parameters in the VMS documentation on system management and operations.

2.6.4.4 Setting the CLISYMTBL Dynamic System Parameter

If the CLISYMTBL system parameter value for your system is less than 250, change the setting by entering the following series of commands:

```
$  RUN SYS$SYSTEM:SYSGEN
SYSGEN>  USE ACTIVE
SYSGEN>  SET CLISYMTBL 250
SYSGEN>  WRITE ACTIVE
SYSGEN>  EXIT
```

When you enter the SYSGEN command WRITE ACTIVE, dynamic parameters changed with the SYSGEN utility become active immediately without any need to reboot your system. In fact, rebooting returns dynamic system parameter values to their previous settings, so complete the installation before rebooting the system. (Because AUTOGEN reboots the system automatically, it is necessary to set the CLISYMTBL dynamic system parameter after you are through setting all the other static parameters.)

Once the installation is complete, you can reset CLISYMTBL to its previous setting or let it be reset automatically when you reboot your system.

2.6.5 Process Account Quotas

The account you use to install ACMS must have sufficient quotas to enable you to perform the installation. Table 2–4 summarizes the process quotas required to perform the installation.

Table 2–4 Process Account Quotas

Account Quota	Required Value
ASTLM	24
BIOLM	18
BYTLM	32,768
DIOLM	18
ENQLM	2,000
FILLM	200
PRCLM	10
PGFLQUO	12,800

User account quotas are stored in the file SYSUAF.DAT. Use the VMS Authorize Utility (AUTHORIZE) to verify and change user account quotas. First set your directory to SYS$SYSTEM and then run AUTHORIZE:

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

At the AUTHORIZE prompt (UAF>), enter the SHOW command with an account name to check a particular account. For example:

```
UAF>  SHOW SYSTEM
```

To change a quota, enter the MODIFY command at the UAF> prompt. MODIFY has the following format:

MODIFY account-name/quota-name=nnnn

The following example changes the FILLM quota for the SYSTEM account and then exits from the Authorize Utility:

```
UAF>  MODIFY SYSTEM/FILLM=200
UAF>  EXIT
$
```

After you exit from the utility, the VMS system displays messages indicating whether or not changes were made. Once the changes have been made, you must log out and log in again for the new quotas to take effect.

For more information on modifying account quotas, see the description of the Authorize Utility in the VMS documentation on system management and operations.

2.6.6 VMSINSTAL Requirements

When you invoke VMSINSTAL, it checks that the following requirements have been met:

- You are logged in to a privileged account.
- You have adequate quotas for installation.
- DECnet is up and running.
- No users are logged in to the system.

If VMSINSTAL detects any problems during the installation, it notifies you of the problem and asks if you want to continue the installation. In some instances, you can answer YES to continue. To stop the installation process and correct the situation, answer NO or press Return.

2.6.7 Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. Digital recommends that you do a system disk backup before installing any software.

Use the backup procedures that have been established at your site to do this backup. For details on performing a system disk backup, see the section on the Backup Utility in the VMS documentation set.

Note *Changes have been made to the PASCAL and PL/1 include files in ACMS Version 3.2. Some changes may not be compatible with existing programs. Save a copy of the ACMS Version 3.1 definition files, SYS$LIBRARY:ACMSPLI.TLB and SYS$LIBRARY:ACMSPAS.PAS, before installing ACMS Version 3.2, and use these files until you are able to make the necessary modifications to use the correct definitions. See* VAX ACMS Release Notes *for more details.*

2.6.8 ACMS Requirements

In addition to the prerequisite software listed in Section 2.3, the ACMS installation procedure requires that the logical name ACMS$DIRECTORY is either defined as a system logical or not defined at all.

3
Installing ACMS

This chapter describes how to install the ACMS software. Section 3.3 contains a step-by-step description of the installation procedure.

3.1 Installation Verification Procedure

The Installation Verification Procedure (IVP) for ACMS verifies the installation. During the installation, you are asked if you want to run the IVP as part of the installation. If you answer YES, VMSINSTAL runs the IVP. It is recommended that you run the IVP to be sure that ACMS is installed correctly.

The ACMS IVP:

- Checks that all the necessary files are on the system
- Runs the definition utilities to update the databases needed to test the run-time system
- Starts the run-time system using the ACMS$IVP user account set up by the installation procedure
- Starts the IVP application and checks that all necessary components are properly started
- Selects tasks from the started application
- Exercises the ACMS Task Debugger
- Starts and stops the Queued Task Initiator (QTI)
- Invokes the ACMS Queue Manager Utility (ACMSQUEMGR)
- Stops the run-time system and deletes files created by running the IVP, but does not delete the files that were created when the IVP was installed

The IVP performs a subset of these functions when run for the remote kit or for the run-time kit without CDD/Plus installed.

After ACMS is installed, you can run the IVP independently to verify that the software is available on your system. You might also want to run the IVP after a system failure to be sure that users can access ACMS. See Chapter 5 for information about running the IVP separately from the installation procedure.

3.2 Aborting the Installation

To abort the installation procedure at any time, press Ctrl/Y. When you press Ctrl/Y, the installation procedure deletes all files it has created up to that point and exits. You can then start the installation again.

3.3 Installation Procedure

ACMS provides online release notes. The prompt to display or print the release notes before the installation appears in the installation procedure if you invoke VMSINSTAL with the OPTIONS N parameter. For information on accessing the release notes after the installation, refer to Section 3.5.

The ACMS installation process consists of a series of questions and informational messages.

3.3.1 Invoking VMSINSTAL

To start the installation, log in to the SYSTEM account, and set default to the SYS$UPDATE directory:

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

Next, invoke VMSINSTAL. Use the following syntax to invoke VMSINSTAL:

@VMSINSTAL product-name device-name OPTIONS N

product-name
The installation name for the component. For ACMS, use the following installation name:

```
ACMSxxx032
```

The xxx denotes the software kit you are installing:

- DEV—if you are installing the development kit. Examples in this chapter use DEV.
- RTO—if you are installing the run-time kit.
- REM—if you are installing the remote kit.

device-name
The name of the device on which you plan to mount the media. For example, MTA0: is the device name for a tape drive. It is not necessary to use the console drive for this installation. However, if you do use the console drive, replace any media you removed once the installation is completed.

OPTIONS N
An optional parameter indicating that you want to be prompted to display or print the release notes. If you do not include the OPTIONS N parameter, VMSINSTAL does not prompt you to display or print the release notes.

VMSINSTAL has several other options; for information, see the VMS documentation on software installation.

Note *ACMS does not support Option R, the alternate root option.*

The following command invokes VMSINSTAL and installs ACMS from the MTA0: tape drive. This example uses the OPTIONS N parameter for printing or displaying release notes.

```
$  @SYS$UPDATE:VMSINSTAL ACMSDEV032 MTA0: OPTIONS N

       VAX/VMS Software Product Installation Procedure V5.4-1


It is 25-APR-1991 at 07:03.
Enter a question mark (?) at any time for help.
```

If you do not supply either the product name or the device name, VMSINSTAL prompts you for this information later on in the installation procedure.

3.3.2 Installation Questions

This section discusses the questions that appear during the installation. See Appendix A for a sample installation for each kit.

Each question in the installation is marked with an asterisk (*) at the beginning of the line. Some questions show the default response in brackets, for example, [YES]. If you want to give the default response, press Return.

1 System backup

VMSINSTAL asks if you are satisfied with your system backup. Always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press Return. Otherwise, answer NO to discontinue the installation. After you back up your system disk, you can restart the installation.

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

2 Mounting the media

Now mount the first distribution volume on the device you specified when you invoked VMSINSTAL. The device name appears in the line preceding the question. VMSINSTAL then asks you if you are ready to continue with the installation.

If you answer YES to indicate that you are ready, VMSINSTAL displays a message that the media containing ACMS has been mounted on the specified device and that the installation has begun. For example:

```
Please mount the first volume of the set on MTA0:.
* Are you ready?  YES
%MOUNT-I-MOUNTED, ACMSDE MOUNTED ON _$200$MTA0:

The following products will be processed:
ACMSDEV V3.2

    Beginning installation of ACMSDEV V3.2 at 07:24


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

If you entered the wrong device name when you invoked VMSINSTAL and need to restart the installation, answer NO in response to the ''Are you ready?'' question. To abort the installation for any other reason, press Ctrl/Y.

3 Release notes

If you specified OPTIONS N when you invoked VMSINSTAL, you are now given several options for reviewing the release notes.

```
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]:
```

If you select option 1, VMSINSTAL displays the release notes immediately on the console terminal. You can terminate the display at any time by pressing Ctrl/C. Because the release notes are several pages long, it is recommended that you choose option 2 to print the release notes rather than review them on line.

If you select option 2, VMSINSTAL prompts you for the name of the print queue that you want to use:

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

You can enter a queue name or just press Return to send the file to the default output print device.

If you select option 3, VMSINSTAL displays the release notes immediately on the console terminal and then prompts you for a queue name for the printed version.

If you select option 4, VMSINSTAL does not display or print the release notes. Use either the DCL TYPE or PRINT command to view the release notes in SYS$HELP:ACMS032.RELEASE_NOTES. As noted above, the release notes are copied to this location under all circumstances, regardless of your choice from the menu.

4 Continuing the installation

The installation procedure now asks if you want to continue the installation. To continue, answer YES. Otherwise, press Return to abort the installation. In either case, the release notes are copied to a file in the SYS$HELP directory. For example:

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

The release notes are now located in the following file:

```
SYS$HELP:ACMS032.RELEASE_NOTES
```

Note *The name of the release notes file installed by VMSINSTAL consists of the current product name and version number. In order to facilitate comparison of various versions of ACMS, Digital recommends not deleting release notes for previous versions of ACMS.*

5 Checking for prerequisite software

The installation now checks that any prerequisite software required for your kit is installed. See Section 2.3 for a list of prerequisite software required for each kit.

```
Checking prerequisite software...
```

If your current system has the correct versions of prerequisite software, the installation goes on to check for optional software.

If your system does not have Version 1.1-2 or higher of DECdtm services installed, you are told that DECdtm Version 1.1-2 must be installed to use ACMS, and that the system must be rebooted to complete the installation. For example:

```
    ************************************************************
    Your system has DECdtm version V1 installed.
    ACMS Version V3.2-0 requires that DECdtm version 1.1-2 or
    higher be installed. As part of this installation, DECdtm
    version 1.1-2 will be installed.  When this installation
    is completed the system will be shutdown to load the DECdtm
    images.

    NOTE:  The ACMS IVP cannot be invoked until your system is
           rebooted.  You must manually invoke the ACMS IVP after
           your system is rebooted.  See the ACMS "Installation
           Guide" for instructions on manually running the ACMS IVP.
    ************************************************************

    To complete the installation of this product, you should reboot
    the system.  If it is not convenient to reboot at this time, then
    enter NO to the following question.

    If you enter NO, the installation procedure will terminate.

* Will you allow a system shutdown after this product is installed [YES]?
* How many minutes for system shutdown [0]:
* Do you want to do an automatic system reboot [YES]?
```

If you do not have the correct prerequisite software versions for VMS and CDD/Plus, the installation is terminated.

6 Checking for optional software

The installation now checks the optional software products. Certain software products are optional for use with ACMS, but the installation procedure terminates if the required minimun version is not installed on your system. Refer to Section 2.4.1 for a list of these products.

Optional software for which a lower version does not terminate the installation is described in Section 2.4.2. For these products, you are given the option of terminating the installation if a lower version is present, so that you can upgrade your software. If no version of a particular product is installed, you do not see a message regarding that product. The following paragraphs illustrate the messages displayed for LSE.

If LSE software Version 2.0 or higher is installed on your system, the installation procedure automatically installs an LSE template that can be used with the Application Definition Utility (ADU).

If a lower version of LSE is installed, VMSINSTAL displays a warning message and asks if you want to continue with the installation. For example:

```
    Checking optional software ...

************************************************************

VAX LSE V1.3 is installed on your system. To use the VAX
Language-Sensitive Editor template with the ACMS ADU
Utility, you must install VAX LSE V2.3 or higher.
```

```
************************************************************

* Do you want to continue the installation [NO] ?
```

Press Return if you want to stop the installation and upgrade your LSE software. The ACMS LSE template can be used only with LSE Version 2.3 or higher. If you answer YES to continue the installation, the ACMS Version 3.2 LSE template is installed even though the template cannot be used until you upgrade to LSE Version 2.3.

If LSE is not installed on your system, VMSINSTAL displays the following message and asks if you want to continue with the installation:

```
************************************************************

The VAX Language-Sensitive Editor is not installed on your
system.  To have the VAX Language-Sensitive Editor support,
you must:

   1.  Install the VAX Language-Sensitive Editor
   2.  Install or reinstall this product

************************************************************

* Do you want to continue with this installation [NO]?
```

Press Return if you want to stop the installation and install LSE. Answer YES if you want to continue the installation without having the LSE template copied to your system.

After checking for prerequisite and optional software, the installation displays a list of the prerequisite and optional software that is on your system:

```
Your system includes:
        VAX/VMS, Version 5.4-1
        DECdtm, Version V1.1
        CDD/Plus, Version V4.2A-2-0
        VAX DECforms, Version V1.1-22
        VAX TDMS, Version T1.9-0
```

The installation also looks for previously installed versions of ACMS. If you already have a version of the ACMS component software on your system, you receive a message telling you what version is installed. For example:

```
Your system has ACMS Version V3.1-0 installed.
```

7 Checking SYSGEN parameters and Process Account Quotas

VMSINSTAL checks SYSGEN parameters to make sure that their values are adequate for ACMS. If the value of a parameter is not adequate, VMSINSTAL displays the parameter name, its current setting, and the minimum setting required:

```
Checking SYSGEN parameters....

Checking Process Account Quotas
```

VMSINSTAL terminates if the CLISYMTBL parameter is set too low for the installation to complete successfully. For example, CLISYMTBL must be set at 250 pages or higher. If the CLISYMTBL parameter is set to 249, VMSINSTAL terminates the installation and displays these messages:

```
Checking SYSGEN parameters....

CLISYMTBL      is set to 249.  It should be 250 or greater.

*********************************************************
%ACMSDEV-E-SYSPARAM, One or more system parameters are under the ACMS
system requirements.
*********************************************************
   .
   .
   .
/////////////////////////////////////////////////////
Installation of ACMS completed with errors.
Time is: 25-APR-1991 07:25:39.33
/////////////////////////////////////////////////////
%VMSINSTAL-E-INSTAL, The installation of ACMSDEV V3.2 has failed.
```

VMSINSTAL terminates if the process quotas are under system requirements. If this happens, the values are displayed as well as the minimum required values. Refer to Section 2.6.5 for information regarding the setting of process quotas.

If other SYSGEN parameters are set too low, VMSINSTAL asks if you want to continue with the installation. If you continue the installation without adequate parameter values, the IVP might fail. It is recommended that you set all parameters to the required values, as outlined in Table 2–3. See Section 2.6.4.3 for information about using AUTOGEN to change system parameter values.

8 Choosing the default installation

If you are installing the development kit, you have the option of installing ACMS using the default installation. You do not see this question if you are installing the run-time or remote kit.

```
Do you want the default ACMS installation [NO]?
```

If you do not want the default ACMS installation, press Return and proceed to the next step. If you answer YES to take the default installation, VMSINSTAL performs the following operations automatically:

- Installs the ACMS component software
- Installs the ACMS sample applications and the RI sample application
- Prompts you to supply a password for the IVP account

- Prompts you to supply the user identification code (UIC) for the IVP account
- Prompts you to determine whether your ACMS license is registered and loaded
- Runs the IVP
- Purges files replaced by the installation

If you chose the default installation, you can now proceed to step 10, and skip steps 12 and 14. Otherwise, proceed to the next step.

9 Choosing installation options

If you are installing the development kit, you now have the option of installing the ACMS software and one or more sample applications:

```
* Do you want to install the VAX ACMS component software [YES]?  YES

      ACMS Development has produced new Samples to replace those
      shipped with versions prior to ACMS V3.2.

* Do you want to install the ACMS samples [YES]?  YES

* Do you want to install the VAX ACMS Request Interface sample [YES]?  YES
```

If you answer NO to the first question, the installation procedure checks whether or not ACMS is already installed on your system. If no ACMS files exist, the installation displays a message telling you that you must have ACMS files on your system in order to continue with the installation. It then prompts you again for whether or not you want to install the ACMS component software.

You cannot install the ACMS sample applications unless the ACMS development software kit is installed.

10 Choosing a password for the IVP account

The ACMS IVP checks that the installation procedure completes successfully and that the software is ready to set up and run ACMS applications.

The installation procedure creates the ACMS$IVP account that is used to run the IVP. You must provide a password for the ACMS$IVP account and then verify it. After you enter a valid password and verify it, VMSINSTAL asks if you want to continue with the installation:

```
************************************************************

This installation requires the creation of the ACMS$IVP
account.  You MUST choose a password for this account.
PLEASE NOTE that your password for the ACMS$IVP account
MUST be at least 8 characters, cannot contain the name
of the product and must not be an easily guessable password.
```

```
The entire installation will FAIL if you do not enter a valid
password for the ACMS$IVP account.  This installation
procedure requires at least 8 characters for the
ACMS$IVP password.  Valid characters for a password are:

           A through Z
           a through z
           0 through 9
           $ (dollar sign)
           _ (underscore)
************************************************************
    Please enter a password at least 8 characters long.

* Password:
* Verification:
```

If you are installing only sample applications, you do not receive a prompt for the password.

11 Choosing a UIC for the IVP Account

The installation procedure now prompts you for the UIC to be used by the ACMS$IVP account:

```
* Please enter UIC for the ACMS$IVP account (example [400,200]):  [400,201]
```

After you enter the UIC, the installation procedure uses the UIC to set up a user account in the SYSUAF system authorization file. This account has the privileges and quotas needed by the IVP to test the ACMS installation. As a security measure, the ACMS$IVP account is set up so that it cannot be used to enter your VMS system interactively.

You cannot enter a system UIC. If you enter a system UIC, or an invalid UIC, you are asked to reenter it. If you are installing only sample applications, for example, you do not receive a prompt for the UIC.

12 Choosing to run the IVP

The installation procedure now asks if you want to run the IVP. The IVP checks that the software is installed correctly. It is recommended that you run the IVP.

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

Press Return if you want to run the IVP after installing ACMS. Answer NO if you do not want to run the IVP.

If you chose not to run the IVP during the installation, you can run it independently after installing ACMS to check the consistency of the ACMS software. See Chapter 5 for information about how to run the ACMS IVP independently from the ACMS installation procedure. If you are installing only sample applications, you do not receive a prompt for running the IVP.

13 Confirming license registration

If your ACMS license is not registered and loaded before you begin to install ACMS, you cannot complete the installation.

```
Product:      ACMS
Producer:     DEC
Version:      3.2
Release Date: 1-JUL-1990

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

14 Choosing to purge files

You have the option to purge files from previous versions of ACMS that are superseded by this installation. Purging is recommended; however, if you need to keep files from a previous version, answer NO in response to this question:

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

15 Choosing to terminate the installation

VMSINSTAL displays the time needed to perform the actual installation and asks if you want to continue:

```
All required questions have been asked.  To complete the
installation on a stand-alone VAX 11/780 will take approximately:

          30 minutes to install
          10 minutes to run the IVP

You may terminate the installation procedure at this time.

 * Do you want to continue the installation? [YES]?
```

If you are not satisfied with your answers to the installation questions, answer NO to terminate the installation. If you answer NO, the installation procedure aborts. You then can correct any conditions with which you are not satisfied and reinvoke the installation procedure at a later time.

If you are satisfied with your answers to the installation questions, press Return to install the ACMS software.

16 Installing the software

If you chose to install the software, VMSINSTAL displays a message indicating which set of files (save sets) it is installing. Each save set contains a set of files for software you have selected during the first steps of the installation procedure.

Table 3–1 lists the save sets and the type of files each contains. See Section 3.6 for information about how to access a list of files installed by the ACMS installation procedure.

Table 3–1 ACMS Save Set Descriptions

Save Set	Contents
A	Kit installation procedure and ACMS Release Notes
B	ACMS utilities and files common to all ACMS kits
C	ACMS Systems Interface run-time system files
D	ACMS Systems Interface definition and IVP files
E	ACMS run-time system kit files
F	ACMS development files
G	ACMS Version 3.2 samples
H	Request Interface samples

ACMS uses the VMS Backup Utility to create the save sets. The messages ''Restoring product save set *n*'' indicate that VMSINSTAL is restoring the save set files to their original file structure.

The ACMS kit includes another save set that contains the files necessary to translate the contents of ACMS message files and help text to languages other than English. This save set also includes instructions to change the character ordering sequence used by the CONTROL FIELD and SELECT FIRST statements. This message file and help text save set is not automatically installed as part of the ACMS installation procedure. See the postinstallation procedures in Chapter 4 for information on how to restore this save set.

3.3.3 Informational Messages

At this point, the installation procedure displays a number of informational messages that report on the progress of the installation. There are no further questions. If the installation procedure has been successful up to this point, VMSINSTAL moves the new or modified files to their target directories, updates help files, and updates DCL tables, if necessary. If you asked for files to be purged, that work is done now. The following messages are displayed:

```
    Installation of ACMS completed.
    Time is: 25-APR-1991 07:49:59.57

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

If you are installing ACMS on a system disk that has limited free space, VMSINSTAL might not be operating in safety mode. In this case, VMSINSTAL processes all files immediately and does not display the ''%VMSINSTAL-I-MOVEFILES...'' message.

If the disk has quotas enabled, a message is displayed. The account must have sufficient disk quotas to install. Refer to Table 2–2.

3.3.4 Running the Installation Verification Procedure

If you chose to run the ACMS IVP, VMSINSTAL runs it now. When the IVP runs successfully, you see the following messages displayed:

```
Running the VAX ACMS V3.2 IVP...
    .
    .
    .
The VAX ACMS V3.2 IVP completed successfully.
```

The IVP is run for all ACMS software kits. However, some functions (such as exercising the Task Debugger) are not executed by the remote kit and run-time kit IVPs, because not all features are included in those kits.

3.3.5 Completing the Installation Procedure

The following messages indicate that the entire installation procedure is complete:

```
Installation of ACMSDEV V3.2 completed at 08:03

  VMSINSTAL procedure done at 08:03
```

You can now log out of the privileged account:

```
$  LOGOUT
SYSTEM     logged out at 25-APR-1991 08:04:49
```

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

3.4 Recovering from System and Installation Failures

An unsuccessful installation can result from a system failure or errors encountered during the installation procedure. In some cases, you must correct the problem and reinstall ACMS. In other cases, you may be required merely to continue where you left off. The following sections describe various failure scenarios and the recommended procedure to follow to recover from them.

3.4.1 System Failures

If you experience a system failure, such as a power loss during installation, VMSINSTAL automatically attempts to continue the installation when you reboot the system. Depending on the point in the installation at which the system failed, one of three conditions exists:

- The system disk did not undergo any changes before the system failure. VMSINSTAL instructs you to restart the installation.
- The system disk used by the installation was corrupted. VMSINSTAL instructs you to restore the system disk from the backup copy and restart the installation.
- VMSINSTAL continues the installation and then might tell you to manually purge replaced files, even if you requested that they be purged automatically. You can purge files, but remember that purging deletes all but the latest version of all files on your system disk. If you have multiple versions of system files that you want to save, you can delete just the ACMS files you want to remove from system directories. If you want to purge files, reboot the system, log in to the SYSTEM account, and purge all system files using the following command:

  ```
  $  PURGE/LOG SYS$SYSROOT:[*...]*.*
  ```

  When you have performed this task, the installation is complete.

If the system fails after you see the message that indicates the beginning of the ACMS IVP, VMSINSTAL has already completed the installation of the component software. In this case, when you reboot your system, VMSINSTAL displays the following message:

```
%VMSINSTAL-I-RECOVER, ACMS V3.2 was being installed when the system crashed.
The installation completed satisfactorily.
```

This message indicates that VMSINSTAL has finished successfully, not that the installation of ACMS was successful.

VMSINSTAL does not automatically restart the IVP. You can run the IVP independently by following the steps described in Chapter 5.

3.4.2 ACMS Installation Failures

If the installation of the ACMS software or an ACMS sample application fails for some reason other than a system failure, the installation procedure displays a message telling you the cause of the failure. To continue with the installation, you must correct the condition causing the error and restart the installation procedure from the beginning.

Errors can occur during the installation if any of the following conditions exist:

- Operating system version is incorrect.
- Prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.
- VMS help library is currently in use.

For descriptions of the error messages generated by these conditions, see the VMS documentation on system messages, recovery procedures, and VMS software installations. If you are notified that any of these conditions exist, take the appropriate action as described in the message. (For example, you might need to change a system parameter or increase a quota value.) For information on installation requirements, see Chapter 2.

If the installation of the component software completes satisfactorily, but a test or operation fails during the IVP, the IVP displays a message describing the failure and suggests a course of action. For example:

```
The VAX ACMS V3.2 IVP has failed to start its application.

Suggested action:

   Redo the installation of the VAX ACMS base software.
```

In most cases, the suggested course of action is to reinstall ACMS. The failure could be due to low settings for the SYSGEN parameters GBLPAGES, GBLSECTIONS, GBLPAGFIL, or to an insufficient number of process slots. Check the Software Event Log for a message that indicates the source of the problem. If the IVP fails after you reinstall ACMS, contact your Digital software specialist.

3.4.3 Recovering from Errors

You can run the ACMS IVP separately after you install ACMS by following the instructions in Chapter 5. As the IVP executes, it checks the success of each test and operation it performs. If any test or operation fails, the IVP displays a message describing the failure and suggests a course of action. Follow the suggested course of action and then restart the IVP as described in Chapter 5. If the action you take is to reinstall ACMS, the IVP runs automatically if you answer YES to the IVP question. If you still cannot successfully run the IVP, contact your Digital software specialist.

3.5 Accessing the Online Release Notes

After ACMS has been installed, the release notes are located in the following file:

```
SYS$HELP:ACMS032.RELEASE_NOTES.
```

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

```
$  HELP ACMS RELEASE_NOTES
```

Hardcopy release notes are not included with the documentation set for ACMS.

3.6 Files and Logical Names Installed on Your System

The file SYS$COMMON:[SYSEXE]ACMS032_FILES.DAT contains a list of the files added to your system by the ACMS installation. You can display or print this file after you install ACMS.

The following logical names are added to your system as a result of installing ACMS. These logical names are defined for all three kits.

- ACMS$EDIT
- ACMS$EXAMPLES
- ACMS$RI_EXAMPLES
- ADU$EDIT
- SWLUP$EDIT

These logical names are entered into the system logical name table. The names are used in various ACMS startup files. Thus, they are automatically entered into the system logical name table whenever ACMSTART.COM is executed.

4

After Installing ACMS

This chapter describes required and optional tasks to perform after successfully installing your ACMS software.

Important *If DECdtm Version 1.1-2 was installed as part of your installation, you must manually run the ACMS Installation Verification Procedure (IVP) before performing the following tasks. Information about how to run the IVP is in Chapter 5.*

After installing ACMS, perform the following tasks:

- Edit VMS system startup and shutdown files.
- Rebuild the LSE environment and section files, if the DECtp Implementation Toolkit for VMS is installed.
- Determine and modify ACMS quotas, parameters, and privileges.
- Authorize any new ACMS applications, terminals, users, or processes.
- Set ACMS user account privileges and quotas.
- Run the postinstallation command procedure, ACMS_POST_INSTALL.COM.
- Define proxy accounts and create node-specific ACMSPAR.ACM files, if you are operating in a VAXcluster environment.
- Enable distributed processing.
- Compile the agent files.
- Modify the Help file.
- Determine and report problems.

See Chapter 5 for information about how to run the Installation Verification Procedure (IVP) after the software has been installed.

4.1 Editing the VMS System Files

You must edit the VMS system startup and shutdown files to provide for automatic startup and shutdown of ACMS when your system is rebooted. (This step is usually not necessary for system upgrades.)

4.1.1 Editing the System Startup File

Note *In ACMS Version 3.2, the ACMSTART.COM and ACMSTOP.COM files are located in SYS$STARTUP. In ACMS Version 3.0 and lower, these files are located in SYS$MANAGER.*

Add the command line that starts ACMS to the VMS system startup file.

Note *For sites that have modularized their startup procedures, be sure to add the lines to the correct file. The default startup command file for VMS Version 5.4 is SYS$MANAGER:SYSTARTUP_V5.COM.*

Position the ACMS startup command line *after* the line that invokes the network startup command procedure, *after* the line that invokes DECdtm, and *after* the line that invokes TDMS (if TDMS is installed). For example:

```
$  @SYS$STARTUP:STARTNET.COM
   .
   .
   .
$  @SYS$STARTUP:DECDTM$STARTUP.COM
   .
   .
   .
$  @SYS$STARTUP:TDMSTRTUP.COM
   .
   .
   .
$  @SYS$STARTUP:ACMSTART.COM
```

Note *It is important that the network be started before ACMS is started, if you are going to use distributed processing.*

4.1.2 Editing the System Shutdown File

Add the following command lines to the system shutdown file, SYS$MANAGER:SYSHUTDWN.COM:

```
$  ACMS/STOP SYSTEM /CANCEL
$  @SYS$STARTUP:ACMSTOP.COM
```

The first command cancels all active tasks and shuts down the ACMS system. If you omit the /CANCEL qualifier and there are active tasks, the ACMS/STOP SYSTEM command does not execute until all tasks complete or until five minutes elapse and the command times out. (Tasks are not canceled when the ACMS/STOP command times out.) Including the ACMS/STOP SYSTEM

/CANCEL command in the system shutdown file ensures that the ACMS system processes are run down properly.

The second command line invokes the command procedure, ACMSTOP.COM. This command procedure is a shutdown command file for ACMS that deinstalls ACMS images (using the Install Utility of VMS).

4.2 Rebuilding the LSE Files

If the DECtp Implementation Toolkit for VMS is installed on your system, you must rebuild the toolkit's LSE environment and section files after installing ACMS Version 3.2. See the toolkit documentation for instructions on how to rebuild the LSE files.

4.3 Modifying ACMS Parameters

After installing ACMS, run the ACMSPARAM.COM and ACMEXCPAR.COM command procedures to determine ACMS quotas, parameters, and privileges. There is no need to run ACMEXCPAR.COM after a new installation until applications have been installed.

Note *Due to changes in ACMS software, Digital strongly recommends that you use ACMSPARAM.COM and ACMEXCPAR.COM. Otherwise, you might not be able to start ACMS Version 3.2.*

These command procedures:

- Modify VMS system parameters and quotas based on calculations that determine the minimum settings for the VMS SYSGEN parameters that ACMS affects
- Assign privileges and quotas required for user names under which the ACMS run-time processes run
- Assign privileges and quotas required for user names under which applications run

Refer to *VAX ACMS Managing Applications* for information on how to use the ACMSPARAM and ACMEXCPAR command procedures.

4.4 Authorizing Applications, Devices, Users, and Processes

ACMS provides utilities to specify which applications, terminals, users, and agent programs can access the ACMS system. A brief explanation of each of these utilities follows.

4.4.1 Authorizing New Applications

Run the ACMS Application Authorization Utility (AAU) to authorize any new ACMS applications that you plan to install. AAU allows you to authorize applications, specify application user name restrictions, and define who can install those applications. You must restart ACMS after installing any new applications.

Users who have been authorized by AAU can use the ACMS/INSTALL operator command to install applications in ACMS$DIRECTORY. By default, no users are authorized to use the ACMS/INSTALL operator command.

Use of AAU is optional; however, it can simplify and ease the application management process during the development and maintenance of applications.

For information on using AAU, see *VAX ACMS Managing Applications*.

4.4.2 Authorizing New Devices

If you have new devices to authorize or modify, run the Device Definition Utility (DDU) to authorize either all terminals (with $ALL) or individual terminals (by device name) for access to ACMS:

```
$  SET DEFAULT SYS$SYSTEM
$  RUN ACMSDDU
DDU>  ADD $ALL
DDU>  EXIT
```

For information on using DDU, see *VAX ACMS Managing Applications*.

4.4.3 Authorizing New Users

If you have new users to authorize, run the ACMS User Definition Utility (UDU) to authorize ACMS users. You can either authorize all users (with $ALL) or individual users (by name):

```
$  SET DEFAULT SYS$SYSTEM
$  RUN ACMSUDU
UDU>  ADD $ALL
UDU>  EXIT
```

For information on using UDU, see the *VAX ACMS Managing Applications*.

4.4.4 Authorizing ACMS Processes

You must authorize the user name of any task-submitting agent program that submits a task for processing with a user name other than the user name of that agent. Use the /AGENT qualifier with the UDU ADD command to authorize this type of agent. For example, use this command to authorize an agent with the user name SYSTEM:

```
UDU>  ADD SYSTEM /AGENT
User SYSTEM  has been added to the database
```

The ACMS Command Process (CP) and Queued Task Initiator (QTI) both need to be authorized as agents. By default, ACMS assigns the user name SYSTEM to the CP and QTI. If you change the user name of the CP or QTI with ACMSGEN, you must run the UDU again, using the RENAME command to change the user name in the UDU authorization file.

For information on UDU, see *VAX ACMS Managing Applications*.

Note *The ACMSPARAM.COM procedure automatically authorizes the user name of the CP and QTI as an agent (using the /AGENT qualifier) in the ACMS user authorization file ACMSUDF.DAT. The ACMSPARAM command procedure takes either the user name you supply or supplies a default user name. The default user name supplied for the CP is ACMS$CP. The default user name supplied for the QTI is ACMS$QTI.*

4.5 User Account Requirements

To use ACMS, user accounts on your system must have certain privileges and quotas. The next two sections contain information on these requirements. (See *VAX ACMS Managing Applications* for quotas required for users running the ACMS Task Debugger.)

4.5.1 Privileges

To use ACMS, each account must have at least TMPMBX and NETMBX privileges. Those persons who are responsible for starting the ACMS system, starting applications, and using other ACMS operator commands must have VMS OPER privilege. Use the VMS Authorize Utility to determine whether users have the privileges they require.

4.5.2 User Account Quotas

You must make sure that the appropriate user accounts have sufficient quotas to be able to use ACMS. Table 4–1 summarizes the required user account quotas.

Table 4–1 User Account Quotas

Account Quota	Value (≥)
ASTLM	24
BIOLM	18
BYTLM	10,240
DIOLM	22

(continued on next page)

Table 4–1 (Cont.) User Account Quotas

Account Quota	Value (≥)
ENQLM	100
FILLM	50
PRCLM	2
WSDEF	256
WSEXT	512
WSQUO	1,024
PGFLQUO	12,800

User account quotas are stored in the file SYSUAF.DAT. You use the Authorize Utility to verify and change user account quotas. First set your directory to SYS$SYSTEM and then run AUTHORIZE:

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

At the AUTHORIZE prompt (UAF>), enter the SHOW command with an account name to check a particular account. For example:

```
UAF>  SHOW SMITH
```

To change a quota, enter the MODIFY command at the UAF> prompt. The MODIFY command has the following format:

MODIFY account-name/quota-name=nnnn

The following example changes the FILLM quota for the SMITH account and then exits from the utility:

```
UAF>  MODIFY SMITH/FILLM=50
UAF>  EXIT
```

After you exit from the utility, the VMS system displays messages indicating whether or not changes were made. Once you have finished making the changes, the users must log out and log in again for the new quotas to take effect.

For more information on modifying account quotas, see the description of the Authorize Utility in the VMS documentation on system management and operations.

4.6 Running ACMS_POST_INSTALL.COM

ACMS_POST_INSTALL.COM is a postinstallation command procedure that performs the following tasks:

- Converts ACMS parameter files from older versions (before ACMS V3.0) to the current version
- Converts the DDF and UDF files from older versions (before ACMS V3.1) to the current version
- Installs the ACMS utilities as shareable images
- Defines ACMS system logical names
- Starts ACMS and, optionally, the QTI
- Enables operator terminals
- Starts ACMS applications
- Moves MDB files from SYS$SYSTEM to ACMS$DIRECTORY

Authorize any new terminals, applications, or users before invoking ACMS_POST_INSTALL.COM, because this command procedure starts the ACMS system, making available any new device, application, or user authorizations.

To run ACMS_POST_INSTALL.COM, set your default to SYS$MANAGER and then invoke the command procedure:

```
$  SET DEFAULT SYS$MANAGER
$  @ACMS_POST_INSTALL.COM
```

The following steps describe the operations that ACMS_POST_INSTALL.COM performs:

1 Converting ACMS parameters

ACMS has added several new ACMSGEN parameters with ACMS Versions 3.0 and higher. If you are upgrading from a version lower than 3.0, ACMS_POST_INSTALL.COM searches for all the ACMSGEN parameter files located in the SYS$SYSROOT:[SYS*] directory and prompts you to indicate whether or not you want to update the parameters in each file. For example:

```
UPDATE SYS$COMMON:[SYSEXE]ACMSPAR.ACM;1 [YES]?
```

Answer NO if you do not want to update the parameters in the parameter file. Press Return if you want to update the ACMSGEN parameters.

If other ACMSGEN parameter files exist on your system besides the ones located in the SYS$SYSROOT:[SYS*] directory, use the following commands to update the ACMSGEN parameters in the files individually. For example:

```
$  RUN SYS$SYSTEM:ACMSGEN
ACMSGEN>  USE MYDISK:[MYDIR]MYFILE.ACM
ACMSGEN>  WRITE MYDISK:[MYDIR]MYFILE.ACM
ACMSGEN>  EXIT
```

In this example, the names MYDISK, MYDIR, and MYFILE represent the unique file specifications of your individual .ACM files.

2 Converting User Definition Files

ACMS has changed the format of the User Definition File with ACMS Versions 3.1 and higher. If you are upgrading from a version lower than 3.1, ACMS_POST_INSTALL.COM searches for the file pointed to by the ACMSUDF logical, the directory SYS$COMMON:[SYSEXE], and then SYS$SYSDEVICE:[SYS*.SYSEXE] for all occurrences of the UDF file. For each UDF file found, you are prompted to indicate whether or not you want to convert the file:

```
Convert SYS$SYSDEVICE:[SYS0.SYSEXE]ACMSUDF.DAT [YES]? :
```

Answer NO if you do not want to convert the file. Press Return if you want to convert the file. If you choose to convert the file, the following message is displayed:

```
UDF file SYS$SYSDEVICE:[SYS0.SYSEXE]ACMSUDF.DAT has been converted
```

3 Converting Device Definition Files

ACMS has changed the format of the Device Definition File with ACMS Versions 3.1 and higher. If you are upgrading from a version lower than 3.1, ACMS_POST_INSTALL.COM searches for the file pointed to by the ACMSDDF logical, the directory SYS$COMMON:[SYSEXE], and the SYS$SYSDEVICE:[SYS*.SYSEXE] for all occurrences of the DDF file. For each DDF file found, you are prompted to indicate whether or not you want to convert the file:

```
Convert SYS$SYSDEVICE:[SYS0.SYSEXE]ACMSDDF.DAT [YES]? :
```

Answer NO if you do not want to convert the file. Press Return if you want to convert the file. If you choose to convert the file, the following message is displayed:

```
DDF file SYS$SYSDEVICE:[SYS0.SYSEXE]ACMSDDF.DAT has been converted
```

4 Creating the SYS$STARTUP:ACMS_SETUP.COM command procedure

ACMS_POST_INSTALL.COM asks questions about ACMS startup options, and creates the ACMS_SETUP.COM command procedure based on your answers to these questions. Besides defining ACMS startup options, you can also use ACMS_SETUP.COM to install the ACMS utility images as shared images and to define ACMS logical names.

ACMS_SETUP.COM is executed each time ACMSTART.COM is executed. If ACMS_SETUP.COM does not exist, it is not invoked by ACMSTART.COM.

ACMS_POST_INSTALL requires information to define ACMS_SETUP.COM. After you provide the necessary information, ACMS_SETUP.COM is displayed at your terminal and you have the option of executing it.

a Installing the utilities as shared images

If you have installed the development kit, or the run-time kit with CDD/Plus installed, you are given the option of installing the utilities as shared images. If you are installing the remote kit, or the run-time kit without CDD/Plus installed, these images are not supplied.

Installing the utilities as shared images increases the number of global sections and global pages required by ACMS, but doing so decreases the memory required if many users are running the image. Table 4–2 shows the number of global sections and global pages required for installing each utility image as a shared image.

Table 4–2 Global Sections and Pages Required for Shared Utility Images

Utility Image	GBLSECTIONS Used	GBLPAGES Used
ACMADUSHR	2	8
ACMCDUSHR	1	165
ACMTDUSHR	1	294
ACMCMUSHR	1	181

ACMS_POST_INSTALL.COM asks if you want to install any of the utility images as shared images:

```
Do you want any ACMS utilities installed as shared images [YES]?
```

Answer NO if you do not want to install any of the utility images as shared images. Press Return if you do want to install any as shared images. When you answer YES, each utility name is displayed and you are asked if you want to install it as a shared image. For example:

```
Do you want SYS$SHARE:ACMADUSHR.EXE installed [YES]?
```

Press Return if you want to install the image as a shared image. Otherwise, answer NO.

b Defining logical names in the system startup file

ACMS_POST_INSTALL.COM gives you the option of defining the following logical names on your system:

- ACMS$DIRECTORY
- ACMS$AUDIT_LOG
- ACMS$SWL_LOG
- ACMS$NOTICE
- ACMS$EDIT
- ADU$EDIT
- SWLUP$EDIT

Note *Defining ACMS$AUDIT_LOG, ACMS$SWL_LOG, ACMS$NOTICE, ACMS$EDIT, ADU$EDIT, and SWLUP$EDIT are optional. However, you must define ACMS$DIRECTORY if you plan to install applications on your system.*

A question is displayed for each logical name. For example:

```
Do you want to define ACMS$AUDIT_LOG [YES]?
Enter equivalence name for ACMS$AUDIT_LOG
 [SYS$ERRORLOG:ACMSAUDIT.LOG]:
```

Press Return if you want to define the logical name and then enter an equivalence name for the logical. Answer NO if you do not want to define the logical name.

If you do not define the following logicals, the file specifications default to the values shown:

Logical Name	Default
ACMS$AUDIT_LOG	SYS$ERRORLOG:ACMSAUDIT.LOG
ACMS$SWL_LOG	SYS$ERRORLOG:SWL.LOG

See *VAX ACMS Managing Applications* for more information about the ACMS$AUDIT_LOG and ACMS$SWL_LOG logical names.

Include ACMS$NOTICE as a system logical name pointing to a text file containing information you want to display to ACMS users when they sign in to ACMS.

A user signs in to ACMS by:

i Entering the ACMS/ENTER command from the DCL prompt

ii Entering a valid VMS user name and password from a terminal whose DDU definition has the CONTROLLED characteristic

ACMS then displays the text file pointed to by ACMS$NOTICE. After the text file is displayed, the user presses Return to display the menu named in the user's UDU definition.

If you define ACMS$NOTICE, be sure that the file you include on the command contains text. If the file is empty, users still must press Return after signing in to get their first menus. If you do not define ACMS$NOTICE to point to a file, ACMS does not display information for users at sign-in. Users do not have to press Return to get their first menus.

The ADU$EDIT logical name determines which VMS editor is used for the EDIT and MODIFY commands of the ACMS Application Definition Utility (ADU). By default, the ADU$EDIT logical points to the logical name ACMS$EDIT. If TDMS is installed, then ACMS$EDIT points to TDMS$EDIT. If TDMS is not installed, then ACMS$EDIT points to SYS$COMMON:[SYSEXE]ACMSEDIT.COM. You are not asked to define ADU$EDIT, if you have installed the remote kit or the run-time kit without CDD/Plus installed.

To use a different editor for ADU than that used for the TDMS utilities, redefine ACMS$EDIT. Users can also define ADU$EDIT as a process logical name, to override the system default you assign.

The logical name SWLUP$EDIT determines which VMS editor is used for the EDIT command in SWLUP. By default, the SWLUP$EDIT logical points to the logical name ACMS$EDIT.

C Starting ACMS automatically

You are now asked whether or not you want to add the ACMS/START SYSTEM command to the ACMS startup command file ACMS_SETUP.COM. The ACMS/START SYSTEM command starts ACMS automatically each time ACMSTART.COM is executed. If you answer NO to this question, you are not asked about starting the QTI, enabling operator terminals, and starting ACMS applications.

```
Do you want to start the ACMS system [YES]?
```

Answer NO if you do not want to start ACMS automatically when you execute ACMSTART.COM.

Press Return if you want to add the ACMS/START SYSTEM command to ACMS_SETUP.COM. ACMS starts automatically the next time you boot your VMS system.

d Starting the QTI

You are now asked if you want to start the QTI when you start ACMS:

```
Do you want the Queued Task Initiator enabled [YES]?
```

Press Return if you want the QTI started when ACMS is started. The QTI must be started before you can start ACMS task queues. Answer NO if you do not want the QTI started with the ACMS system.

e Enabling ACMS operator terminals

ACMS_POST_INSTALL.COM now asks if you want to enable any terminals as ACMS operator terminals:

```
Do you want to enable operator terminals [YES]?
```

Answer NO if you do not want to enable any ACMS operator terminals. Press Return if you have terminals you want to define as operator terminals. If you answer YES to this question, you are prompted for the device name of the terminal you want to enable. Type the terminal's device name and press Return. You are then prompted for another terminal name. When you are finished entering terminal names, press Return at the prompt. For example:

```
Enter operator terminal name:  TTB5
Enter operator terminal name:  Return
```

f Starting ACMS applications

ACMS_POST_INSTALL.COM now asks if you want to start any ACMS applications:

```
Do you want to start ACMS applications [YES]?
```

If you do not want to start any applications at this time answer NO. If you have applications you want to start, press Return. You are then prompted for the name of the application you want to start:

```
Enter application name:  MY_APPL
Enter application name:  Return
```

After you type the name of an application and press Return, you are prompted again for the name of another application. When you are finished entering application names, press Return at the ''Enter application name:'' prompt.

The ACMS_SETUP.COM file is now displayed at your terminal and you are given the option of executing it:

```
Do you want to execute the file now [YES]?
```

Press Return if you want to execute ACMS_SETUP.COM. If you do not wish to execute the ACMS_SETUP.COM procedure that you have just created, answer NO to this question. ACMS_SETUP.COM is executed each time ACMSTART.COM is executed.

5 Copying MDB files from SYS$SYSTEM to ACMS$DIRECTORY

ACMS_POST_INSTALL.COM now asks you if you want the ACMS command menu ACMSCMD.MDB to be copied to the directory defined as ACMS$DIRECTORY:

```
Do you want to copy the ACMS command menu [YES]?
```

If ACMS$DIRECTORY is not defined, this step fails. If ACMS$DIRECTORY is defined but the directory does not exist, ACMS_POST_INSTALL.COM creates the directory.

Once the command menu is copied, ACMS_POST_INSTALL.COM asks if you want the default user menu ACMS.MDB copied to ACMS$DIRECTORY:

```
Do you want to copy the default user menu [YES]?
```

Press Return to copy the default user menu to ACMS$DIRECTORY. If you do not want the default user menu copied, answer NO to this question.

When ACMS_POST_INSTALL completes successfully, you see the following success message on your terminal:

```
ACMS_POST_INSTALL procedure completed successfully
```

4.7 VAXcluster Considerations

Because ACMS treats a VAXcluster system as if it were a local area network, you must perform the following operations on each node of the cluster:

- Define proxy accounts for users on other nodes of the cluster

  ACMS does not recognize the common security domain of a homogeneous VAXcluster system. As a consequence, you must define proxy accounts on each node for users on other nodes of the cluster. You can use ACMSGEN to assign a default proxy user name (with the USERNAME_DEFAULT parameter of ACMSGEN) or use the VMS Authorize Utility to define individual VMS proxy user names for submitters. Use the following VMS AUTHORIZE command on each node of the cluster to define individual proxy user names:

  ```
  UAF>  ADD/PROXY mynode::* *
  ```

- Issue a LICENSE LOAD command on each node that will run the product

  If you are installing ACMS in a cluster, you must load the license for each node that will use the product, because ACMS does not recognize the common security domain of a homogeneous VAXcluster system.

  ```
  $  LICENSE LOAD ACMS
  ```

- Set up node-specific ACMSPAR.ACM files

  If you are installing ACMS in a cluster, you must make sure that the ACMSPAR.ACM parameter file is in the directory SYS$SPECIFIC:[SYSEXE], rather than SYS$COMMON:[SYSEXE] before setting the node name parameter. Do this on each node of the cluster, because each node has a different DECnet node name and, therefore, each must have its own node-specific ACMSPAR.ACM file.

4.8 Enabling Distributed Processing

By default, ACMS does not enable distributed processing. If submitters on your node need to select tasks in a remote application, or if remote submitters need to select tasks in an application on your node, you must set the NODE_NAME parameter in ACMSGEN to your node name. (This step is usually necessary only for new installations, not system upgrades.) For example:

```
$  RUN SYS$SYSTEM:ACMSGEN
ACMSGEN>  SET NODE_NAME DOVE
ACMSGEN>  WRITE SYS$SPECIFIC:[SYSEXE]ACMSPAR.ACM
```

For more information about using ACMSGEN and ACMS distributed processing, see *VAX ACMS Managing Applications*.

4.9 Compiling the BLISS Library File

ACMS Version 3.2 supplies the ACMSBLI.R32 file, but it no longer supplies the ACMSBLI.L32 file. If you plan to use BLISS agents, see the BLISS-32 documentation for directions on building the BLISS library file (ACMSBLI.L32) from the ACMSBLI.R32 file, and for general information on creating library files, and using library files and require files.

The require file performs the following functions:

- Contains keyword macros for all the services. The macro name is the service name prefixed with a dollar sign ($). The keyword macro for ACMS$SIGN_IN, for example, is $ACMS$SIGN_IN.
- Contains structure definitions for all IDs. Use these IDs in declaration definitions. The name of the structure is the same as the name given in the structure layouts listed in *VAX ACMS Systems Interface Programming*.
- Defines constants other than return status values.

4.10 Compiling the Pascal ACMSPAS.PAS File

ACMS Version 3.2 supplies the ACMSPAS.PAS file. If you plan to use Pascal agents, you must compile this file into an environment file. See the VAX Pascal documentation for directions on building the environment file (.PEN) from the ACMSPAS.PAS file, and on using environment definitions.

The source file performs the following functions:

- Contains routine definitions for all the services.
- Contains record definitions for all IDs. Use these IDs in declarations. The name of the record is the same as the name given in the structure list in the *VAX ACMS Systems Interface Programming*.
- Defines constants other than return status values.

Note *If you use the nonpositional syntax form of parameter association, you must use PROCEDURE_ rather than PROCEDURE, as the formal parameter name for ACMS$GET_PROCEDURE_INFO, because PROCEDURE is a reserved word in PASCAL. See* VAX PASCAL Reference Manual *for more information.*

4.11 Enhancing ACMS Performance

After you install ACMS, you might want to adjust your system to enhance performance or lower the use of some system resources. Information about tuning your system is included in *VAX ACMS Managing Applications*.

4.12 Modifying the Help File and Message Text

The ACMS kit includes a save set that contains the files you can use to translate the contents of ACMS message files and help text to languages other than English. This section provides information on how to restore the save set from the kit.

All source files for the messages and help text are stored in a BACKUP save set in the kit. Restore this save set to a directory and modify it there. Follow these instructions to restore the save set:

1 Mount the kit.

If the kit is on magtape, mount it using the /FOREIGN qualifier. For example, to mount a kit on tape drive MTA0:, enter:

```
$ MOUNT/FOREIGN MTA0:
```

If the kit is on disk, mount it using the /OVERRIDE=ID qualifier. For example, to mount a kit on RA60 drive 255DJA1:, use the following command:

```
$ MOUNT/OVERRIDE=ID $255$DJA1:
```

2 Restore the save set

To restore the save set, use the DCL BACKUP command and the save set name in the following format:

BACKUP/LOG kit-device:ACMS<kit-type>032.I /SAVE disk:[directory]

The <kit-type> parameter is one of the following, depending on the type of kit you have:

- DEV for a development kit
- RTO for a run-time kit
- REM for a remote kit

Restore the save set in an empty directory. For example, if you have an ACMS development kit that is mounted on MTA0: and you have created the directory NODE1:[MESSAGES] to hold the files, use the following DCL BACKUP command to restore the save set:

```
$  BACKUP/LOG MTA0:ACMSDEV032.I/SAVESET NODE1:[MESSAGES]
```

The ACMS save sets are stored in the [0,0] directory on disk kits. If, for example, you have a run-time kit that is mounted on 255DJA1:, and you have created the directory NODE1:[MESSAGES] to hold the files, use the following DCL BACKUP command to restore the save set:

```
$  BACKUP/LOG $255$DJA1:[0,0]ACMSRTO032.I/SAVESET -
_$  NODE1:[MESSAGES]*
```

3 Make changes to the files

After restoring the kit, you can print the CHANGING_MESSAGES.MEM file, which contains instructions on how to change the help text files, change message files, and install the modified files on the target system. This file also includes instructions to change the character ordering sequence used by the CONTROL FIELD and SELECT FIRST statements.

4.13 Determining and Reporting Problems

Installing ACMS changes the state of your system. Record any changes to the system in your system management log. If an error occurs while ACMS is being used and you believe that the error is caused by a problem with ACMS, take one of the following actions:

- 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.
- If you have a Self-Maintenance Software Agreement, submit a Software Performance Report (SPR). See *VAX ACMS Release Notes* for information regarding submission of SPRs.

- If you purchased ACMS within the past 90 days and think the problem is caused by a software error, submit a Software Performance Report (SPR). See *VAX ACMS Release Notes* for information regarding submission of SPRs.

If you find an error in the ACMS documentation, fill out and submit the Reader's Comments form at the back of the hardcopy document in which you found the error. Include the section and page number of the error.

5

Running the ACMS IVP

This chapter describes how to run the ACMS software Installation Verification Procedure (IVP) separately from the installation procedure. The IVP can be run as a part of the normal installation. However, if the automatic IVP fails for any reason, correct the error and then run the IVP again.

See Chapter 3 for information on providing the IVP with information required for the installation procedure.

The IVP checks that the installation procedure has successfully installed the VAX ACMS software, and that the software can set up and run ACMS applications.

5.1 Functions of the IVP

The ACMS IVP performs the following functions for the full run-time option or development system component software. The ACMS IVP runs a subset of the following for the remote option kit and the run-time option kit without CDD/Plus installed.

- Checks that all the necessary files are on the system
- Runs the definition utilities to update the databases needed to test the run-time system
- Starts the run-time system using the ACMS$IVP user account set up by the installation procedure
- Starts the IVP application and checks that all necessary components are properly started
- Selects tasks from the started application
- Exercises the ACMS Task Debugger
- Starts and stops the Queued Task Initiator (QTI)

- Invokes the ACMS Queue Manager (ACMSQUEMGR)
- Stops the run-time system and deletes files created by running the IVP, but does not delete the files that were created when the IVP was installed

The ACMS IVP automatically runs when you install the ACMS component software and answer YES to the IVP question.

Note *If disk quotas are enabled, the IVP fails. The installation procedure checks to see if disk quotas are enabled just after checking the process quotas. If disk quotas are enabled, the installation procedure puts out an informational message to that effect and continues.*

5.2 Starting the IVP

To run the IVP independently of the installation procedure, follow these steps:

1 Log in to the system manager's account, SYSTEM.

```
Username:   SYSTEM
Password:
```

2 Shut down ACMS.

You cannot run the IVP if ACMS is active on your system. To shut down ACMS, enter the following command at the DCL prompt:

```
$ ACMS/STOP SYSTEM
```

3 Set your default to SYS$SYSROOT:[SYSTEST.ACMS].

```
$ SET DEFAULT SYS$SYSROOT:[SYSTEST.ACMS]
```

4 Run the ACMS Installation Verification Procedure, ACMSIVP.COM.

You can run the IVP only on your current booted system. To start the IVP, enter the following command:

```
$ @ACMSIVP
```

The IVP takes between two and ten minutes to run, depending on the type of ACMS software kit installed on your system.

5 Check the IVP messages.

Once you invoke the IVP, you receive several informational messages that tell you what the IVP is doing. For example:

```
Running the VAX ACMS test...

        Checking for VAX ACMS system files...
        Defining IVP's tasks and task group...
                .
                .
                .
```

```
Exercising the ACMS debugger...
Stopping the ACMS system...
Cleaning up...
```

The ACMS IVP does not prompt you for any input. The command procedure displays the message about exercising the ACMS Task Debugger if you have already installed the development software.

6 Look for the IVP completion message.

When the IVP is finished, you receive this message:

```
The VAX ACMS test completed successfully.
```

5.3 Errors Running the IVP

If an error occurs while running the IVP, check the log file: SYS$UPDATE:ACMSIVP.LOG.

A

Sample Installations

This appendix contains examples of installing the ACMS development kit, run-time kit, and the remote kit.

A.1 Sample Development System Kit Installation

This section contains an example of installing the ACMS development kit on VMS Version 5.4-1.

```
$  @SYS$UPDATE:VMSINSTAL ACMSDEV032 $200$MUA0: OPTIONS N


 VAX/VMS Software Product Installation Procedure V5.4-1

It is 25-APR-1991 at 07:23.

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

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

The following products will be processed:

  ACMSDEV V3.2

 Beginning installation of ACMSDEV V3.2 at 07:24

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

    Checking prerequisite software ...

    ************************************************************
    Your system has DECdtm version V1 installed.
    ACMS Version V3.2-0 requires that DECdtm version 1.1-2 or
    higher be installed. As part of this installation, DECdtm
    version 1.1-2 will be installed.  When this installation
    is completed the system will be shutdown to load the DECdtm
    images.
```

```
    NOTE: The ACMS IVP cannot be invoked until your system is
          rebooted.  You must manually invoke the ACMS IVP after
          your system is rebooted.  See the ACMS "Installation
          Guide" for instructions on manually running the ACMS IVP.
    ************************************************************

    To complete the installation of this product, you should reboot
    the system.  If it is not convenient to reboot at this time, then
    enter NO to the following question.

    If you enter NO, the installation procedure will terminate.

* Will you allow a system shutdown after this product is installed [YES]? Y
* How many minutes for system shutdown [0]:  0
* Do you want to do an automatic system reboot [YES]?  Y

    Checking optional software ...

    ************************************************************
    Your system has RDB/VMS V3.1-1 installed. To use DECdtm
    transaction services with ACMS Version V3.2-0 and RDB/VMS
    you must have RDB/VMS 4.0 or higher installed.
    ************************************************************

* Do you want to continue the installation [NO]:  Y

    ************************************************************
    Your system has VAX DBMS V4.1-419 installed. To use DECdtm
    transaction services with ACMS Version V3.2-0 and VAX DBMS
    you must have VAX DBMS 4.2 or higher installed.
    ************************************************************

* Do you want to continue the installation [NO]:)  Y


    Your system includes:
        VAX/VMS, Version V5.4-1
        DECdtm, Version V1.1-1
        DECtrace, Version V1.0A-0
        CDD/Plus, Version V4.2A-2-0
        LSE, Version V3.0-23
        RDB/VMS, Version V3.1-1
        VAX DBMS, Version V4.1-419

    Your system has VAX ACMS Version V3.1-0 installed.

    Checking SYSGEN parameters ...

    Checking Process Account Quotas ...

* Do you want the default ACMS installation [NO]?  YES

    ************************************************************
    This installation requires the creation of the ACMS$IVP
    account.  You MUST choose a password for this account.
    PLEASE NOTE that your password for the ACMS$IVP account
    MUST be at least 8 characters, cannot contain the name
    of the product and must not be an easily guessable password.
    ************************************************************
```

```
    ************************************************************
    The entire installation will FAIL if you do not enter a valid
    password for the ACMS$IVP account.  This installation
    procedure requires at least 8 characters for the
    ACMS$IVP password.  Valid characters for a password are:

       A through Z
       a through z
       0 through 9
       $ (dollar sign)
       _ (underscore)
    ************************************************************

     Please enter a password for the ACMS$IVP account:

* Password:  CALAMAZU
* Verification:  CALAMAZU

* Please enter UIC for the ACMS$IVP account (example, [400,200]):  [400,201]

    ACMS provides an IVP that may be used to test the ACMS system
    software any time after the installation has completed.

    The ACMS system MUST be STOPPED before you manually run
    the ACMS IVP.

    To test the software type the following commands:
        $ SET DEFAULT SYS$SYSROOT:[SYSTEST.ACMS]
        $ @ACMSIVP.COM

        Product:      ACMS
        Producer:     DEC
        Version:      3.2
        Release Date: 1-JUL-1990

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

    All required questions have been asked.  To complete the
    installation on a standalone VAX 11/780 will take
    approximately:

        30 minutes to install
        10 minutes to run the IVP

    You may terminate the installation procedure at this time.

* Do you want to continue the installation? [YES]?  YES

%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
%VMSINSTAL-I-RESTORE, Restoring product save set E ...
%VMSINSTAL-I-RESTORE, Restoring product save set F ...
%VMSINSTAL-I-RESTORE, Restoring product save set G ...
%VMSINSTAL-I-RESTORE, Restoring product save set H ...

    Beginning installation of ACMS component software.
    Time is: 25-APR-1991 07:32:14.33
```

```
    (Ignore possible "%UAF-E-RDBADDERRU, unable to add ACMS$IVP..." message
    followed by a "-SYSTEM-F-DUPIDENT, duplicate identifier" message)

%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named ACMS$IVP.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier ACMS$IVP value: [000400,000201] added to rights
database.
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated


    ************************************************************

    DECtrace has not been installed. Now storing the ACMS
    facility definition into sys$share:epc$facility.tlb.
    After installing DECtrace, the facility definition
    may be placed in the DECtrace administration database
    Please refer to the DECtrace User's guide for instructions
    on how to insert binary facility definitions into the
    DECtrace administration database.

    ************************************************************
        Deleting ACMS system workspaces from the CDD...

 Inserting ACMS system workspaces into the CDD...

    (Ignore possible "%PATCH-I-NOLCL, image does not contain local symbols"
     message)
    (Ignore possible "%PATCH-I-WRTFIL, updating image file ... " messages)
%PATCH-I-WRTFIL,
 updating image file $1$DJA3:[SYS0.SYSUPD.ACMSDEV032]ACMTDUSHR.EXE;7

    Installation of ACMS component software completed.
    Time is: 25-APR-1991 07:43:31.97

    Beginning installation of VAX ACMS RI Sample Application.
    Time is: 25-APR-1991 07:43:32.01

 Creating top level RI sample CDD nodes...

 Deleting old RI sample CDD nodes...

 Restoring RI sample application CDD nodes...

    Installation of VAX ACMS RI Sample Application completed.
    Time is: 25-APR-1991 07:48:01.67

    Beginning installation of VAX ACMS Sample Application.
    Time is: 25-APR-1991 07:48:01.74

    Installation of VAX ACMS Sample Application completed.
    Time is: 25-APR-1991 07:49:54.43

    Installation of ACMS completed.
    Time is: 25-APR-1991 07:49:59.57

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

```
    Running the VAX ACMS V3.2-0 IVP ...
ACMS V3.2       Current System State: STARTED   Time: 25-APR-1991 08:03:09.28

Terminal Subsystem State:    STARTED
Queued Task Initiator State: STOPPED
System Auditing State:       ENABLED

Active ACMS Users

User Name      Submitter ID        Agent PID      Device
SYSTEM         00010013            0000022F       RTA1:

Active Execution Controllers

Application Name                   Process Name        User Name      Exc PID
ACMSIVP                            ACMS01EXC001000     ACMS$IVP       00000235

    The VAX ACMS V3.2-0 IVP completed successfully.
 Installation of ACMSDEV V3.2 completed at 08:03

%VMSINSTAL-I-SHUTDOWN, This product requires that the system be rebooted.

        SHUTDOWN -- Perform an Orderly System Shutdown
                    on node SADE

Do you really want to shutdown node SADE [NO]?  YES

%SHUTDOWN-I-BOOTCHECK, Performing reboot consistency check...
%SHUTDOWN-I-CHECKOK, Basic reboot consistency check completed
```

A.2 Sample Run-Time Option Kit Installations

This section contains examples of installing the ACMS run-time option kit on VMS Version 5.4-1, with and without CDD installed.

A.2.1 Sample Run-Time Option Kit Installation With CDD Installed

```
$  @SYS$UPDATE:VMSINSTAL ACMSRTO032 $200$MUA0: OPTIONS N


        VAX/VMS Software Product Installation Procedure V5.4-1

It is 25-APR-1991 at 09:22.

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

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

The following products will be processed:
  ACMSRTO V3.2

        Beginning installation of ACMSRTO V3.2 at 09:23

%VMSINSTAL-I-RESTORE, Restoring product saveset 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]:  4

* Do you want to continue the installation [NO]?  YES

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

    Checking prerequisite software ...

    Checking optional software ...

    ************************************************************
    Your system has VAX DBMS V4.1-419 installed. To use DECdtm
    transaction services with ACMS Version V3.2-0 and VAX DBMS
    you must have VAX DBMS 4.2 or higher installed.
    ************************************************************

* Do you want to continue the installation [NO]:  YES

    Your system includes:
        VAX/VMS,  Version V5.4-1
        DECdtm, Version V1.1-2
        CDD/Plus, Version V4.2A-2-0
        LSE, Version V3.0-23
        VAX DBMS, Version V4.1-419

    Checking SYSGEN parameters....

    Checking Process Account Quotas ...

    ************************************************************
    This installation requires the creation of the ACMS$IVP
    account.  You MUST choose a password for this account.
    PLEASE NOTE that your password for the ACMS$IVP account
    MUST be at least 8 characters, cannot contain the name
    of the product and must not be an easily guessable password.

    The entire installation will FAIL if you do not enter a valid
    password for the ACMS$IVP account.  This installation
    procedure requires at least 8 characters for the
    ACMS$IVP password.  Valid characters for a password are:

       A through Z
       a through z
       0 through 9
       $ (dollar sign)
       _ (underscore)
    ************************************************************

    Please enter a password of at least 8 characters.

* Password:  CALAMAZU
* Verification:  CALAMAZU

* Please enter UIC for the ACMS$IVP account (example, [400,200]):  [400,200]
```

```
    The ACMS installation provides an automatic Installation
    Verification Procedure (IVP).  Digital recommends that
    you run the IVP as part of the installation. However, you
    may choose to invoke the IVP manually anytime after the
    installation has finished.

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

    The ACMS IVP may be invoked manually any time after the
    installation has completed to verify the integrity of the
    ACMS system software.

    The ACMS system MUST be STOPPED before you manually run
    the ACMS IVP.

    To test the software type the following commands:
        $ SET DEFAULT SYS$SYSROOT:[SYSTEST.ACMS]
        $ @ACMSIVP.COM

        Product:      ACMS-RT
        Producer:     DEC
        Version:      3.2
        Release Date: 1-JUL-1990

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

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

    All required questions have been asked.  To complete the
    installation on a standalone VAX 11/780 will take
    approximately:

        20 minutes to install
        8 minutes to run the IVP

    You may terminate the installation procedure at this time.

* Do you want to continue the installation? [YES]?  YES

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-RESTORE, Restoring product saveset E ...

    Beginning installation of ACMS component software...
    Time is: 25-APR-1991 09:36:53.86

    (Ignore possible "%UAF-E-RDBADDERRU, unable to add ACMS$IVP..." message
    followed by a "-SYSTEM-F-DUPIDENT, duplicate identifier" message)

%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named ACMS$IVP.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier ACMS$IVP value: [000400,000201] added to
rights database
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated
```

```
    ************************************************************

    DECtrace has not been installed. Now storing the ACMS
    facility definition into sys$share:epc$facility.tlb.
    After installing DECtrace, the facility definition
    may be placed in the DECtrace administration database
    Please refer to the DECtrace User's guide for instructions
    on how to insert binary facility definitions into the
    DECtrace administration database.

    ************************************************************
        Deleting ACMS system workspaces from the CDD...

        Inserting ACMS system workspaces into the CDD...

    Installation of ACMS completed.
    Time is: 25-APR-1991 09:47:04.48

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

    Running the VAX ACMS V3.2-0 IVP ...
ACMS V3.2       Current System State: STARTED   Time: 25-APR-1991 09:55:06.59

Terminal Subsystem State:    STARTED
Queued Task Initiator State: STOPPED
System Auditing State:       ENABLED

Active ACMS Users

User Name      Submitter ID        Agent PID      Device
SYSTEM         00010013            00000275       RTA1:

Active Execution Controllers

Application Name                   Process Name        User Name      Exc PID
ACMSIVP                            ACMS01EXC001000     ACMS$IVP       0000027B

    The VAX ACMS V3.2-0 IVP completed successfully.
        Installation of ACMSRTO V3.2 completed at 09:55

        VMSINSTAL procedure done at 09:55
```

A.2.2 Sample Run-Time Option Kit Installation Without CDD Installed

```
$  @sys$update:vmsinstal acmsrto032 $1$dja3:[kits] options N

 VAX/VMS Software Product Installation Procedure V5.4-1

It is 25-APR-1991 at 12:30.

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

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

The following products will be processed:

  ACMSRTO V3.2

 Beginning installation of ACMSRTO V3.2 at 12:30
```

```
%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]:  4
* Do you want to continue the installation [NO]?  Y
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

    Checking prerequisite software ...

    ************************************************************
    Your system does not have VAX CDD/Plus installed.
    ACMS Version V3.2-0 requires CDD/Plus version 4.2A or higher.
    ************************************************************

    ************************************************************
    With the ACMS RUN-TIME ONLY kit, CDD/Plus is optional.
    If you choose to continue with the installation the ACMS ADU
    Utility will not be installed on your system.
    ************************************************************

* Do you want to continue the installation [NO]:  YES

    Checking optional software ...

    Your system includes:
        VAX/VMS, Version V5.4-1
        DECdtm, Version V1.1-2

    Checking SYSGEN parameters ...

    Checking Process Account Quotas ...

    ************************************************************
    This installation requires the creation of the ACMS$IVP
    account.  You MUST choose a password for this account.
    PLEASE NOTE that your password for the ACMS$IVP account
    MUST be at least 8 characters, cannot contain the name
    of the product and must not be an easily guessable password.

    The entire installation will FAIL if you do not enter a valid
    password for the ACMS$IVP account.  This installation
    procedure requires at least 8 characters for the
    ACMS$IVP password.  Valid characters for a password are:

       A through Z
       a through z
       0 through 9
       $ (dollar sign)
       _ (underscore)

    ************************************************************
    Please enter a password of at least 8 characters.
```

```
* Password:  CALAMAZU
* Verification:  CALAMAZU

* Please enter UIC for the ACMS$IVP account (example, [400,200]):  [400,201]

    The ACMS installation provides an automatic Installation
    Verification Procedure (IVP).  Digital recommends that
    you run the IVP as part of the installation. However, you
    may choose to invoke the IVP manually anytime after the
    installation has finished.

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

    The ACMS IVP may be invoked manually any time after the
    installation has completed to verify the integrity of the
    ACMS system software.

    The ACMS system MUST be STOPPED before you manually run
    the ACMS IVP.

    To test the software type the following commands:
        $ SET DEFAULT SYS$SYSROOT:[SYSTEST.ACMS]
        $ @ACMSIVP.COM

        Product:      ACMS-RT
        Producer:     DEC
        Version:      3.2
        Release Date: 1-JUL-1990

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

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

    All required questions have been asked.  To complete the
    installation on a standalone VAX 11/780 will take
    approximately:

        20 minutes to install
        8 minutes to run the IVP

    You may terminate the installation procedure at this time.

* Do you want to continue the installation? [YES]?  YES

%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
%VMSINSTAL-I-RESTORE, Restoring product save set E ...

    Beginning installation of ACMS component software.
    Time is: 25-APR-1991 12:40:29.99

    (Ignore possible "%UAF-E-RDBADDERRU, unable to add ACMS$IVP..." message
    followed by a "-SYSTEM-F-DUPIDENT, duplicate identifier" message)
```

```
%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named ACMS$IVP.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier ACMS$IVP value: [000400,000201] added to rights
database
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated

    ************************************************************

    DECtrace has not been installed. Now storing the ACMS
    facility definition into sys$share:epc$facility.tlb.
    After installing DECtrace, the facility definition
    may be placed in the DECtrace administration database
    Please refer to the DECtrace User's guide for instructions
    on how to insert binary facility definitions into the
    DECtrace administration database.

    ************************************************************

    Installation of ACMS completed.
    Time is: 25-APR-1991 12:46:24.81

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

    Running the VAX ACMS V3.2-0 IVP ...
ACMS V3.2       Current System State: STARTED   Time: 25-APR-1991 12:52:50.42

Terminal Subsystem State:    STARTED
Queued Task Initiator State: STOPPED
System Auditing State:       ENABLED

Active ACMS Users

User Name      Submitter ID        Agent PID      Device
SYSTEM         00010013            0000021D       RTA1:

Active Execution Controllers

Application Name                   Process Name        User Name      Exc PID
ACMSIVP                            ACMS01EXC001000     ACMS$IVP       00000225

    The VAX ACMS V3.2-0 IVP completed successfully.
 Installation of ACMSRTO V3.2 completed at 12:53

 VMSINSTAL procedure done at 12:53
```

A.3 Sample Remote Access Option Kit Installation

This section contains an example of installing the ACMS remote access kit using VMS Version 5.4-1.

```
$  @SYS$UPDATE:VMSINSTAL ACMSREM032 $200$MUA0: OPTIONS N

 VAX/VMS Software Product Installation Procedure V5.4-1

It is 25-APR-1991 at 13:28.

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

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

The following products will be processed:

  ACMSREM V3.2

 Beginning installation of ACMSREM V3.2 at 13:29

%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]:  4

* Do you want to continue the installation [NO]?  YES

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

    Checking prerequisite software ...

    Checking optional software ...

    Your system includes:
        VAX/VMS, Version V5.4-1
        DECdtm, Version V1.1-2

* Do you want to continue the installation [NO]?  YES

    Checking SYSGEN parameters ...

    Checking Process Account Quotas ...

    ************************************************************
    This installation requires the creation of the ACMS$IVP
    account.  You MUST choose a password for this account.
    PLEASE NOTE that your password for the ACMS$IVP account
    MUST be at least 8 characters, cannot contain the name
    of the product and must not be an easily guessable password.
```

```
    The entire installation will FAIL if you do not enter a valid
    password for the ACMS$IVP account.  This installation
    procedure requires at least 8 characters for the
    ACMS$IVP password.  Valid characters for a password are:

       A through Z
       a through z
       0 through 9
       $ (dollar sign)
       _ (underscore)

    ************************************************************

    Please enter a password of at least 8 characters.

* Password:  CALAMAZU
* Verification:  CALAMAZU

* Please enter UIC for the ACMS$IVP account (example, [400,200]):  [400,201]

    The ACMS installation provides an automatic Installation
    Verification Procedure (IVP).  Digital recommends that
    you run the IVP as part of the installation. However, you
    may choose to invoke the IVP manually anytime after the
    installation has finished.

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

    The ACMS IVP may be invoked manually any time after the
    installation has completed to verify the integrity of the
    ACMS system software.

    The ACMS system MUST be STOPPED before you manually run
    the ACMS IVP.

    To test the software type the following commands:
        $ SET DEFAULT SYS$SYSROOT:[SYSTEST.ACMS]
        $ @ACMSIVP.COM

        Product:      ACMS-REM
        Producer:     DEC
        Version:      3.2
        Release Date: 1-JUL-1990

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

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

    All required questions have been asked.  To complete the
    installation on a standalone VAX 11/780 will take
    approximately:

        15 minutes to install
        2 minutes to run the IVP

    You may terminate the installation procedure at this time.

* Do you want to continue the installation? [YES]?  YES
```

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

    Beginning installation of ACMS component software.
    Time is: 25-APR-1991 13:41:01.25

    (Ignore possible "%UAF-E-RDBADDERRU, unable to add ACMS$IVP..." message
    followed by a "-SYSTEM-F-DUPIDENT, duplicate identifier" message)

%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named ACMS$IVP.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier ACMS$IVP value: [000400,000201] added to rights
database
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ACMS$IVP.
%UAF-I-MDFYMSG, user record(s) updated

    ************************************************************

    DECtrace has not been installed. Now storing the ACMS
    facility definition into sys$share:epc$facility.tlb.
    After installing DECtrace, the facility definition
    may be placed in the DECtrace administration database
    Please refer to the DECtrace User's guide for instructions
    on how to insert binary facility definitions into the
    DECtrace administration database.

    ************************************************************

    Installation of ACMS completed.
    Time is: 25-APR-1991 13:46:21.05

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

    Running the VAX ACMS V3.2-0 IVP ...

    The VAX ACMS V3.2-0 IVP completed successfully.
 Installation of ACMSREM V3.2 completed at 13:51

 VMSINSTAL procedure done at 13:51
```

B

Creating Transaction Logs for DECdtm Services

If you want to use DECdtm services on a node, you must create a transaction log for that node. In a VAXcluster system, you must create a transaction log for each node in the cluster. This appendix describes the following:

- Prerequisites for creating a transaction log
- Planning the size and location of transaction logs
- Setting up and creating transaction logs
- Example of creating transaction logs for a cluster

For more information about DECdtm services and the commands described in this appendix, see the VMS documentation set.

B.1 Prerequisites for Creating a Transaction Log

Before you create a transaction log for a node, the following prerequisites must be met:

- You must have the SYSPRV privilege.
- The node must be running VMS Version 5.4 or higher.

B.2 Planning the Size and Location of Transaction Logs

The size and location of transaction logs can affect the performance of your system. Before you create transaction logs, plan how big to make the logs, and where you are going to put them. Although you can later move a transaction log and change the size to improve performance, careful planning reduces the need for changes.

If the performance of your system is adversely affected by either the location or size of the logs, refer to the VMS documentation for the following information:

- Checking whether or not the transaction logs are the correct size.
- Changing the size of transaction logs.
- Moving transaction logs.

B.2.1 Determining the Size of Transaction Logs

Note *These guidelines for determining the size of a transaction log are approximate. When planning transaction logs, overestimate, rather than underestimate, the size of the transaction log.*

When you create transaction logs, you specify the size of the log in blocks. By default, the size of each transaction log is 4000 blocks. This default size gives acceptable performance on most systems.

If you know the rate of transactions and their duration, use the following algorithm to calculate the transaction log size:

```
size = 40 * rate * duration
```

where:

- size is the size of the transaction log in blocks.
- rate is the average number of transactions executed per second.
- duration is the average duration of each transaction in seconds.

For example, if rate is 10 transactions per second and duration is 12 seconds, the calculation is as follows:

```
size = 40 * 10 * 12 = 4800 blocks
```

In this example, the recommended size for the transaction log is 4800 blocks.

If you do not know the rate and duration of transactions, accept the default value of 4000 blocks.

B.2.2 Determining the Location for Transaction Logs

When deciding where to put the transaction log for a node, consider the following factors:

- Speed

  Select a high performance disk, such as a solid state disk, that is not heavily used.

- Availability

  High availability is achieved when you have multiple access paths to the data. Use a disk that can be accessed by the other nodes in the cluster when the node is down. This reduces the time that other transactions in the cluster are blocked while waiting for recovery from the node failure.

- Reliability

  Reliability is achieved when you have multiple copies of the data. A shadowed disk is more reliable than a nonshadowed disk, but may be slower than a nonshadowed disk because transaction logs are almost exclusively write-only.

You may have to choose which of these factors are most important. For example, if the node is a workstation, you may choose to give up speed for availability and reliability, by putting the transaction log on a shadowed HSC-based disk, instead of on a faster disk attached to the workstation.

If you have a VAXcluster, each node must have its own transaction log. To improve the performance of the transactions, distribute the logs among different disks on the system.

Note *You should ensure that the disk has sufficient contiguous space to hold the transaction log. A discontiguous transaction log results in poor transaction performance.*

B.3 Setting Up and Creating Transaction Logs

This section describes how to set up and create transaction logs. Before creating a transaction log, consider the recommendations for sizing and locating the log, as described in Section B.2. For an example of how to set up and create transaction logs for a three-node VAXcluster, refer to Section B.4.

To set up and create a transaction log:

1. Identify the directories where you want to put the transaction logs.
2. Create the log file in the directories.

B.3.1 Setting Up the Transaction Logs

DECdtm services uses the logical SYS$JOURNAL to locate transaction logs. For a single node, you must define SYS$JOURNAL to point to the directory that will contain the transaction log. In a cluster, you define SYS$JOURNAL on each node as a search list that points to all the directories that will contain the transaction logs for the cluster. If you put transaction logs for all nodes in one directory, SYS$JOURNAL on each node points to that directory.

You must define SYS$JOURNAL in the system logical name table, in executive mode.

Note *Remember to define SYS$JOURNAL in both the common and node-specific versions of the SYS$STARTUP:SYLOGICALS.COM command procedure.*

B.3.2 Creating the Transaction Logs

To create a transaction log file, use the CREATE LOGFILE command of the Log Manager Control Program (LMCP) Utility:

```
$  RUN SYS$SYSTEM:LMCP
LMCP>   CREATE LOGFILE filespec /SIZE=size
LMCP>   EXIT
```

where:

- filespec is the full file specification of the transaction log. The name of the file must be SYSTEM$node-name, where node-name is the name of the node. The file extension must be .LM$JOURNAL. If you omit the file extension in the command line, the file specification has the extension .LM$JOURNAL by default.
- size is the size of the transaction log in blocks. If you omit the /SIZE qualifier, the transaction log is created with the default size of 4000 blocks.

B.4 Example of Setting Up and Creating Transaction Logs

This section shows you how to set up and create transaction logs for a three-node VAXcluster system. In this example, cluster members and transaction log details are listed in Table B–1.

Table B–1 Transaction Log Requirements

Node Name	Transaction Log	
	Location	Size (In Blocks)
ORANGE	DISK$USER1:[LOGFILES]	5000
RED	DISK$USER3:[LOGFILES]	4000
GREEN	DISK$LOG:[LOGFILES]	6000

To set up and create the transaction logs for the three-node VAXcluster, follow these steps. Before starting, ensure that all three disks are mounted on all three nodes.

1. For each node, define the logical SYS$JOURNAL to be a search list of all the directories in Table B–1, with the following command:

```
$   DEFINE /SYSTEM /EXECUTIVE SYS$JOURNAL -
_$  DISK$USER1:[LOGFILES], -
_$  DISK$USER3:[LOGFILES], -
_$  DISK$LOG:[LOGFILES]
```

Note *You can enter all of the commands to set up the cluster from one node, using the SYSMAN Utility.*

2. Edit the common and node-specific versions of SYS$STARTUP:SYLOGICALS.COM files to include the definition of SYS$JOURNAL.

3. Enter the following commands to create the transaction log files:

```
$  RUN SYS$SYSTEM:LMCP
LMCP>  CREATE LOGFILE DISK$USER1:[LOGFILES]SYSTEM$ORANGE/SIZE=5000
LMCP>  CREATE LOGFILE DISK$USER3:[LOGFILES]SYSTEM$RED
LMCP>  CREATE LOGFILE DISK$LOG:[LOGFILES]SYSTEM$GREEN/SIZE=6000
LMCP>  EXIT
```

When you omit the /SIZE qualifier (for example, when creating the log for node RED), the transaction log is created with the default size of 4000 blocks.

C

Software Version Requirements

The tables in this appendix show which versions of the VAX layered products are compatible. Before installing a higher version of any software, verify that it is compatible with the other software versions installed on your system.

Table C–1 shows the version requirements for DECtrace software.

Table C–1 DECtrace Software Version Requirements

Installed Software Version	Minimum Version Requirements	
DECtrace	**VMS**	**Rdb/VMS**
1.0	5.3-5.4	3.1b-4.0A
1.0a	5.3-5.4	3.1b-4.0A
1.1	5.3-5.4	3.1b-4.0A

Table C–2 shows the version requirements for LSE software.

Table C–2 LSE Software Version Requirements

Installed Software Version	Minimum Version Requirements
LSE	**VMS**
2.2	4.4-5.1
2.3	5.1-5.3
3.0	5.1-5.4
3.1	5.2-5.4

Table C–3 shows the version requirements for Rdb/VMS software.

Table C–3 Rdb/VMS Software Version Requirements

Installed Software Version	Minimum Version Requirements		
Rdb/VMS	**VMS**	**DECtrace**	**LSE**
3.0B	4.7-5.3	—	—
3.1	5.2-5.3	1.0-1.0A	2.3-3.1
3.1A	5.2-5.3	1.0-1.0A	2.3-3.1
3.1B	5.2-5.4	1.0-1.0A	2.3-3.1
4.0	5.3-5.4	1.0-1.1	2.3-3.1
4.0A	5.3-5.4	1.0-1.1	2.3-3.1

Table C–4 shows the version requirements for CDD/Plus software.

Table C–4 CDD/Plus Software Version Requirements

Installed Software Version	Minimum Version Requirements		
CDD/Plus	**VMS**	**Rdb/VMS**	**LSE**
4.1	5.0-5.1	3.0	2.3-3.1
4.1A	5.0-5.3	3.0B	2.3-3.1
4.2	5.2-5.3	3.1-3.1B	3.0-3.1
4.2A	5.3-5.4	3.1-3.1B	3.0-3.1
4.3	5.3-5.4	4.0-4.0A	3.0-3.1

Table C–5 shows the version requirements for VAX DBMS software.

Table C–5 DBMS Software Version Requirements

Installed Software Version	Minimum Version Requirements		
DBMS	**VMS**	**CDD/Plus**	**LSE**
4.1	5.2-5.3	4.1-4.3	2.3-3.1
4.2	5.3-5.4	4.1-4.3	2.3-3.1

Table C–6 shows the version requirements for VDD software.

Table C–6 VDD Software Version Requirements

Installed Software Version	Minimum Version Requirements	
VDD	**VMS**	**Rdb/VMS**
2.0	4.7-5.0	3.0B
2.1	4.7-5.4	3.1
2.2	5.3-5.4	4.0

Table C–7 shows the version requirements for DECforms software.

Table C–7 DECforms Software Version Requirements

Installed Software Version	Minimum Version Requirements		
DECforms	**VMS**	**CDD/Plus**	**LSE**
1.1	5.0-5.3	4.0-4.3	2.3-3.1
1.2	5.0-5.4	4.1-4.3	2.3-3.1
1.3	5.0-5.4	4.1-4.3	2.3-3.1

Table C–8 shows the version requirements for TDMS software.

Table C–8 TDMS Software Version Requirements

Installed Software Version	Minimum Version Requirements		
TDMS	**VMS**	**CDD/Plus**	**LSE**
1.8A	4.4-5.2	3.4-4.3	2.3-3.1
1.9	5.0-5.4	4.1-4.3	2.3-3.1
1.9A	5.0-5.4	4.1-4.3	2.3-3.1

Table C–9 shows the version requirements for ACMS software.

Table C–9 ACMS Software Version Requirements

Installed Software Version	Minimum Version Requirements						
ACMS	**VMS**	**CDD/Plus**	**DECforms**	**Rdb/VMS**	**DECtrace**	**LSE**	**TDMS**
3.1	5.1-5.3	4.1-4.3	1.1-1.3	3.0-4.0A	1.0	2.0-3.1	1.7-1.9A
3.1A	5.1-5.4	4.1-4.3	1.1-1.3	3.0-4.0A	1.0	2.0-3.1	1.7-1.9A
3.2	5.4-1	4.2A-4.3	1.3	4.0A	1.0A-1.1	2.3-3.1	1.7-1.9A

Index

A

AAU
  See Application Authorization Utility
ACMEXCPAR.COM, 4–3
ACMS
  version requirements, C–4
ACMS$AUDIT_LOG
  defining as a logical name, 4–10
ACMS$DIRECTORY
  defining as a logical name, 4–10
  installing MDB files in, 4–13
ACMS$EDIT
  defining as a logical name, 4–10
ACMS$NOTICE, 4–11
  defining as a logical name, 4–10
ACMS$SWL_LOG
  defining as a logical name, 4–10
ACMS Kits, 2–1
  development system component
    software, 2–1
    sample installation, A–1
  remote access option component
    software, 2–2
    sample installation, A–12
  run-time option component software, 2–2
    sample installations, A–5
ACMSPAR.ACM
  requirements on a cluster, 4–14
ACMSPARAM.COM, 4–3
ACMSQUEMGR Utility
  See Queue Manager Utility
ACMS_POST_INSTALL.COM, 4–7
ACMS_SETUP.COM, 4–8
  executing during ACMS_POST_INSTALL.COM, 4–12
  executing startup with, 4–11
ADU$EDIT, 4–11
  defining as a logical name, 4–10
Application
  starting, 4–12
Application Authorization Utility, 4–4
ASTLM, 2–10, 4–5
Authorization, 4–3
  ACMS processes, 4–4
  new applications, 4–4
  new devices, 4–4
  new users, 4–4

B

Backups, 2–11
BIOLM, 2–10, 4–5
BLISS
  compiling the ACMSBLI.L32 library file, 4–14
BYTLM, 2–10, 4–5

C

CDD/Plus
  dependencies, 1–4
  version requirements, 2–3, C–2
CLISYMTBL, 2–7, 2–9
  setting, 2–9
Command Process
  authorizing, 4–5
CP
  See Command Process

D

DBMS
  See VAX DBMS
DDU
  See Device Definition Utility
DECdtm services
  and logical SYS$JOURNAL, B–3
  transaction logs
    see transaction logs
  version requirements, 2–2
DECforms
  dependencies, 1–4
  version requirements, 2–3, C–3
DECtrace
  version requirements, 2–4, C–1
Development system component software
  description, 2–1
Device Definition Utility, 4–4
DIOLM, 2–10, 4–5
Disk quotas, 2–6
Disk space, 2–6

E

ENQLM, 2–10, 4–6

F

FILLM, 2–10, 4–6

G

GBLPAGES, 4–9
  calculating, 2–8
  requirements for installation, 2–7, 2–8
GBLPAGFIL
  requirements for installation, 2–7
GBLSECTIONS, 4–9
  calculating, 2–8
  requirements for installation, 2–7, 2–8

H

Help
  modifying the file, 4–15

I

Installation
  aborting, 3–2
  choosing default, 3–8
  completing, 3–13
  failures, 3–13
    error recovery, 3–15
    parameters, 3–14
    software, 3–14
    system, 3–14
  informational messages, 3–12
  order, 1–1
    on a distributed system, 1–3
  preparation, 2–1
  questions, 3–3
  requirements, 2–5
  starting, 3–2
  time required, 2–5
Installation Verification Procedure, 3–1, 3–9, 3–10, 5–1
  choosing to run, 3–10
  description, 5–1
  run during installation, 3–13
  starting independent of installation, 5–2
IRPCOUNTV, 2–7

IVP
See Installation Verification Procedure

K

Kits
See ACMS Kits

L

Language Sensitive Editor
rebuilding environment and section files, 4–3
version check during installation, 3–6
version requirements, 2–4, C–2
LCMP
See Log Manager Control Program Utility
License Management Facility (LMF), 2–5
License registration, 2–5, 3–11
LMF
See License Management Facility
Logical names
defining
with ACMS_POST_INSTALL.COM, 4–10
Log Manager Control Program Utility
creating transaction logs, B–5
LRPCOUNTV, 2–7
LSE
See Language-Sensitive Editor

M

Message files
changing, 4–16
retrieving, 4–15
translating, 4–15

N

NODE_NAME
settings for distributed processing, 4–14

O

Operator
terminal
enabling, 4–12

P

Parameters
modifying, 4–3
Pascal
compiling the ACMSPAS.PAS file, 4–15
Performance
enhancing, 4–15
PGFLQUO, 2–10, 4–6
PQL_DASTLM
requirements for installation, 2–7
PQL_DBIOLM
requirements for installation, 2–7
PQL_DDIOLM
requirements for installation, 2–7
PRCLM, 2–10, 4–6
Privileges
to use ACMS, 4–5
Process
account quotas, 2–10

Q

QTI
See Queued Task Initiator
Queued Task Initiator, 5–1
agent authorization, 4–5
starting
with ACMS, 4–12
Queue Manager Utility
running, 5–2
Quotas
disk, 2–6, 5–2
process account, 2–10
user account, 4–5

R

Rdb/VMS

Rdb/VMS (Cont.)
dependencies, 1–5
version requirements, 2–4, C–2
Release Notes
display options during installation, 3–2, 3–3
filename, 3–5
location, 3–16
printing during installation, 3–4
Remote access option
software description, 2–2
Requirements
operating system components, 2–2
other, 2–11
privileges, 2–6
system parameters, 2–7
changing with AUTOGEN, 2–9
checking, 2–8
user account, 4–5
Run-time option component software
description, 2–2

S

Sample applications
choosing to install, 3–9
Software
minimum versions for optional software, 2–3
optional software requirements, 2–3
optional software without version minimums, 2–4
prerequisite software, 2–2
Software Event Log Utility Program
SWLUP$EDIT, 4–11
defining as a logical name, 4–10
SRPCOUNTV, 2–7
SWLUP$EDIT, 4–11
defining as a logical name, 4–10
SYS$JOURNAL
defining as a logical name, B–3
SYSGEN parameters
See VMS, parameters

T

TDMS
See Terminal Data Management System
TEAMDATA
version requirements, 2–4
Terminal Data Management System
dependencies, 1–4
version requirements, 2–3, C–4
Transaction logs, B–2
Troubleshooting
sources for assistance, 4–16

U

UDU
See User Definition Utility
User
account quotas, 4–5
User Definition Utility, 4–4

V

VAXcluster networks
requirements for using ACMS, 4–13
transaction logs, B–1
VAX Data Distributor
dependencies, 1–4
version requirements, C–3
VAX DBMS
dependencies, 1–5
version requirements, 2–4, C–3
Version numbers
determining, 1–3
VIRTUALPAGECNT
requirements for installation, 2–7
VMS
parameters
installation check, 3–7
prerequisite values, 2–7
required classes, 2–2
system disk
backing up, 2–11
system files

VMS
  system files (Cont.)
    editing, 4–2
    editing shutdown file, 4–2
    editing startup file, 4–2
  version requirements, 2–2
VMSINSTAL, 2–11, 3–2
  invoking, 3–2

W

WSDEF, 4–6
WSEXT, 4–6
WSQUO, 4–6