DECimage Storage Manager for VMS Installation Guide

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This guide contains instructions for installing the DECimage Storage Manager for VMS on the VAX/VMS operating system. It also explains how to access the online release notes before or after installing the product. This guide applies to the DECimage Storage Manager for VMS version 1.0.

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Preface

This guide describes how to install the DECimage Storage Manager for VMS on a VAX/VMS operating system. It is intended for system managers. This guide applies to the DECimage Storage Manager for VMS version 1.0.

Before continuing with this guide, please note the following:

- Keep this guide with your distribution kit. You will need to refer to it again should you need to reinstall the DECimage Storage Manager for VMS for any reason.
- This guide describes the installation procedure step by step. The procedure, for the most part, is self-explanatory. The procedure prompts you to answer questions and change volumes, and waits for you to tell it to continue.
- All user-entered commands are shown in **bold letters**.
- For information on reporting problems with the DECimage Storage Manager for VMS, see the section *Determining and Reporting Problems* later in this guide.
- This document does not contain release note information; instead, release notes are provided on line. You can access the release notes before you install the DECimage Storage Manager for VMS and at any time after the installation.

NOTE

To gain access to the release notes before you install the DECimage Storage Manager for VMS, follow the installation procedure up to step 4, in which you can choose to read or print the release notes and discontinue the installation procedure.

Because the release notes file installed by VMSINSTAL is assigned a unique name for each maintenance update, take care not to delete previous versions of that file.

To read the release notes after the installation, display or print the file SYS$HELP:ISM010.RELEASE_NOTES.

The HELP file also directs you to the release notes file. To access the HELP file after the installation, enter the following:

```
$ HELP ISM010 RELEASE_NOTES
```

For more information on installing the DECimage Storage Manager for VMS on VAX/VMS systems, see the *Guide to VAX/VMS Software Installation* and the *VAX/VMS System Manager's Reference Manual*.

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Chapter 1

Preparing to Install DECimage Storage Manager for VMS

This chapter discusses the preparations and requirements necessary for installing DECimage Storage Manager for VMS.

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.

DECimage Storage Manager for VMS provides online release notes. Digital strongly recommends that you read the release notes before proceeding with the installation. For information on accessing the online release notes, see Chapter 2.

1.1 Required Operating System Components

The VMS operating system comes with a variety of support options, or classes. Classes include such features as networking and RMS journaling. To use DECimage Storage Manager for VMS, your system should be running a version of VMS that includes the following classes:

- VMS Required Saveset
- Network Support
- Programming Support
- System Programming Support
- VMS Workstation Support
- Utilities
- Miscellaneous Files

For a complete list of the required classes, see the Software Support Addendum (SSA), which comes with the Software Product Description (SPD).

1.2 Prerequisite Hardware

The DECimage Storage Manager for VMS requires a VAX, MicroVAX, or VAXstation. For a complete list of valid hardware configurations, see the Software Support Addendum (SSA), which comes with the Software Product Description (SPD).

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1.3 Prerequisite and Optional Software

Table 1–1 provides information on the software you must have installed on your system before installing DECimage Storage Manager for VMS. The table also includes information about optional software that you can use together with DECimage Storage Manager for VMS. The System Software Addendum (SSA) contains a complete list of prerequisite and optional software and their required version numbers.

Table 1–1: Prerequisite and Optional Software

Prerequisite Products	Purpose
VMS Operating System Version 5.3	Operating System
DECnet/VAX Version 5.3 (Phase IV endnode)	Distributed client access to the server
VAX Rdb/VMS Version 3.0 (Runtime Option)	Store the Storage Manager meta data.

Prerequisite Products for Optional RV64 Support	Purpose
VAX Media Manager Version 1.0	Support for RV64 Optical Library Jukebox System
VAX Jukebox Control Software Version 1.0	Support for RV64 Optical Library Jukebox System

Optional Products	Purpose
DECimage Application Services for VMS Version 2.0	Using image-capable applications
DECimage Scan Software for VMS Version 2.0	Scanning images
VAX Rdb/VMS Version 3.0	Storing and retrieving image object keys and associated information
DECwrite for VMS Version 1.0	Process documents containing text and images

1.4 License Registration

You must register the DECimage Storage Manager for VMS server and client licenses through the VMS License Management Facility (LMF) in accordance with the license agreement signed by your site. The license registration information you need is contained in the Product Authorization Keys (PAKs) that are shipped with DECimage Storage Manager for VMS. The PAK is a paper certificate that contains information about the license to run a particular piece of software.

During the installation, the system asks whether you have registered the DECimage Storage Manager for VMS server and/or client license and loaded the appropriate PAK. You must register and load your server license for DECimage Storage Manager for VMS *before* you start the installation in order to run the Installation Verification Procedure (IVP) and use the software.

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

- Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your PAK.
- At the DCL prompt, enter the LICENSE REGISTER command with the appropriate qualifiers that correspond to PAK information.

If you plan to use DECimage Storage Manager for VMS client software on more than one node in a VAXcluster, you will need to perform a license load on each client node. See Chapter 3.

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

1.5 Installation Procedure Requirements

This section and those that follow discuss various requirements for installing DECimage Storage Manager for VMS.

1.5.1 Installation Time

The installation takes approximately 10 to 40 minutes, depending on your type of media and your system configuration.

Installing DECimage Storage Manager for VMS server and client and running the Installation Verification Procedure (IVP) on a standalone VAX 8700 system takes 15 minutes.

1.5.2 Privileges

To install DECimage Storage Manager for VMS, you must be logged in to an account that has SETPRV or at least the following privileges:

- CMKRNL
- DETACH
- EXQUOTA
- OPER
- SYSNAM
- SYSPRV
- WORLD

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

1.5.3 Disk Space

DECimage Storage Manager for VMS's requirements for free disk storage space are different during installation and after installation. Table 1–2 summarizes the total storage requirements for a server and client installation.

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Table 1–2: Disk Space Requirements

Kit	Blocks During Installation	Blocks After Installation
DECimage Storage Manager for VMS Version 1.0	4000	3000

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
```

1.5.4 System Parameters

Installing DECimage Storage Manager for VMS requires certain system parameter settings. Table 1–3 lists the minimum required system parameter values for the installation.

Table 1–3: Required System Parameter Values

System Parameter	Value
GBLPAGES [1]	n + 100
GBLSECTIONS[1]	n + 3
LOCKIDTBL_MAX[2]	2048
RESHASHTBL	512

[1]The values listed for these system parameters represent the number of free global pages and global sections required for the installation, not the total number you need to run your system and other software.

The following sections show you how to:

- Check system parameter values
- Check values for the GBLPAGES and GBLSECTIONS system parameters
- Change parameter values with the VMS AUTOGEN command procedure

1.5.4.1 Checking System Parameter Values

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

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

At the SYSGEN> prompt, enter the SHOW command to display the value of a system parameter. The values displayed should equal or exceed the value of each system parameter listed in Table 1–3. The following example displays the value for the RESHASHTBL system parameter:

```
SYSGEN> SHOW RESHASHTBL
```

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

1.5.4.2 Checking the Values for GBLPAGES and GBLSECTIONS

To install and run DECimage Storage Manager for VMS, you must have sufficient free global pages and global sections. You must first find out how many free global pages and sections you have on your system. Then use AUTOGEN if you need to increase the GBLPAGES and GBLSECTIONS system parameters.

You can use the WRITE command with the F$GETSYI lexical function to find the number of free global pages and global sections. The following example shows how to get this information at your terminal (the default for SYS$OUTPUT):

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

If the values displayed by the system are greater than the values in Table 1–3, you do not need to increase the values for these parameters. If the value of free global pages or global sections is less than the value in Table 1–3, you must increase the system parameter setting.

Section 1.5.4.3 describes the procedures for increasing these values using AUTOGEN.

1.5.4.3 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 values you reset manually. To change system parameters with AUTOGEN, edit the following file:

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

Use an editor to access the file. To change a parameter value listed in this file, delete the current value associated with that parameter and enter the new value.

To add a new parameter, add a line to the file that includes both the name of the parameter and its value. For example:

```
RESHASHTBL = 600
```

To modify incremental parameters such as GBLPAGES and GBLSECTS, use ADD_. The following example increases the global page setting by 2000:

```
ADD_GBLPAGES = 2000
```

Note that when you set the page file quota, do not use a value that exceeds the amount of page file space available on the system.

After you make all your changes, exit from the editor and execute the AUTOGEN procedure to recalculate your system parameters. Enter the following command at the DCL prompt:

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

When you specify REBOOT, AUTOGEN performs an automatic system shutdown and then reboots the system. Any users logged on to the system are immediately disconnected during the shutdown. The automatic reboot puts the new parameter values into effect.

The AUTOGEN Utility automatically adjusts some of the SYSGEN parameters based on the consumption of resources since the last reboot. If you do not want to take advantage of this automatic adjustment, include the NOFEEDBACK qualifier on the AUTOGEN command line.

For more information about using AUTOGEN, see the VMS System Management Subkit.

1.5.5 Process Account Quotas

The account you use to install DECimage Storage Manager for VMS must have an ENQLM quota of at least 600.

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 UAF> prompt, 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. The following example changes the FILLM quota for the SMITH account and then exits from the utility:

```
UAF> MODIFY SMITH /ENQLM=600
UAF> EXIT
```

After you exit from the utility, the 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 System Management Subkit.

1.5.6 VMSINSTAL Requirements

When you invoke VMSINSTAL, it checks the following:

- Whether you have set your default device and directory to SYS$UPDATE
- Whether you are logged in to a privileged account
- Whether you have adequate quotas for installation
- Whether DECnet is running
- Whether any users are logged in to the system

Note that the VMSINSTAL requires that the installation account have a minimum of the following quotas:

ASTLM = 24
BIOLM = 18
BYTLM = 18,000
DIOLM = 18
ENQLM = 30
FILLM = 20

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

1.5.7 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 are established at your site. For details on performing a system disk backup, see the section on the Backup Utility in the VMS System Management Subkit.

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Chapter 2

Installing DECimage Storage Manager for VMS

This chapter explains how to install DECimage Storage Manager for VMS. Section 2.2 contains a step-by-step description of the installation procedure.

2.1 Accessing the Online Release Notes

The DECimage Storage Manager for VMS provides online release notes that you can choose to display or print during the installation procedure.

The prompt to display or print the release notes appears in the installation procedure when you invoke VMSINSTAL with the OPTIONS N parameter.

To gain access to the release notes before you install the DECimage Storage Manager for VMS, follow the installation procedure up through Step 3. In Step 4, you can choose to read or print the release notes and discontinue the installation procedure.

To read the release notes after the installation, display or print the file SYS$HELP:ISM010.RELEASE_NOTES.

The HELP file also directs you to the release notes file. To access the help files after the installation, type the following:

```
$ HELP ISM010 RELEASE_NOTES
```

2.2 The Installation Procedure

The DECimage Storage Manager for VMS installation procedure consists of a series of questions and informational messages. See Appendix A for a sample 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.

1. **Invoke VMSINSTAL.**

```
@SYS$UPDATE:VMSINSTAL ISM010 MUA0: OPTIONS N
 VAX/VMS Software Product Installation Procedure V5.3

It is 15-DEC-1989 at 13:48.

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

To start the installation, invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account. VMSINSTAL is in the SYS$UPDATE directory. The following list defines the elements of the VMSINSTAL command procedure:

ISM010
The installation name for DECimage Storage Manager for VMS.

MUA0:
The name of the device on which you plan to mount the media.

OPTIONS N
An optional parameter that indicates you want to see the question on release notes. If you do not include the OPTIONS N parameter, VMSINSTAL does not ask you about the release notes. You should review the release notes before proceeding with the installation in case they contain additional information about the installation. If you are restarting the installation and have already reviewed the release notes, you do not need to specify OPTIONS N.

If you do not supply either the product name or the device name, VMSINSTAL prompts you for this information later in the installation procedure. VMSINSTAL does not prompt you for any options, so be sure to include OPTIONS N on the VMSINSTAL command line to access the release notes during the installation.

2. **Confirm system backup.**

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

VMSINSTAL asks if you are satisfied with your system backup. You should always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press RETURN. Otherwise, enter NO to discontinue the installation. After you back up your system disk, you can restart the installation.

3. **Mount the media.**

```
Please mount the first volume of the set on MUA0:.
* Are you ready? YES
%MOUNT-I-MOUNTED, ISM MOUNTED ON _MUA0:
The following products will be processed:
  ISM V1.0

        Beginning installation of ISM V1.0 at 13:48

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

You should 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 respond YES to indicate that you are ready, VMSINSTAL displays a message that the media containing DECimage Storage Manager for VMS has been mounted on the specified device and that the installation has begun.

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

4. **Select a Release Notes Option.**

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

Additional Release Notes Options:

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

```
* Select option [2]:2
```

If you specified OPTIONS N when you invoked VMSINSTAL, you are now asked to choose one of the four options for reviewing the release notes.

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.

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 press RETURN to send the file to the default output print device or you can enter another queue name.

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.

Select option 4 if you have already reviewed the release notes and are restarting the installation.

Note that hardcopy release notes are included with the documentation set for DECimage Storage Manager for VMS.

Next, VMSINSTAL displays the following question:

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

To continue the installation, enter YES. Otherwise, press RETURN. In either case, the release notes are copied to a file in the SYS$HELP directory:

After the installation, you can enter the following command to review the release notes through the Help facility:

```
$ SYS$HELP:ISM010.RELEASE_NOTES
```

NOTE

The name of the release notes file installed by VMSINSTAL consists of the current product name and version number. Do not delete release notes for previous versions of DECimage Storage Manager for VMS.

5. **Select Installation Option.**

```
 Installation procedure for: ISM010 V1.0
   ****************************************************************
    Be sure you have read the sections entitled:
        "Preparing to Install DECimage Storage Manager for VMS" and
        "Installing DECimage Storage Manager for VMS"
    in the installation guide before continuing with the installation.
   ****************************************************************

    Checking system requirements.

   Installation Options:

 1. ISM server and client
 2. Server only
 3. Client only

* Select option  [1]: 1
```

Next the installation procedure displays the prompt to select an installation option. You can choose to install the server and the client, the server only, or

the client only. The default of 1 installs both the server and the client.

6. **Respond to License Registration Queries.**

```
        Product:      IMAGE-STORAGE-SERVER
        Producer:     DEC
        Version:      V1.0
        Release Date: 15-DEC-1989
* Does this product have an authorization key registered and loaded? yes
        Product:      IMAGE-STORAGE-CLIENT
        Producer:     DEC
        Version:      V1.0
        Release Date: 15-DEC-1989
* Does this product have an authorization key registered and loaded? yes
```

The installation procedure displays license information about your product and then asks if you have registered and loaded your Product Authorization Key (PAK). Depending on the installation option you selected, you see the registration question for the server and client, the server only, or the client only.

If you have not registered and loaded your PAK, you must answer NO to this question. You have to register and load your PAK before you can run the IVP for the server or the client. After the installation completes, you need to register and load the appropriate PAK and then you can start the server or the client and run the IVP. If you have not registered and loaded your PAK for the server, you see the following display:

```
The LMF authorization key for the server has not been registered
as required. The DECimage Storage Manager installation will continue.
However, the DECimage Storage Manager Server can not be started until
the license authorization key is registered.

When the DECimage Storage Manager installation is completed,
please register the authorization key using the following command:

$ @SYS$UPDATE:VMSLICENSE

Once the LMF authorization key has been registered, the server
may be started by issuing the following command:

$ @SYS$STARTUP:ISM$SERVER_STARTUP

The Server IVP cannot be run until the authorization key is registered.
The Server IVP command file will be provided in the directory
SYS$COMMON:[SYSTEST.ISM$IVP].  Once you register the authorization key,
you may run the IVP by issuing the following commands:
```

If you have not registered and loaded your PAK for the client, you see the following display:

```
The LMF authorization key for the client has not been registered
as required. The DECimage Storage Manager installation will continue.
However, the DECimage Storage Manager Client IVP will not be run.

When the DECimage Storage Manager installation is completed,
please register the authorization key using the following command:

$ @SYS$UPDATE:VMSLICENSE

Once the LMF authorization key has been registered, the client
may be started by issuing the following command:

$ @SYS$STARTUP:ISM$CLIENT_STARTUP

The Client IVP command file will be provided in the directory
SYS$COMMON:[SYSTEST.ISM$IVP].  Once you register the authorization key,
you may run the IVP by issuing the following commands:

    $ @SYS$COMMON:[SYSTEST.ISM$IVP]ISM$CLIENT_IVP
```

7. **Select Server Disk.**

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

 ISM requires a disk device for the server files.
 This installation will create a directory structure to contain them.
 If you are unsure of where to place these, you may exit this procedure
 now and review the pertinent documentation.

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

* Do you know where you want to put your server directory  [NO]? YES
* What is the name of the server disk: SNOOD$DUA7:
```

Enter the name of the device on which you want to create the directory structure for the server files.

8. **Furnish Server Account Information.**

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

    This installation requires the creation of an ISM$SERVER account.
    You MUST choose a UIC and password for this account.

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

* Please enter UIC to be used for the ISM$SERVER account
                                (e.g. [ggg,mmm]): [500,500]
    ************************************************************

    The installation will FAIL if you do not enter a valid
    password for the ISM$SERVER account.  You will be given
    3 chances to verify your password.  This installation
    procedure requires at least 6 characters for the
    ISM$SERVER password.  Valid characters for a password are:

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

    As with the DCL SET PASSWORD command, your input will not
    appear on the terminal.  And to protect against typing errors
    that are not seen when entering the password, you must enter
    the password twice.

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

* Please enter PASSWORD to be used for the ISM$SERVER account:

* Please verify the PASSWORD entered for the ISM$SERVER:
```

Enter a valid password for the ISM$SERVER account and then verify the password by entering it again.

9. **Choose the Installation Verification Procedure (IVP) option.**

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

The installation procedure now asks if you want to run the IVP. The IVP for DECimage Storage Manager for VMS checks to be sure that the installation is successful. It is recommended that you run the IVP.

After DECimage Storage Manager for VMS is installed, you can run the IVP independently to verify that the software is available on your system. You might need to run the IVP after a system failure to make sure that users can access DECimage Storage Manager for VMS.

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10. **Purge Files.**

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

You have the option to purge files from previous versions of DECimage Storage Manager for VMS that are superseded by this installation. Purging is recommended; however, if you need to keep files from the previous version, enter NO in response to the question.

11. **Read 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 chose to have files purged, that work is done now. The following messages are displayed:

```
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named ISM$SERVER.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier ISM$SERVER value: [000500,000500] added to
                                    rights data base
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ISM$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ISM$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ISM$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
    ************************************************************

     The following ACL identifiers will be added to SYSUAF.DAT:
   ISM$CREATE_STORAGE_SET
   ISM$SERVER_SHUTDOWN
   ISM$ADMINSTRATOR

     The identifiers ISM$CREATE_STORAGE_SET and ISM$SERVER_SHUTDOWN
     are granted to this account.

     Please review the documentation regarding their dispensation
     to ISM server user accounts

    Please ignore any duplicate name or identifier errors.

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

    Creating DECImage Storage Manager (ISM)  RDB/VMS Database


    ************************************************************
    This installation creates a file in the SNOOD$DUA7:[ISM.PERM]
    directory pointed to by the ISM$SERVER_PERM system logical name,
    called ISM$STORAGE_CONFIG.DAT.

    This file loads SNOOD$DUA7: as the initial device to
    be used for image object storage.  Be sure to update this
    according to your desired configuration after installation
    has completed. This file is rename to ISM$STORAGE_CONFIG.OLD
    after the server process has been started.

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

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```
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
                                    VMI$ROOT:[SYSHLP.EXAMPLES.ISM].
   Providing ISM client support for VAX-C
   Providing ISM client support for FORTRAN
   Providing ISM client support for BASIC
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
                                    VMI$ROOT:[SYSTEST.ISM$IVP].
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
```

12. **Observe the Installation Verification Procedure (IVP).**

    If you chose to run the IVP, VMSINSTAL runs it now. When the IVP runs successfully for the server and client, you see the following display:

```
   .
   .
   .
   The ISM Server Installation Verification Procedure completed successfully.
   .
   .
   .
   The ISM Client Installation Verification Procedure completed successfully.
```

13. **End the Installation Procedure.**

```
 Installation of ISM V1.0 completed at 14:00

 VMSINSTAL procedure done at 14:00
```

    The previous messages indicate that the entire installation procedure is complete.

14. **Run ISM$IVP_TEST File.**

    You can now run the ISM$IVP_TEST.EXE test file that was built during the IVP. To run this test you must have installed the server and the client on the same node. Enter the following command:

```
$ RUN SYS$COMMON:[SYSTEST.ISM$IVP]ISM$IVP_TEST
```

    As the test runs, you see the following display:

```
  Initiating ISM session on <SNOOD> via PROXY access.
  Connected to ISM server.
  Storage set information for current user:
    End of list
  Creating storage set ISM$IVP_SS.
  Creating image object.
  Writing <10240> bytes of image data.
  Setting application data.
  Setting image object type.
  Closing the image object with key [d9157f4992cbefa7].
  Detaching the storage set.
  Attaching storage set ISM$IVP_SS again.
  Opening image object with key [d9157f4992cbefa7].
  Reading image data.
  Comparing image data read with original.
  Getting application data.
  Getting image object type.
  Closing the image object.
  Deleting the image object.
  Detaching the storage set.
  Deleting the storage set.
  Terminating the ISM session.
```

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You can now log out of the privileged account:

```
$ LOGOUT
  SYSTEM       logged out at 15-DEC-1989 14:01:29.10
```

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

2.3 Error Recovery

If errors occur during the installation itself or when the Installation Verification Procedure (IVP) is running, VMSINSTAL displays failure messages. If the installation procedure fails for any reason, the following message is displayed:

```
DECimage Storage Manager V1.0 Installation failed.

Please consult the DECimage Storage Manager for VMS Installation
 Guide for further information.
```

One or more of the following conditions can cause an error during the installation:

- Insufficient disk space to complete the installation
- Insufficient system virtual page count parameter
- Insufficient AST quota
- Insufficient buffered I/O byte count
- Insufficient subprocess quota
- Insufficient open file quota
- Insufficient process paging file quota
- Insufficient process working set quota
- Insufficient system maximum working set
- Incorrect version of VAX/VMS
- VAX Rdb/VMS not installed

For descriptions of the error messages generated by these conditions, see the *VAX/VMS System Messages and Recovery Procedures Reference Manual* and the *Guide to VAX/VMS Software Installation*.

If you are notified that any of these conditions exist, you should take the appropriate action, as described in the message. You may need to change a system parameter or increase an authorized quota value. If the installation fails, you must restart the installation procedure from Step 2.

If the Installation Verification Procedure fails for any reason, the following message is displayed:

```
DECimage Storage Manager V1.0 Installation Verification
Procedure failed.
Please consult the DECimage Storage Manager for VMS Installation
Guide for further information.
```

If you receive this message, contact your Digital field service representative.

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Chapter 3

After Installing DECimage Storage Manager for VMS

The following tasks take place after installing DECimage Storage Manager for VMS:

- Running the Installation Verification Procedure separately.
- Editing the system startup and shutdown files.
- Setting user account privileges and quotas.
- Enhancing performance.
- Reporting problems.

3.1 Running the Installation Verification Procedure Separately

You usually run the Installation Verification Procedure (IVP) during installation. If you want to run the server IVP separately to ensure the integrity of installed files should system problems occur, execute the following command procedure:

```
$  @SYS$COMMON:[SYSTEST.ISM$IVP]ISM$SERVER_IVP
```

If you want to run the client IVP separately to ensure the integrity of installed files should system problems occur, execute the following command procedure:

```
$  @SYS$COMMON:[SYSTEST.ISM$IVP]ISM$CLIENT_IVP
```

3.2 Editing the System Files

You must edit the system startup and shutdown files to provide for automatic startup and shutdown of DECimage Storage Manager for VMS when your system is rebooted.

Add the command line that starts DECimage Storage Manager for VMS to the system startup file, SYS$MANAGER:SYSTARTUP_V5.COM. DECimage Storage Manager for VMS cannot start until after the network has started. You must position this new command line *after* the line that invokes the network startup command procedure. The following example shows the network startup command line followed by the DECimage Storage Manager for VMS startup command line:

```
$ @SYS$MANAGER:STARTNET.COM
      .
      .
      .
$ @SYS$STARTUP:ISM$SERVER_STARTUP.COM
```

Add the following command line to the system shutdown file, SYS$MANAGER:SYSHUTDOWN.COM:

```
$ @SYS$MANAGER:ISM$SERVER_SHUTDOWN.COM
```

3.3 Client Account Privileges

To use DECimage Storage Manager for VMS, each client account must have at least the TMPMBX and NETMBX privileges. Use the VMS Authorize Utility to determine whether users have the privileges they require.

3.4 Determining and Reporting Problems

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

- If you have a BASIC or DECsupport Software Agreement, you should call your Customer Support Center. (With these services, you receive telephone support that provides high-level advisory and remedial assistance. For more information, contact your local DIGITAL representative.)
- If you have a Self-Maintenance Software Agreement, you may submit a Software Performance Report (SPR).
- If you purchased the Storage Manager within the last 90 days and this is a nonconformance problem, you can submit a Software Performance Report (SPR).

If you find an error in the Storage Manager documentation, you should fill out and submit the Reader's Comments form at the back of the manual in which the error was found. If you report a documentation error, specify the title of the manual and the section and page number where the error was found.

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Appendix A

Sample Installation

This appendix contains a sample installation of DECimage Storage Manager for VMS. This sample was run on a system that had no previous version of DECimage Storage Manager for VMS installed. [Depending on which layered products you have on your system, you might see additional messages and questions when you perform your installation.]

The sample installation assumes that DECnet has been shut down, that no users are logged on to your system, and that OPTIONS N is specified to print the release notes. The Installation Verification Procedure (IVP) runs at the end of the installation.

```
$ set def sys$update:
$
$
$ @vmsinstal ism010 dua0:[kits.ism]

 VAX/VMS Software Product Installation Procedure V5.3

It is 15-DEC-1989 at 13:48.

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:
  ISM V1.0

 Beginning installation of ISM V1.0 at 13:48

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

 Installation procedure for: ISM010 V1.0

   ****************************************************************
    Be sure you have read the sections entitled:
        "Preparing to Install DECimage Storage Manager for VMS" and
        "Installing DECimage Storage Manager for VMS"
    in the installation guide before continuing with the installation.
   ****************************************************************

    Checking system requirements.

   Installation Options:

 1. ISM server and client
 2. Server only
 3. Client only

* Select option  [1]: 1
```

```
        Product:      IMAGE-STORAGE-SERVER
        Producer:     DEC
        Version:      V1.0
        Release Date: 15-DEC-1989
* Does this product have an authorization key registered and loaded? YES
        Product:      IMAGE-STORAGE-CLIENT
        Producer:     DEC
        Version:      V1.0
        Release Date: 15-DEC-1989
* Does this product have an authorization key registered and loaded? YES

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

 ISM requires a disk device for the server files.
 This installation will create a directory structure to contain them.
 If you are unsure of where to place these, you may exit this procedure
 now and review the pertinent documentation.

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

* Do you know where you want to put your server directory  [NO]? YES
* What is the name of the server disk: SNOOD$DUA7:

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

    This installation requires the creation of an ISM$SERVER account.
    You MUST choose a UIC and password for this account.

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

* Please enter UIC to be used for the ISM$SERVER account(e.g.
                                  [ggg,mmm]): [500,500]
    ************************************************************

    The installation will FAIL if you do not enter a valid
    password for the ISM$SERVER account.  You will be given
    3 chances to verify your password.  This installation
    procedure requires at least 6 characters for the
    ISM$SERVER password.  Valid characters for a password are:

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

    As with the DCL SET PASSWORD command, your input will not
    appear on the terminal.  And to protect against typing errors
    that are not seen when entering the password, you must enter
    the password twice.

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

* Please enter PASSWORD to be used for the ISM$SERVER account:

* Please verify the PASSWORD entered for the ISM$SERVER:

* Do you want to run the IVP after the installation [YES]?YES
* Do you want to purge files replaced by this installation [YES]?YES
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named ISM$SERVER.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier ISM$SERVER value: [000500,000500] added to
                                    rights data base
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ISM$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ISM$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named ISM$SERVER.
%UAF-I-MDFYMSG, user record(s) updated

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

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```
      The following ACL identifiers will be added to SYSUAF.DAT:
    ISM$CREATE_STORAGE_SET
    ISM$SERVER_SHUTDOWN
    ISM$ADMINSTRATOR

      The identifiers ISM$CREATE_STORAGE_SET and ISM$SERVER_SHUTDOWN
      are granted to this account.

      Please review the documentation regarding their dispensation
      to ISM server user accounts

     Please ignore any duplicate name or identifier errors.

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

     Creating DECImage Storage Manager (ISM)  RDB/VMS Database

     ************************************************************
     This installation creates a file in the SNOOD$DUA7:[ISM.PERM]
     directory pointed to by the ISM$SERVER_PERM system logical name,
     called ISM$STORAGE_CONFIG.DAT.

     This file loads SNOOD$DUA7: as the initial device to
     be used for image object storage.  Be sure to update this
     according to your desired configuration after installation
     has completed. This file is rename to ISM$STORAGE_CONFIG.OLD
     after the server process has been started.

     ************************************************************
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
                                VMI$ROOT:[SYSHLP.EXAMPLES.ISM].
   Providing ISM client support for VAX-C
   Providing ISM client support for FORTRAN
   Providing ISM client support for BASIC
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
                                VMI$ROOT:[SYSTEST.ISM$IVP].
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

  Beginning the DECimage Storage Manager (ISM) V1.0
    Server Installation Verification Procedure
      Starting ISM Server
%RUN-S-PROC_ID, identification of created process is 00000062
      ISM server started
      ISM Server running

   The ISM Server Installation Verification Procedure completed successfully.


  Beginning the DECimage Storage Manager (ISM) V1.0
    Client Installation Verification Procedure

  Depending upon system loading and compilers available,
   this procedure requires 1 to 5 minutes to complete.


   Verifying ISM Client installation
      ISM Client Installed Successfully.

      VAX CDD must be installed before this IVP can verify that
      language specific include files have been successfully provided.
      This may be accomplished by executing @SYS$MANAGER:CDDSTRTUP.COM
      and re-executing this IVP stand-alone.

      The IVP will continue now, and attempt to link a previously
      compiled object which has been provided with the kit.

      Linking VAX C version of ISM$IVP_TEST
  Please ignore any linker informational messages.

   The ISM Client Installation Verification Procedure completed successfully.

 Installation of ISM V1.0 completed at 14:00
```

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```
 VMSINSTAL procedure done at 14:00

$ run sys$common:[systest.ism$ivp]ism$ivp_test

  Initiating ISM session on <SNOOD> via PROXY access.
  Connected to ISM server.
  Storage set information for current user:
    End of list
  Creating storage set ISM$IVP_SS.
  Creating image object.
  Writing <10240> bytes of image data.
  Setting application data.
  Setting image object type.
  Closing the image object with key [d9157f4992cbefa7].
  Detaching the storage set.
  Attaching storage set ISM$IVP_SS again.
  Opening image object with key [d9157f4992cbefa7].
  Reading image data.
  Comparing image data read with original.
  Getting application data.
  Getting image object type.
  Closing the image object.
  Deleting the image object.
  Detaching the storage set.
  Deleting the storage set.
  Terminating the ISM session.
$ LOGOUT
  SYSTEM       logged out at 15-DEC-1989 14:01:29.10
```

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Appendix B

Files and Logical Names Installed on Your System

The DECimage Storage Manager for VMS installation procedure installs a number of files on your system and defines some logical names. Section B.1 lists the files installed. [Section B.1 tells where you can find the list of installed files.] Section B.2 lists the logical names that are added to the system logical name table.

B.1 File Names

The following list contains the names of all files created on your system when DECimage Storage Manager for VMS server and client are installed.

On specified_device:[1]:

[000000]ISM.DIR (server)
[ISM]IMAGE.DIR (server)
[ISM]PERM.DIR (server)
[ISM.PERM]ISM$SERVER.RDB (server)
[ISM.PERM]ISM$SERVER.SNP (server)
[ISM.PERM]ISM$STORAGE_CONFIG.DAT (server)

In SYS$COMMON:[SYS$STARTUP]:

ISM$CLIENT_STARTUP.COM (client)
ISM$SERVER_STARTUP.COM (server)
ISM$SERVER_STOP.COM (server)

In SYS$COMMON:[SYSEXE]:

ISM$MIGRATE_MAIN.EXE (server)
ISM$SERVER_MAIN.EXE (server)
ISM$SERVER_SHUTDOWN.EXE (server)

In SYS$COMMON:[SYSHLP]:

ISM$010.RELEASE_NOTES (both)

In SYS$COMMON:[SYSHLP.EXAMPLES.ISM]:

ISM$BUILD_UTILITY.COM (client)
ISM$DATABASE_INTERFACE.C (client)
ISM$DECW_DATABASE.C (client)
ISM$DECW_GENERAL.C (client)
ISM$DECW_IMAGES.C (client)
ISM$DECW_SESSIONS.C (client)

[1] The device specified during installation

ISM$DECW_STORAGE_SETS.C (client)
ISM$DECW_WORK_WINDOW.C (client)
ISM$ISM_INTERFACE.C (client)
ISM$UD_STRUCT.H (client)
ISM$UTILITY.HLP (client)
ISM$UTILITY.UIL (client)
ISM$UTILITY_MAIN.C (client)
ISM$UTILITY_MSG.H (client)
ISM$UTILITY_MSG.MSG (client)
ISM$U_STRUCT.H (client)
ISM$U_WIDGETS.H (client)

In SYS$COMMON:[SYSLIB]:

DSL$SHR.EXE (both)
ISM$CLIENT_SHR.EXE (client)
ISM$MSG.BAS (client)
ISM$MSG.FOR (client)
ISM$MSG.H (client)
ISM$MSG.OBJ (client)
ISM$USER_DEF.BAS (client)
ISM$USER_DEF.FOR (client)
ISM$USER_DEF.H (client)

In SYS$COMMON:[SYSMSG]:

ISM$MSG.EXE (both)

In SYS$COMMON:[SYSTEST.ISM$IVP]:

ISM$CLIENT_IVP.COM (client)
ISM$IVP_TEST.BAS (client)
ISM$IVP_TEST.C (client)
ISM$IVP_TEST.EXE (client)
ISM$IVP_TEST.FOR (client)
ISM$IVP_TEST_C.OBJ (client)
ISM$SERVER_IVP.COM (server)

B.2 Logical Names

When you install DECimage Storage Manager for VMS, the installation procedure defines the logical name ISM$SERVER_PERM. This name is stored in the product's startup file. The logical name is automatically entered into the system logical name table whenever the system reboots or whenever the software is invoked.

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