Replication Option for Rdb

Installation Guide

Release 7.2

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Replication Option for Rdb Installation Guide

Release 7.2

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Preface

This manual describes how to install Replication Option release 7.2 on OpenVMS Alpha and HP OpenVMS Industry Standard 64 Integrity Servers.

The installation procedure uses VMSINSTAL.

Replication Option for Rdb is referred to as Replication Option throughout this document.

HP OpenVMS Industry Standard 64 Integrity Servers is referred to as OpenVMS I64 throughout this document.

Oracle Rdb is referred to as Rdb throughout this document.

Intended Audience

If you are responsible for installing and maintaining Replication Option, you should review this manual before beginning the installation procedure. You must have access to a privileged account to install Replication Option.

Structure

This manual contains three chapters and two appendixes:

Chapter 1	Describes how to prepare for the installation.
Chapter 2	Walks you through the installation procedure.
Chapter 3	Describes the tasks to perform after successfully completing the installation.
Appendix A	Contains a sample log of the installation procedure.
Appendix B	Contains the directory location for the files that are copied to your system during the installation.

Related Manuals

You can find additional information about Replication Option in the following manuals:

- *Replication Option for Rdb Handbook*—Provides information, guidelines, and examples for distributing Rdb databases in a network.
- *Replication Option for Rdb Release Notes*—Describes problems corrected in this release and current restrictions.

Always check the *Replication Option for Rdb Release Notes* for information that might affect installation.

Conventions

In examples, an implied carriage return occurs at the end of each line, unless otherwise noted. You must press the Enter key at the end of a line of input.

This manual also uses the following convention:

$	The dollar sign represents the DIGITAL Command Language prompt. This symbol indicates that the DCL interpreter is ready for input.

References to Products

Since its inception the Replication Option has undergone several name changes, yet abbreviations for the original name have been retained. The term DDAL appears in Replication Option documentation. For example, DDAL appears as part of the installation name for Replication Option. The term also appears in the following contexts:

- Column descriptions displayed when you issue a SHOW COLUMNS statement for a target database, and for table and column names in the transfer database
- Message texts
- File names that are part of the Replication Option software

1

Preparing to Install Replication Option

This chapter discusses the preparations and requirements necessary for installing Replication Option. If you are responsible for the installation, read this manual in its entirety before you begin to install the Replication Option software.

Your packing list specifies 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 Oracle Corporation representative.

Replication Option provides online release notes. Because the release notes contain information that may be pertinent to the installation, Oracle Corporation strongly recommends that you read the release notes before proceeding with the installation. For information on accessing the online release notes, see Section 2.1.1.

1.1 Evaluate Impact of Major Change Before Installing

If you have been using a version of Replication Option that predates version 7.0, you should be aware that an incompatible change has occurred that might affect you. The format of the transfer database tables has undergone the following revisions:

- Table and column names have changed
- Column data types have changed
- New tables have been added

If you use only the SQL SHOW statement to get information from the transfer database, these changes will be transparent. However, if you have application programs and scripts that directly access the database, they will have to be modified to account for the changes. You may want to defer installing this version of Replication Option until you have modified any affected applications and scripts. For details about these changes, refer to Appendix A in the *Replication Option for Rdb Handbook*.

1.2 Installation Will Replace Earlier version of Replication Option

If you install this version of Replication Option, you will replace any earlier version of it. Only one version of Replication Option is allowed on a system or VMScluster. In a mixed OpenVMS Alpha and OpenVMS I64 cluster, you can have the appropriate version of the product for each platform, provided the version numbers are the same. By contrast, you can have multiple versions of Rdb installed on a system or cluster. Section 1.4.3 explains how multiple versions of Rdb have an effect on Replication Option.

1.3 Required Operating System Components

The OpenVMS operating system arranges all files into classes and subclasses. This lets you add and remove parts of OpenVMS by function rather than by file. Replication Option requires a minimum of the following OpenVMS classes:

- Files required for OpenVMS to boot on all systems
- Support for DECnet-PLUS or DECnet for OpenVMS
- Programming Support
- Secure User's Environment
- Utilities

1.4 Prerequisite Software

This section discusses the software you must have installed on your system before installing Replication Option.

1.4.1 Operating System Requirements

OpenVMS Alpha

Replication Option for Rdb for OpenVMS Alpha release 7.2 requires OpenVMS Alpha Version 8.2 or higher.

OpenVMS I64

Replication Option for Rdb for OpenVMS I64 release 7.2 requires OpenVMS I64 Version 8.2-1 or higher.

1.4.2 Network Software Requirements

If you plan to use Replication Option to transfer data between two or more nodes, you must also install DECnet, DECnet/OSI, or TCP/IP services.

1.4.3 Database Manager Requirements

Before you can use Replication Option, you must install and run Rdb. The minimum version of Rdb supported is Version 7.2 on all supported hardware platforms.

Although this is the minimum version of Rdb that must exist on the same system as Replication Option, at remote sites earlier versions of Rdb can be used as the source or target of data to be transferred by Replication Option.

Multiple versions of Rdb can coexist on the same system or cluster. This is known as the multiversion capability of Rdb. To use one of the variants you must invoke an Rdb command procedure to establish that version as the one you want to use. That command procedure is SYS$LIBRARY:RDB$SETVER.COM. For more information, see the Oracle Rdb installation and configuration guide for the version of Oracle Rdb you are using.

Once the product has been installed, there are two methods you can use to start Replication Option. One method relies on the correct version of Rdb being set as the default version for your system. With this method, you must establish the desired Rdb version as the SYSTEM version. This has to be done before the Replication Option installation verification procedure (abbreviated as IVP) is run. For example, to set your system environment to use Rdb Version 7.2, enter the following commands:

```
$ @SYS$LIBRARY:RDB$SETVER 7.2 /SYSTEM
$ @SYS$LIBRARY:RDB$SETVER RESET
```

This causes any Rdb applications and users to start running under Rdb Version 7.2 unless they explicitly set their environments to some other version. For example, to override the system environment and set your environment to Version 7.1, you would enter the following command:

```
$ @SYS$LIBRARY:RDB$SETVER 7.1 /PROCESS
```

An alternative method for starting Replication Option is to specify the Rdb version to Replication Option command procedures. When this is done, the version of Rdb you choose does not have to be the default version on the system, and you do not have to declare a SYSTEM Rdb environment as shown in the preceding example.

After installing the Replication Option kit and executing the IVP, but before running Replication Option in a production environment, you must have completed all database conversions, including conversions of any transfer databases. For information on database conversion, see the Oracle Rdb installation and configuration guide for the version of Rdb you are using.

1.5 Special Requirements for Installing Replication Option

If users are logged in when you are installing Replication Option, the installation could fail. To ensure successful installation, perform the following steps:

1. Make sure no users are currently logged in to the system.
2. Make sure all batch jobs are completed.
3. Disable all logins.
4. Make sure transfer monitors (one for each node if you have a cluster) are shut down if you have a previous version of Replication Option installed. See the *Replication Option for Rdb Handbook* for information on stopping the transfer monitor using the command procedure, DDAL$STOP_TR_MON.COM.
5. Make sure you have installed the Rdb version that you plan to use to manage the transfer database tables.

1.6 VMScluster System Considerations

If you plan to use Replication Option in a VMScluster system, note the following requirements:

- Before installing Replication Option, ensure that an OpenVMS rights database exists on every node in the system on which you plan to run Replication Option. Refer to Section 1.8 for the required procedures.
- After successfully installing Replication Option on one node, install it on all other nodes in the cluster.

1.7 Installation Procedure Requirements

The following sections discuss the requirements for installing Replication Option.

1.7.1 Time

The time required to install the Replication Option varies depending on the system configuration. You should allow approximately 20 minutes to perform the entire installation procedure, including the procedures you perform before and after the installation.

1.7.2 Privileges

To install Replication Option without running the IVP, you must be logged in to an account that has SETPRV or at least the following privileges:

- CMKRNL
- WORLD
- SYSPRV (with which you can modify privileges to include SETPRV)

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

To also run the IVP at the end of the installation process, you will need additional privileges (see Section 3.11).

On most systems, the SYSTEM account has SETPRV and is used to install software. The procedures described in this installation guide refer to the SYSTEM account, but they are the same for any account with SETPRV. If your account does not have SETPRV but does have SYSPRV, you must modify the privileges to include SETPRV. This section shows you how to check and change the privileges for your account.

To check the default privileges of the SYSTEM account, log in under user name SYSTEM, and enter the following DCL command:

```
$ SHOW PROCESS/PRIVILEGES
```

If the account lacks SETPRV, you cannot install Replication Option. You have two options:

- Ask your system manager to use the OpenVMS Authorize utility (AUTHORIZE) to modify the default privileges of the account to include SETPRV.
- Run AUTHORIZE and make the changes yourself, if your account has SYSPRV:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> MODIFY SYSTEM/PRIVILEGES=(SETPRV)
UAF> EXIT
```

After you make this change, you must log out and log back in for the new privilege to take effect.

1.7.3 Disk Space

You must provide sufficient free disk storage space to handle peak requirements during the installation and post-installation procedures. The following sections summarize the storage requirements for Replication Option.

1.7.3.1 OpenVMS Alpha

Disk Space Requirements for Replication Option for Rdb for OpenVMS Alpha:

- Blocks needed during installation: 41,000
- Blocks needed after installation: 16,000

1.7.3.2 OpenVMS I64

Disk Space Requirements for Replication Option for Rdb for OpenVMS I64:

- Blocks needed during installation: 32,000
- Blocks needed after installation: 36,000

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
```

1.7.4 System Parameters

Replication Option requires no additional system parameter settings beyond those required for Rdb. If you have Rdb correctly installed on your system, you can install Replication Option without adjusting any system parameters.

1.7.5 Process Account Quotas

Replication Option requires no additional quota settings beyond those required for Rdb. If you have Rdb correctly installed on your system, you can install Replication Option using the same OpenVMS account without adjusting any quotas.

1.7.6 VMSINSTAL Requirements

When you invoke VMSINSTAL, it checks to see if you have performed the following tasks:

- Set your default device and directory to SYS$UPDATE
- Logged in to a privileged account
- Set adequate quotas for installation

VMSINSTAL also determines if any users are logged in to the system.

VMSINSTAL requires the installation account to have quotas with the following minimum values:

ASTLM = 24
BIOLM = 18
BYTLM = 20,480
DIOLM = 18
ENQLM = 2000
FILLM = 50
PGFLQUOTA = 20,000

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

1.7.7 Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. Oracle Corporation recommends that you do a system disk backup before installing any software. Backing up the system disk is a standard precaution for the installation of any OpenVMS product.

Use the backup procedures established at your site. For details on performing a system disk backup, see the section on the Backup Utility in the OpenVMS System Management Subkit.

1.7.8 Replication Option Requirements

The Replication Option installation procedure checks the following items:

- Minimum OpenVMS version
- Disk space
- System parameters
- Installation account quotas
- OpenVMS rights database
- Rdb version used to manage the transfer database tables

If VMSINSTAL encounters problems in any of these areas, it terminates the installation procedure. You must correct the problems and then restart the installation process.

See the appropriate sections in this chapter for information about all of these requirements.

1.8 Creating an OpenVMS Rights Database

Before you can install Replication Option, an OpenVMS rights database must exist on every standalone system or on every node in a VMScluster on which Replication Option is to be run. To check for the existence of an OpenVMS rights database on a system, set default to SYS$SYSTEM and get a directory listing. If a system logical name, RIGHTSLIST, is defined, make sure that the RIGHTSLIST.DAT file is present in the directory to which the RIGHTSLIST system logical name points.

If the RIGHTSLIST system logical name is not defined, the RIGHTSLIST.DAT file should be present in the SYS$SYSTEM directory. If the RIGHTSLIST.DAT file does not exist in either of these two directories, you must create the rights database. Use the CREATE/RIGHTS command in the OpenVMS Authorize utility:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> CREATE/RIGHTS
UAF> EXIT
```

Once a rights database exists on your system, make sure the SYSTEM and DDAL$TR_MON identifiers are defined in the rights database. Check if the SYSTEM identifier exists on your system by using the SHOW/IDENTIFIER command in the OpenVMS Authorize utility:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> SHOW/IDENTIFIER SYSTEM
UAF> EXIT
```

If the SYSTEM identifier does not exist, you must add it to your rights database by using the ADD/IDENTIFIER/USER command in the OpenVMS Authorize utility:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> ADD/IDENTIFIER/USER=SYSTEM
UAF> EXIT
```

If the DDAL$TR_MON identifier does not exist, add it to your rights database by using the ADD/IDENTIFIER command in the OpenVMS Authorize utility as follows:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> ADD/IDENTIFIER DDAL$TR_MON
UAF> EXIT
```

Note that for the DDAL$TR_MON identifier, you do not use /USER= as you did for the SYSTEM identifier.

The protection of the rights database file, RIGHTSLIST.DAT, must be set for World Read privilege. Set the protection using the following command:

```
$ SET PROTECTION=(W:R) RIGHTSLIST.DAT
```

For more information on creating and maintaining an OpenVMS rights database, see the documentation on OpenVMS system security and the OpenVMS Authorize utility.

2
Installing Replication Option

This chapter describes how to install Replication Option release 7.2. Section 2.2 contains a step-by-step description of the installation procedure.

2.1 General Information

This section includes information about the following topics:

- Accessing release notes and the online error message file
- Locating installed files
- Running the Installation Verification Procedure (IVP)
- Aborting the installation

2.1.1 Accessing Online Release Notes

Replication Option provides online release notes. You must specify OPTIONS N when you invoke VMSINSTAL to see the online release notes question. This question comes near the beginning of the installation.

You should review the release notes in case they contain any information about changes that occurred in the installation procedure after the installation guide was published. If you are starting the installation over again and have already reviewed the release notes, you do not need to specify OPTIONS N.

You can perform a partial installation to see the release notes and later do a full installation. The release notes will be located in the following file:

```
SYS$HELP:DDAL072.RELEASE_NOTES
```

2.1.2 Accessing the Error Message File

Replication Option error message information is contained in a file that you can view on line by using the DCL TYPE command or print by using the DCL PRINT command. The DDAL$MSG.DOC error message file is located in the SYS$HELP directory.

2.1.3 Locating Files Added to the System

The list of files added to the system during the Replication Option installation procedure is copied to a file on your system. Refer to Appendix B for details.

2.1.4 Considerations in Running the Installation Verification Procedure (IVP)

The IVP for Replication Option verifies that the software was installed properly. During installation, you are asked if you want to run the IVP as part of the installation. Oracle Corporation recommends that you run it.

The way you set up the Rdb environment depends on how you intend to run Replication Option. Refer to Section 1.4.3 for more information about this. The correct Rdb environment must also be established for the Replication Option copy process. To do so, edit your LOGIN.COM procedure to set the Rdb version to be used.

After Replication Option is installed, you can run the IVP independently to verify that the software is available on your system. In addition, you might want to run the IVP after a system failure to be sure that users can access Replication Option. See Section 3.11 to learn about running the IVP independent of the installation process.

To execute the IVP, the desired version of Rdb must be running on your system.

2.2 Installation Procedure

The Replication Option installation process consists of a series of questions and informational messages. The following sections describe this process.

Note

You can install Replication Option on a standalone system or from any node on a VMScluster.

2.2.1 Invoking VMSINSTAL

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. Use the following syntax to invoke VMSINSTAL:

```
@SYS$UPDATE:VMSINSTAL saveset-name kit-location OPTIONS N
```

saveset-name
The installation name for the product.

For Replication Option for Rdb for OpenVMS Alpha, use the following saveset name:

```
DDALA072
```

For Replication Option for Rdb for OpenVMS I64, use the following saveset name:

```
DDALI072
```

kit-location
The location of the Replication Option kit. For a device such as a CD–ROM reader, you must specify a disk and directory. For CD–ROM distribution, the directory name is the same as the saveset name. For example, `DUB4:[DDALI072]`.

OPTIONS N
An optional parameter that indicates you want to see the release notes question. 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 you proceed with the installation in case they contain new information about the installation process.

There are several other options you can select when you invoke VMSINSTAL. See the OpenVMS documentation on software installation in the OpenVMS System Management Subkit for information on these options. If you specify more than one option, separate the options with commas. For example, OPTIONS A,N.

The following example invokes VMSINSTAL to install Replication Option for Rdb for OpenVMS I64 from the CD–ROM device DUB4: and shows the system response. This example uses the OPTIONS N release note parameter:

```
$ @SYS$UPDATE:VMSINSTAL DDALI072 DUB4:[DDALI072] OPTIONS N

      OpenVMS  Software Product Installation Procedure V8.2-1It

It is 20-DEC-2005 at 13:40.

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. VMSINSTAL does not prompt you for any options, so be sure to include the OPTIONS N parameter on the VMSINSTAL command line if you want to access the release notes during installation.

2.2.2 Installation Questions

This section discusses the steps performed during product installation with emphasis on the questions that appear. Appendix A contains a sample installation procedure showing how the questions can be answered.

Each question is marked with an asterisk (*) at the beginning of the line. Some questions show the default response in brackets, for example [YES]. To use the default response, press Enter.

Perform the following steps to install Replication Option:

1. System backup

   VMSINSTAL asks if you are satisfied with your system backup. You should always back up your system disk before you perform an installation. If you are satisfied with the backup of your system disk, press Enter. Otherwise, type 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. Release Notes

   If you specified OPTIONS N when you invoked VMSINSTAL, VMSINSTAL asks a release notes question. You have four options for handling the release notes.

   You will see the following display:

   ```
       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 are installing Replication Option release 7.2 for the first time and have not previously reviewed the release notes, select option 2. The release notes for Replication Option should be read thoroughly before you proceed any further with the installation.

   If you have already reviewed the release notes and are restarting the installation, select option 4. Regardless of the option, the installation procedure moves the release notes into SYS$HELP.

   Select one of the following options:

   - Option 1

VMSINSTAL immediately displays the release notes on the console terminal. You can terminate the display at any time by pressing Ctrl/C.

- Option 2

  VMSINSTAL prompts you for the name of the print queue that you want to use:

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

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

- Option 3

  VMSINSTAL immediately displays the release notes on the console terminal. It then prompts you for a queue name and prints the release notes on the output print device you selected.

- Option 4

  VMSINSTAL neither displays nor prints a copy of the release notes.

3. Continuing the installation

   The installation procedure now asks if you want to continue the installation. To continue, enter YES. Otherwise, press Enter. A message indicates that the release notes are copied to a file in the SYS$HELP directory. For example:

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

   The release notes are located in the following file:

   ```
   SYS$HELP:DDAL072.RELEASE_NOTES
   ```

4. Package to be installed

   The installation procedure now displays the name of the package you are installing:

   ```
   Installation procedures for REPLICATION OPTION FOR RDB V7.2-0
   ```

5. Checking system requirements and user limits

   The installation procedure displays the following messages while checking several system requirements:

   ```
   Checking system requirements and user limits ...
   ```

The installation procedure displays an error message and aborts if the procedure finds that your system does not have the following software and hardware requirements:

- The minimum version of OpenVMS or higher (see Section 1.4.1)
- Adequate disk space (see Section 1.7.3)
- Adequate process quotas (see Section 1.7.6)

If you encounter an error at this point, take steps to meet your system requirements and then restart the installation procedure.

6. Choosing to purge files

   You have the option to purge files that are superseded by this installation and that exist from previous versions of Replication Option. Purging is recommended; however, if you need to keep files from the previous version, enter NO in response to the question.

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

7. Choosing to run the installation verification procedure (IVP)

   You have the option of running the IVP at the end of the installation. The Replication Option IVP makes sure that the installation is successful by testing execution of the product's major components. Oracle Corporation recommends that you run the IVP.

   Transfers executed by the IVP will run in a different OpenVMS process using the same OpenVMS account that you are using to perform the product installation. Within that account you must set the Rdb environment and process privileges so that a Replication Option copy process can access the transfer database tables and the source and target databases. Unless you have set up your LOGIN.COM file accordingly, you should wait to run the IVP at a later time.

   The installation procedure now asks if you want to run the IVP.

   ```
   * Do you want to run the IVP as part of the installation process [YES]?
   ```

   Section 3.11 describes how to run the IVP independent of the installation procedure. The independent IVP allows you a way to check that Replication Option software components are functioning correctly after the product is installed.

8. Choosing an Oracle Rdb version

Do you intend to run Replication Option under the default version of Oracle Rdb? The default version is the Rdb version defined in the SYSTEM logical name table. If there is no SYSTEM version defined, then there is no default version.

To run Replication Option with the default Rdb version, press the Enter key at the following prompt. To run it with a multiversion variant of Rdb, enter the version number, such as, 7.2.

```
* Rdb version [DEFAULT]:
```

Note

During execution of the IVP, your Rdb environment will be changed to the version you chose if the Rdb version for your current process is different or undefined.

9. Choosing to continue the installation procedure

   The installation procedure displays a message indicating the approximate time to complete the installation. If you entered YES to the previous question about running the IVP, the installation procedure also displays the time required for the IVP to run. Before the actual installation begins, you have the option of terminating the procedure.

```
   To complete the installation on a standalone system
   will take approximately:

        2 minutes to install
        2 minutes to run the IVP

   All required questions have been asked.
   You can terminate the installation procedure at this time.

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

   If you respond NO, the Replication Option installation procedure terminates. If you respond YES, the installation procedure displays messages indicating that the actual installation has started.

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

2.2.3 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 displays a message about system command files, creates system disk directories, 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.

2.2.4 Running the Installation Verification Procedure (IVP)

VMSINSTAL now runs the IVP if you so chose.

When the IVP runs successfully, you see the following display. Note that the IVP creates a transfer database for test purposes. Also, the first time you execute the IVP, Replication Option has to create a test source database for the version of Rdb you chose. This means that the first time you run the IVP for a particular version of Rdb, you will see a log of the Rdb IMPORT process. (The log of the IMPORT process is not shown in this example).

```
 Copyright (c) 1987, 2005, Oracle Corporation.  All Rights Reserved.

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

   The IVP for the Replication Option for Rdb verifies that
   all critical files provided in the distribution kit are in
   place and that all its major components are functional.

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

Executing IVP for: Replication Option for Rdb  V7.2-0

************************************************************
    Creating the test Transfer Database...
************************************************************

************************************************************
    Starting the Transfer Monitor...
************************************************************

The process id for the transfer monitor = 22a0527f

************************************************************
    Running RDO tests for the Rdb Replication Option ...
************************************************************

************************************************************
    Running SQL tests for the Rdb Replication Option ...
************************************************************

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

```
        The Replication Option's IVP completed successfully.
    ************************************************************

 Waiting one minute for the transfer monitor to be stopped.
 Then the test transfer database will be deleted.

 IVP completed for: REPLICATION OPTION FOR RDB V7.2-0
```

2.2.5 Completing the Installation Procedure

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

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

        SYSTEM MANAGER:

        Please read the earlier note in this procedure about
        Post-installation Requirements, detailed in the
        Replication Option for Rdb Installation Guide.

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

        Installation of DDALI V7.2 completed at 13:40

        ...

        VMSINSTAL procedure done at 13:40
```

See Chapter 3 for a discussion of post-installation procedures.

VMSINSTAL deletes or changes entries in the process symbol tables during 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.

2.3 Error Recovery

If errors occur during installation or when the IVP is running, VMSINSTAL displays failure messages. If the installation fails, you see the following message:

```
%VMSINSTAL-E-INSFAIL, The installation of DDAL V7.2 has failed.
```

If the IVP fails, you see these messages:

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

              Replication Option IVP failed
           See SYS$UPDATE:DDAL$IVP.LOG for errors

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

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

- The Rdb monitor is not running.
- The operating system version is incorrect.
- The prerequisite software version is incorrect.
- The quotas necessary for successful installation are insufficient.
- The system parameter values for successful installation are insufficient.
- The OpenVMS help library is currently in use.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exists, take the appropriate action as described in the message. You might, for example, need to change a system parameter or increase an authorized quota value. For information on installation requirements, see Chapter 1.

3
After Installing Replication Option

After you install Replication Option, you must perform a number of tasks before the product can actually be used. You also have the option of performing others. Read each section to determine whether or not it contains required or optional tasks for your site. The list of tasks follows:

- Create or convert a transfer database.
- Edit the system startup file to start Replication Option.
- Edit the system shutdown file to stop Replication Option.
- Check user account parameters.
- Modify Replication Option command procedures, if necessary.
- Create synonyms for DECnet/OSI nodes, if you are using DECnet/OSI.
- Reboot the system.

This chapter also explains how to run the Installation Verification Procedure (IVP) independently of the software installation process. Finally, this chapter suggests what to do when you find an error in either the software or the documentation.

3.1 Preparing the Transfer Database

This section describes how to create or convert a transfer database.

If you plan to install Replication Option on a VMScluster, you can have one transfer monitor for each node on the cluster, but you can have only one transfer database for the cluster.

Note

If you have installed Replication Option on a VMScluster so that each node has a transfer monitor and a transfer database, you run the risk of having two transfers with the same name defined to access the same database. Replication transfer definitions are stored in the

source database, as well as in the transfer database. If you have more than one transfer database on your cluster, you run the risk of having two transfers with the same name trying to access the same source database. Both transfers are started, but inconsistent results can occur in the target databases.

Problems can also arise if you have several transfer databases on one cluster and you have transfers of the same name trying to target the same existing database.

Ensuring that you have only one transfer database in a cluster environment avoids this problem.

Though Replication Option is used to transfer data among multiple sites in a network, you create a transfer database only at the site where you have installed the Replication Option kit.

3.1.1 Creating the Transfer Database

You must create a transfer database if you do not already have one on your standalone machine or cluster. If, for any reason, you need to create a new transfer database when you already have one, you must stop the transfer monitors and delete the old transfer database before you create a new one. Replication Option provides a command procedure for creating the Rdb transfer database. You must run the command file from a privileged account with a system UIC.

Run the command procedure to create a transfer database after you finish installing Replication Option. You must have write access to the target directory to create the transfer database. To create a transfer database, enter the following command at the DCL prompt to invoke the command procedure:

```
$ @SYS$MANAGER:DDAL$CREATE_TR_DB.COM
```

P1 through P5 refer to the parameters for this procedure, and they are described in the following paragraphs.

P1—The disk and directory where the transfer database is to be created

This parameter is optional. The default is SYS$COMMON:[SYSEXE]. Ensure that there are no existing transfer databases in that location. You can specify a different device and directory so long as both currently exist. In a VMScluster environment, the location you specify for the transfer database should be accessible from all nodes in the cluster. In a mixed-architecture cluster, each hardware architecture has a different definition of the logical name SYS$COMMON. In that case, you must choose a location for the transfer

database different from the default of SYS$COMMON:[SYSEXE]. The file name is automatically set to DDAL$TR_DB.RDB.

Because the transfer database contains privileged information, the device and directory you specify should be protected from casual access. The transfer monitor and copy processes, which use the transfer database, run with special privileges, so they can access the transfer database regardless of the protection you have on the transfer database directory.

If this procedure is being executed interactively and this parameter is unspecified, you will be prompted for the information (unless P4 indicates otherwise).

P2—Rdb version number

This parameter is optional. If supplied, it takes one of the following formats: `m.n` or `mn` or `null`.

If this parameter is omitted (null), the Rdb version defaults to the version defined in the SYSTEM logical name table. For versions of the Replication Option for Rdb prior to 7.0, if there were no SYSTEM version defined for Rdb, the standard version of Rdb would be assumed (a version in which the product version number does not appear in the file names). For Replication for Rdb version 7.2 and the minimum version of Rdb it requires, there is no standard version of Rdb.

The Rdb version can be specified with or without a period separating the major and minor versions, such as 72 or 7.2. The last digit is the minor version number and the preceding digits form the major version number. Specifying the Rdb version number is important when you want to run under a version that is different from the version defined in the SYSTEM logical name table or when no such system version is defined.

If this procedure is being executed interactively and this parameter is unspecified, you will be prompted for the information (unless P4 indicates otherwise). If it is still not specified, the default Rdb version as explained above is used.

Note

If the Rdb environment for your current process does not match what you specify in P2, your process environment will be changed to the version of Rdb you selected.

P3—Log file to write to on error

This parameter is optional. If a log file is not specified, errors go to SYS$OUTPUT. If a log file is specified, the file is created, written to, and closed.

P4—Suppress prompting for parameters

This parameter is optional. If it is specified as the string NOINQUIRE or if this procedure is being run interactively, you will not be prompted for information. This parameter is used by the kit installation procedure to prevent the installation verification procedure (IVP) from asking questions of the installer. All installation questions, including those for running the IVP, are supposed to be asked first, before the installation is performed.

P5—Suppress output of informational messages

This parameter is optional. If it is defined as the string NOINFO, informational messages will not be produced.

3.1.2 Converting the Transfer Database

If you are using Replication Option in a VMScluster, and if you already have an Rdb transfer database on your system or cluster, you must convert it before you can use the new version of Replication Option. Two different kinds of conversions must be done:

- Conversion of existing Rdb databases into a newer Rdb format
- Conversion of existing Replication Option transfer databases into a newer Replication Option format

3.1.2.1 Converting Existing Rdb Databases

Installation of a new version of Rdb might require that all existing Rdb databases be converted to the new Rdb database format after installation of any version of Rdb. For information about converting databases to the new Rdb format, refer to the Oracle Rdb installation and configuration guide for the version of Rdb you are using.

3.1.2.2 Converting Existing Replication Option Transfer Databases

If you have installed Replication Option version 7.2 on a system previously running a version of Replication Option earlier than version 7.0, you must convert existing transfer databases to the current Replication Option format. To do this, execute the following command:

```
$ @SYS$MANAGER:DDAL$CONVERT_TR_DB.COM
```

This procedure creates a new set of Replication Option transfer tables, converts the contents of the old tables and stores it in the new tables, and then deletes the old tables.

To convert your database, execute the DDAL$CONVERT_TR_DB.COM command procedure from a privileged account with a system user identification code (UIC). Before running the procedure, make sure that Replication Option is not running. Insure that Replication Option is not running on all nodes if it is installed in a cluster. If Replication Option is running, run the DDAL$STOP_TR_DB.COM on each node to shut down the transfer monitor. See Section 3.8.2 for more information. In addition, make sure you do not convert the transfer database when the transfer database is in use.

The conversion command procedure asks the questions in the following list. If you respond No to any question requiring a Yes or No response, the entire procedure ends, no changes are made to the transfer database, and control is returned to DCL command level. The questions are as follows:

- What is the file specification for the transfer database?

  An explicit file name is required; there is no default answer. Note that the system's transfer database is commonly referred to by the system logical name DDAL$TRANSFER_DATABASE. Do not include a node name in the file specification or (if it is a logical name) in its translated form.

  If you do not enter a file specification, this procedure will leave the database unchanged.

  Note

  When entering the file specification for the transfer database there is a situation you should avoid. The name of the database file is DDAL$TR_DB and its file extension is .RDB. There is also a system logical name, DDAL$TR_DB, which is the same as the file name. When performing the database conversion, give the full file specification: disk, directory, file name, and extension. If you were to set default to the directory in which the database resides, execute this procedure, and specify just the file name without an extension, DDAL$TR_DB would be translated as a logical name; and the resulting file specification would contain a disk and directory but no file name.

- Did you remember to shut down Replication Option for Rdb on all machines in your cluster (if you have one) or on your system (if it is not part of a cluster)?

  This procedure should not be executed while Replication Option is running. Conversion of the transfer database should not occur while the database is in use.

- Did you remember to make a backup copy of the transfer database, as a normal precaution before running this conversion procedure?

  Conversion will be done by making changes to the database you specify, *not* by making a copy of the database and applying changes to the copy. In the interest of safety, make a copy of the transfer database before running the conversion procedure.

- Is this an Rdb database?

  This conversion procedure only supports the conversion of an Rdb transfer database.

- Do you wish to continue with transfer database conversion?

  Any user program or command procedure that directly accesses tables in the transfer database must be modified to conform with the new transfer database schema.

- Are you satisfied that the transfer database is in a format that can be read by the version of Rdb under which Replication Option for Rdb will now run?

  Whenever a new version of Rdb is installed, it may be necessary for you to convert Rdb databases to the latest on-disk format. Consult your Rdb documentation to determine if this is needed.

  Before this Replication Option conversion can proceed successfully, any required Rdb conversion must have already been performed using tools provided by Rdb. If this has not been done and you continue with this procedure, this Replication Option conversion will fail when it receives an error message from Rdb while attempting to access the database.

- Do you wish to continue with transfer database conversion?

  This conversion procedure will add indexes to some of the tables in the transfer database if such indexes do not yet exist.

  In the transfer database, if you have added an index to a table using the same name as chosen by Replication Option for Rdb, and if you choose to continue with the conversion, Replication Option will leave your index definition intact. If your index has a different name than the one Replication Option will use, on completion of this procedure the table will have two indexes. In the latter case you should probably drop your index later on.

After you enter a file specification and answer YES to all remaining questions, the conversion procedure displays a series of informational messages. For example:

```
... Adding domains, tables, columns and indexes as necessary

Committing the transaction

Disconnecting from the converted transfer database

... Now setting the database revision number
```

Finally, the conversion command procedure ends with the following message:

```
Conversion of the transfer database to Replication Option V7.0
format has completed. For further steps needed in order to resume
operation of Replication Option, consult Replication Option documentation.
```

Make sure to protect the device and directory you specify for the transfer database. Because the transfer monitor and copy processes run with special privileges, they can access the transfer database regardless of the protection you have on the transfer database directory.

If for any reason, a run-time error occurs during execution of DDAL$CONVERT_TR_DB.COM, the database should be assumed to be corrupted and a newly-restored transfer database should be used in the repeated conversion attempt.

In addition, any user application program or command procedure that directly accesses the transfer database must be changed accordingly in order to access the database successfully.

3.2 Preparing the Source Databases

If you upgrade to Replication Option release 7.2 from an earlier release, there are no special Replication Option conversion requirements for source databases. Source databases used in EXTRACTION transfers do not have any additional tables to support data transfers, so for them there is nothing to be converted. Source databases used in REPLICATION transfers do have system tables, for example, RDB$CHANGES, which exist only to support the Replication Option. Replication Option release 7.2 maintains the same structure for these tables as in earlier versions, therefore the source databases do not need to be converted for the Replication Option in order to be used by this version of the product.

However, if your source is an Rdb database, you might have to convert to a different version of Rdb. This depends on two factors: whether the database is local to or physically/logically remote from the system where Replication Option is installed, and what type of transfer is to be performed. The following list describes the possible scenarios.

- Local Rdb source database, REPLICATION transfer

  If your source is a local Rdb database and you use the REPLICATION method to transfer the source data, Replication Option release 7.2 requires that your source be Rdb version 7.2 or later. If your local Rdb source database is of some earlier version, you will need to convert the database to the later version of Rdb. Consult the Rdb manuals for instructions about how to convert your Rdb databases.

- Local Rdb source database, EXTRACTION transfer

  If you use the EXTRACTION method to transfer your local Rdb source data, you must use Rdb version 7.2 or later. If you cannot convert the Rdb database because of other product constraints, change your transfer definition to access your source as if it were a remote database. The source database access specification will have to include account access information and a network node name for your local system.

- Remote Rdb source database, EXTRACTION transfer

  If your source database is on a physically or logically remote system, the source database can only be used in an EXTRACTION transfer, not REPLICATION. There is no special Replication Option requirement as to which version of Rdb is used for that database.

3.3 Preparing the Target Databases

Databases that were the targets of transfers in versions of Replication Option prior to version 7.0 need to be converted to the current format. This is necessary to support transfers that might use TCP/IP as the network protocol. For further information, see the "Technical Changes and New Features" section in the *Replication Option for Rdb Handbook*.

Sometimes Replication Option is installed only at the source database site and not at the target sites. This is typically the case when the REPLICATION method is used to transfer reference or archive data from a master production database to one or more satellite systems. By contrast, when the EXTRACTION method is used to transfer data Replication Option might be used at the target database site but not at the source site. In that case, the source database is remote from the Replication Option and the target database is local. It is also possible that Replication Option is installed on multiple systems, both at source sites and at target sites.

When you install Replication Option release 7.2 at your source site, you are not required to convert Replication Option at your target sites, or vice versa. Also, if you install Replication Option release 7.2 at your source site, you do not need to upgrade your target Rdb databases to a newer version, or vice versa. If, however, you do upgrade your target system to Replication Option release 7.2, you might be required to convert your Rdb target databases (those on the same system on which Replication Option is installed.) The following list describes different conversion scenarios.

- Local Rdb target database

  If a target database of a transfer is local to the system on which the Replication Option is installed and which manages the transfer process, the target database must use the same version of Rdb as is used for the Replication Option transfer database, that is, Rdb version 7.2 or higher. If you cannot convert the Rdb target database because of other product constraints, change your transfer definition to access your target as if it were a remote database. The target database access specification will have to include a network node name for your local system and account access information.

- Remote Rdb target database

  If your target database is on a remote system, there is no special Replication Option requirement regarding which version of Rdb is used for that database.

For information on converting Rdb databases, see the Oracle Rdb installation and configuration guide for the version of Rdb you are using.

3.4 Editing the System Startup File

Edit the system startup file, SYS$MANAGER:SYSTARTUP_VMS.COM, to start Replication Option automatically when your system is booted. Add a line to the startup file to run the transfer monitor startup command procedure, SYS$STARTUP:DDAL$START_TR_MON.COM. Be sure to place this new line somewhere after the lines that start up the Rdb monitor(s) and networking software. As explained in Section 3.6, the startup procedures for these other products must install shareable images and message files in order for the products to be used with Replication Option.

If you have a mixed-architecture VMScluster, each set of systems of a given architecture type, such as, I64 or Alpha, has its own set of common system files. In this case you must edit each system startup file, one for each architecture type.

The DDAL$START_TR_MON procedure takes a number of parameters. For a description of these parameters, see the *Replication Option for Rdb Handbook*. The database location must be the same one that you specified when you created the transfer database. It must be a location that is accessible from all nodes in the OpenVMS cluster. Replication Option sets the Rdb transfer database file name to DDAL$TR_DB.RDB.

One of the parameters to DDAL$START_TR_MON.COM is the name and location of the monitor log file. By default, the name of the log file includes the node on which the log file is located. The format is as follows:

```
DDAL$node-name_TR_MON.LOG
```

The following example shows a command line to start Replication Option using Rdb Version 7.2. The transfer database location is DISK1:[DBA.DDIS]. In this example, the log file location is the same:

```
$ @SYS$STARTUP:DDAL$START_TR_MON.COM DISK1:[DBA.DDIS] DISK1:[DBA.DDIS] R=7.2
```

In the startup file, before the line containing this command, there should be lines that issue commands to start up the following processes, in the order presented:

1. networking software
2. Rdb

3.5 Editing the System Shutdown File

In general, shutting down a system should stop processes in the reverse order from which they were started so that product dependencies are observed.

Edit the SYS$MANAGER:SYSHUTDWN.COM file to stop the Replication Option transfer monitor automatically when the system is shut down. You do this by adding a line before those that shut down Rdb and the networking software.

The following example shows the command line to shut down the transfer database manager:

```
$ @SYS$MANAGER:DDAL$STOP_TR_MON.COM
```

In the shutdown file, at some point after the line containing this command, there should be lines that issue commands to shut down the following processes, in the order presented:

1. Rdb
2. networking software

If you have a mixed-architecture VMScluster, each set of systems of a given architecture type, such as, I64 or Alpha, has its own set of common system files. In this case you must edit each system shutdown file, one for each architecture type.

3.6 Installing Images for Related Products

Some of the Replication Option images are installed as privileged OpenVMS images using the DCL INSTALL command. Because of the way these images execute, OpenVMS imposes a requirement on any shareable image or message file that Replication Option might activate. The requirement is that these other images and files also be installed using the DCL INSTALL command. This is done to enforce security standards. The requirement applies to shareable images and message files for operating system components, networking software, and database managers. Most of these products perform the installations when the product startup procedure is executed. If the startup procedure is invoked from the system startup file (see Section 3.4), the installation of the requisite images will probably be done. For some products, installation of the images at startup might be optional. In such cases, you need to select the option that causes the images to be installed.

If a particular image is not installed, an error message such as the following is displayed:

```
%LIB-E-ACTIMAGE, error activating image
MOWMOW$DKA300:[SYS0.SYSCOMMON.][SYSLIB]UCX$IPC_SHR.EXE
-SYSTEM-F-PRIVINSTALL, shareable images must be installed to run privileged
 image.
```

This particular message indicates that one of the components of the UCX software, which provides TCP/IP networking access on an OpenVMS system, is not installed. To install the required shareable images, run the OpenVMS Install utility as in the example below:

```
$ INSTALL :== $INSTALL/COMMAND
$ INSTALL
ADD/OPEN/HEAD/SHARED SYS$COMMON:[SYSLIB]UCX$IPC_SHR.EXE
EXIT
$ EXIT
```

3.7 Enhancing Replication Option Performance

The performance of Replication Option's copy process is to some degree affected by the parameters established for a user in the system authorization file. This correlation occurs because the copy process runs under the account of the user who defines a transfer. For good copy process performance, transfer definer accounts should use whatever user account parameters are recommended by Rdb.

3.8 Starting and Stopping the Replication Option Transfer Monitor

To start the transfer monitor, invoke the SYS$STARTUP:DDAL$START_TR_MON.COM command procedure. To stop the transfer monitor, run the SYS$MANAGER:DDAL$STOP_TR_MON.COM command procedure.

3.8.1 DDAL$START_TR_MON.COM File

The SYS$STARTUP:DDAL$START_TR_MON.COM command procedure starts a transfer monitor. This procedure runs every time the system boots if you have added the line that invokes it to the system startup file. You must run it from an account that has either OpenVMS SETPRV or all these individual OpenVMS privileges: CMKRNL, DETACH, PRMBMX, SYSLCK, SYSNAM, SYSPRV, TMPMBX, and WORLD. The default area for the account, upon logging into OpenVMS, must be on a device that is accessible from all nodes in the OpenVMS cluster. This insures that the run unit journal (RUJ) file for each transfer monitor process in the OpenVMS cluster is visible to all other cluster nodes in case a node should become diabled and transfer database recovery should become necessary from another node.

The procedure installs SYS$SYSTEM:DDAL$COPY_PROCESS, a Replication Option executable image, and the SYS$MESSAGE:DDAL$MESSAGE.EXE message file.

See the *Replication Option for Rdb Handbook* for more information on starting the transfer monitor.

3.8.2 DDAL$STOP_TR_MON.COM File

You use the DDAL$STOP_TR_MON.COM command procedure to stop a transfer monitor. This procedure runs every time the system shuts down if you have added the line that invokes it to the SYS$MANAGER:SYSHUTDWN.COM file. You must run it from an account that has either OpenVMS SETPRV or all these individual OpenVMS privileges: CMKRNL, SYSNAM, SYSPRV, and WORLD. The procedure deinstalls the SYS$SYSTEM:DDAL$COPY_PROCESS executable image and the SYS$MESSAGE:DDAL$MESSAGE.EXE message file.

See the *Replication Option for Rdb Handbook* for more information on stopping the transfer monitor.

3.9 Creating DECnet/OSI Synonyms

Replication Option expects node names in file specifications to be from 1 to 6 characters long. DECnet/OSI permits node names to be much longer than this. Therefore, to use Replication Option in a DECnet/OSI environment, you must define and use short synonyms for any DECnet/OSI node name longer than 6 characters. Node name synonyms can be registered in either a local or a distributed name service database. For details on establishing node name synonyms, refer to the documentation for DECnet/OSI.

3.10 Rebooting the System

Reboot the system after any of the following:

- Installing Replication Option
- Creating or converting the transfer database
- Installing related products, such as Rdb
- Editing the system startup and shutdown command files

A system reboot ensures that Replication Option is available for use. If you suspend one or more data transfers before you shut down the system, you might want to restart them after you reboot the system.

3.11 Running the Installation Verification Procedure (IVP)

When you install Replication Option, the VMSINSTAL procedure asks if you want to run the IVP at the end of the installation.

If you answer YES to this question you should make sure that Rdb is running and Replication Option is shut down before you start the IVP. This will help ensure that the IVP ends successfully,

The Replication Option IVP checks that all critical files have been installed on your system in the correct locations. It also checks that all the major Replication Option components are functioning.

You can execute the IVP any time after installation to confirm that Replication Option is running correctly. This requires you to run the IVP from a privileged account with a system UIC. The account must have either OpenVMS SETPRV or all these individual OpenVMS privileges: CMKRNL, DETACH, PRMMBX, SYSLCK, SYSNAM, SYSPRV, TMPMBX, and WORLD.

Use the following commands to invoke the IVP:

```
$ SET DEFAULT SYS$TEST
$ @DDAL$IVP
```

The DDAL$IVP.COM procedure takes two parameters, P1 and P2, as follows:

- P1–Rdb version number

  This parameter is optional. If supplied, it takes one of the following formats: `m.n` or `mn` or `null`.

  If this parameter is not supplied (is null), the Rdb version is defaulted to the version defined in the SYSTEM logical name table. If there is no SYSTEM version defined, there is no default Rdb version. The Rdb version can be specified with or without a period separating the major and minor versions, such as 72 or 7.2. The last digit is the minor version number and the preceding digits form the major version number. Specifying the Rdb version number is important when you want to run under a version that is different from the default system version of Rdb.

  Consider the following when specifying this parameter:

  – If the Rdb environment for your current process does not match what you specify in this parameter, your process environment will be changed to the version of Rdb you selected. This is done by DDAL$CREATE_TR_DB.COM, which the IVP procedure calls.

  – Transfers executed by the IVP will run in a different OpenVMS process using your account. Remember to set the Rdb environment and process privileges so that a Replication Option copy process can access the transfer database tables and the source and target databases.

- P2–Suppress prompting for parameters

  This parameter is optional. If the string NOINQUIRE is supplied, or if this procedure is not being run interactively, you will not be prompted for information. This parameter is used by the kit installation procedure to prevent the IVP from asking the installer questions. All installation questions, including those for running the IVP, are supposed to be asked first, before the installation is performed.

When the IVP executes without any problems, you see a message indicating a successful completion. If the IVP fails, the procedure creates a log file that contains detailed information about the cause of the failure. The log file name is SYS$UPDATE:DDAL$IVP.LOG.

The Replication Option IVP runs the DDAL$START_TR_MON.COM and DDAL$STOP_TR_MON.COM procedures to start up and shut down the transfer monitor, respectively. Therefore, the images discussed in Section 3.8.1 and Section 3.8.2 are reinstalled and deinstalled by the IVP.

Note

The IVP and the DDAL$START_TR_MON.COM procedure must be run from a privileged OpenVMS account. Also, there are certain privileges required in order to create log files. In OpenVMS, an account is assigned default OpenVMS privileges at login. They are defined in the system authorization file (SYSUAF) as part of the account record. Each account also has a set of authorized privileges that are not necessarily enabled by default, but which you have the authority to enable.

When you execute the IVP or the Replication Option startup procedure, log files must be created. Typically, the SYSPRV privilege is required in order to create these log files in the designated log file directory. However, other privileges may suffice. These privileges must be enabled as default privileges; enabling them in your LOGIN.COM will not work.

The log file directory for the IVP is SYS$COMMON:[SYSTEST.DDAL]. The log file directory for startup of the transfer monitor depends on a parameter that you pass to the startup procedure, SYS$STARTUP:DDAL$START_TR_MON.COM.

3.12 Reporting Problems

If an error occurs while Replication Option is being used and you believe that the error is caused by a problem with Replication Option, contact your Oracle support representative.

If you find an error in the Replication Option documentation, fill out and submit the Send Us Your Comments form found in each book. Include the book title, section, and page number where the error occurred along with a description of the problem.

A

Sample Installation

This appendix contains a log showing a sample installation of Replication Option on an OpenVMS I64 Version 8.2 system. The installation was performed from a system manager's account.

Installation on an OpenVMS Alpha system looks virtually identical to installation on an OpenVMS I64 system. The major difference is in the name of the product saveset. For OpenVMS I64, the saveset name is DDALI072. For OpenVMS Alpha, it is DDALA072.

Example A–1 Log of a Sample Installation

```
$ @SYS$UPDATE:VMSINSTAL DDALI072 DUB4:[DDALI072] OPTIONS N

 OpenVMS  Software Product Installation Procedure V8.2-1It

It is 20-DEC-2005 at 13:40.

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

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

The following products will be processed:

  DDALI V7.2

 Beginning installation of DDALI V7.2 at 13:40

%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.

  Replication Option for Rdb
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  All Rights Reserved.


 Installation procedures for REPLICATION OPTION FOR RDB V7.2-0

    Checking system and user requirements ...

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

    As part of the installation process, you have the
    option of running the installation verification
    procedure (IVP) for the Replication Option for Rdb.
```

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Example A–1 (Cont.) Log of a Sample Installation

```
    Note that transfers executed by the IVP will run in
    a different OpenVMS process using your account.
    Within that account you must set the Rdb environment
    and process privileges so that a Replication Option
    copy process can access the transfer database tables
    and the source and target databases.  Unless you
    have set up your LOGIN.COM file accordingly, you
    will want to wait to run the IVP at a later time.

* Do you want to run the IVP as part of the installation process [YES]?  NO

    To complete the installation on a standalone system
    will take approximately:

        2 minutes to install

    All required questions have been asked.
    You can terminate the installation procedure at this time.

* Do you want to continue the installation [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 ...

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

                  Post-installation Requirements

    SYSTEM MANAGER:

    The installation of the Replication Option for Rdb is complete.
    However, there are additional steps you must take before the
    software can be considered to be totally functional.  These
    steps are explained in the Replication Option for Rdb
    Installation Guide in the chapter:  After Installing the
    Replication Option for Rdb.

    Some of these steps include:

    o  Creating or converting a transfer database
    o  Editing the system startup and shutdown files
    o  Installing images for related products

    The Replication Option for Rdb Installation Verification
    Procedure (IVP) has been provided in SYS$COMMON:[SYSTEST].  It
    can be invoked at any later time by using the following
    commands:

        $ SET DEFAULT SYS$COMMON:[SYSTEST.DDAL]
        $ @SYS$COMMON:[SYSTEST]DDAL$IVP
```

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Example A–1 (Cont.) Log of a Sample Installation

```
    An optional parameter to the IVP procedure is the Rdb version
    to be used.

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

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

 Installation of DDALI V7.2 completed at 13:40

        ...

 VMSINSTAL procedure done at 13:40
```

B

Files Installed on Your System

This appendix provides information on where you can find a list of the files installed on your system as part of the installation procedure and describes those files that execute with special privileges.

B.1 List of Files on Your System

The Replication Option installation procedure installs a number of files on your system. At the end of the Replication Option installation, the procedure creates a list of the files and stores the list in the following location:

SYS$COMMON:[SYSMGR.VAXINFO$PRODUCTS]DDAL072_FILES.DAT

Attached to each file specification in the files list is a flag. The flags are meant for future use by Oracle Corporation. Oracle does not support any use of these flags for this release.

B.2 Privileges with Which Files Are Executed

With the exception of DDAL$COPY_PROCESS.EXE and DDAL$TR_MON.EXE, all files are executed with the default privileges defined for your process.

The DDAL$COPY_PROCESS.EXE file is executed with the following OpenVMS privileges:

- SYSLCK
- BYPASS
- SYSPRV
- SECURITY

The DDAL$TR_MON.EXE file is executed with the following OpenVMS privileges:

- CMKRNL
- DETACH

- PRMMBX
- SYSLCK
- SYSNAM
- SYSPRV
- TMPMBX
- WORLD