

Oracle® Secure Backup

Migration Guide

Release 10.3

E12837-01

January 2009

Oracle Secure Backup Migration Guide, Release 10.3

E12837-01

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Primary Author: Lance Ashdown

Contributing Authors: Judy Ferstenberg, Arun Sathyamurthy, Antonio Romero

Contributors: Donna Cooksey, George Stabler, Steve Wertheimer

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Preface

This preface contains the following topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Audience

The *Oracle Secure Backup Migration Guide* is intended for system administrators and database administrators who need to migrate from Legato Storage Manager (LSM) or Legato Single Server Version (LSSV) to Oracle Secure Backup.

To use this document, you need to be familiar with the operating system environment on which you plan to use Oracle Secure Backup.

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<http://www.fcc.gov/cgb/consumerfacts/trs.html>, and a list of phone numbers is available at <http://www.fcc.gov/cgb/dro/trsphonebk.html>.

Related Documents

For more information about Oracle Secure Backup, see the following Oracle resources:

- *Oracle Secure Backup Installation and Configuration Guide*
This manual explains how to install Oracle Secure Backup.
- *Oracle Secure Backup Administrator's Guide*
This manual explains how to administer an Oracle Secure Backup domain.
- *Oracle Secure Backup Reference*
This manual contains information about the command-line interfaces for Oracle Secure Backup.
- *Oracle Database Backup and Recovery User's Guide*
This book provides an overview of backup and recovery and discusses backup and recovery strategies. It provides instructions for basic backup and recovery of your database using Recovery Manager (RMAN). It also covers more advanced database backup and recovery topics, including performing user-managed backup and recovery for users who choose not to use RMAN.

The Oracle Secure Backup product site, which includes a download link for Oracle Secure Backup software, is located at the following URL:

<http://www.oracle.com/technology/products/backup/>

The Legato Single Server Version documentation is located at the following URL:

<http://software.emc.com/microsites/lssv/index.htm>

The Legato Storage Manager documentation for Oracle9i is accessible at the following URL:

http://download-east.oracle.com/docs/cd/A91202_01/901_doc/server.901/a77218/toc.htm

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Migrating from Legato to Oracle Secure Backup

This chapter explains how to migrate from Legato Storage Manager (LSM) or Legato Single Server Version (LSSV) to Oracle Secure Backup. This chapter contains the following topics:

- [Overview of Migration from Legato to Oracle Secure Backup](#)
- [Checking Compatibility](#)
- [Planning the Oracle Secure Backup Domain](#)
- [Managing Legato Backups When Migrating to Oracle Secure Backup](#)

Overview of Migration from Legato to Oracle Secure Backup

This section offers an overview of the migration from a Legato environment to an Oracle Secure Backup environment. This section contains the following topics:

- [Legato and Oracle Secure Backup](#)
- [Overview of the Migration Procedure](#)

Legato and Oracle Secure Backup

In previous database releases, Legato Storage Manager and Legato Single Server Version were bundled with Oracle Database. Legato Single Server Version included a single-server version of the EMC Legato NetWorker and the NetWorker Module for Oracle that together enabled administrators to back up Oracle databases to tape.

Note: Legato Storage Manager and Legato Single Server Version are referred to collectively as Legato in this chapter. The instructions in this chapter apply only to the versions of Legato previously bundled with Oracle Database.

Oracle now provides Oracle Secure Backup and Oracle Secure Backup Express as its media management solution. Oracle Secure Backup Express is recommended as the best replacement for previously bundled versions of Legato. The instructions in this chapter refer to Oracle Secure Backup, but apply equally to either Oracle Secure Backup or Oracle Secure Backup Express.

The Oracle Secure Backup media management software enables you to back up files on your file system to tape and is also fully integrated with RMAN to provide data protection services for one or more Oracle databases in a networked environment.

This chapter describes best practices for migrating from a Legato environment to an Oracle Secure Backup environment. This chapter does not explain how to install or configure Oracle Secure Backup. These tasks are explained in *Oracle Secure Backup Installation and Configuration Guide* and *Oracle Secure Backup Administrator's Guide*.

Although the focus of this chapter is on migrating from Legato to Oracle Secure Backup, many of the practices and recommendations described in this chapter are applicable to migration from other media management products.

See Also: *Oracle Secure Backup Licensing Information*

Overview of the Migration Procedure

The basic stages of the migration from Legato to Oracle Secure Backup are as follows:

1. Verify that the components of your Legato infrastructure work with Oracle Secure Backup.

"[Checking Compatibility](#)" on page 1-2 explains this stage.

2. Plan the Oracle Secure Backup administrative domain. In this stage, you must consider the environment where Legato is currently used and how you will deploy Oracle Secure Backup there.

"[Planning the Oracle Secure Backup Domain](#)" on page 1-2 explains this stage.

3. Install Oracle Secure Backup and either discard, maintain, or copy your legacy Legato backups.

"[Managing Legato Backups When Migrating to Oracle Secure Backup](#)" on page 1-6 explains this stage.

Checking Compatibility

Verify that the components of your Legato infrastructure are certified to work with Oracle Secure Backup. Gather the following information:

- Hardware type and operating system version of the hosts on which you plan to install Oracle Secure Backup
- Type and firmware version of your tape drives and libraries

You can find a list of supported platforms and devices at the following Web site:

<http://www.oracle.com/technology/products/backup/>

Planning the Oracle Secure Backup Domain

Before migrating from Legato to Oracle Secure Backup, decide where you will install Oracle Secure Backup and how you will use the software to make backups. As explained in "[Managing Legato Backups When Migrating to Oracle Secure Backup](#)" on page 1-6, you should also decide whether to migrate or discard legacy Legato backups.

This section contains the following topics:

- [Media Management Architecture](#)
- [Backup Procedures and Scripts](#)

Media Management Architecture

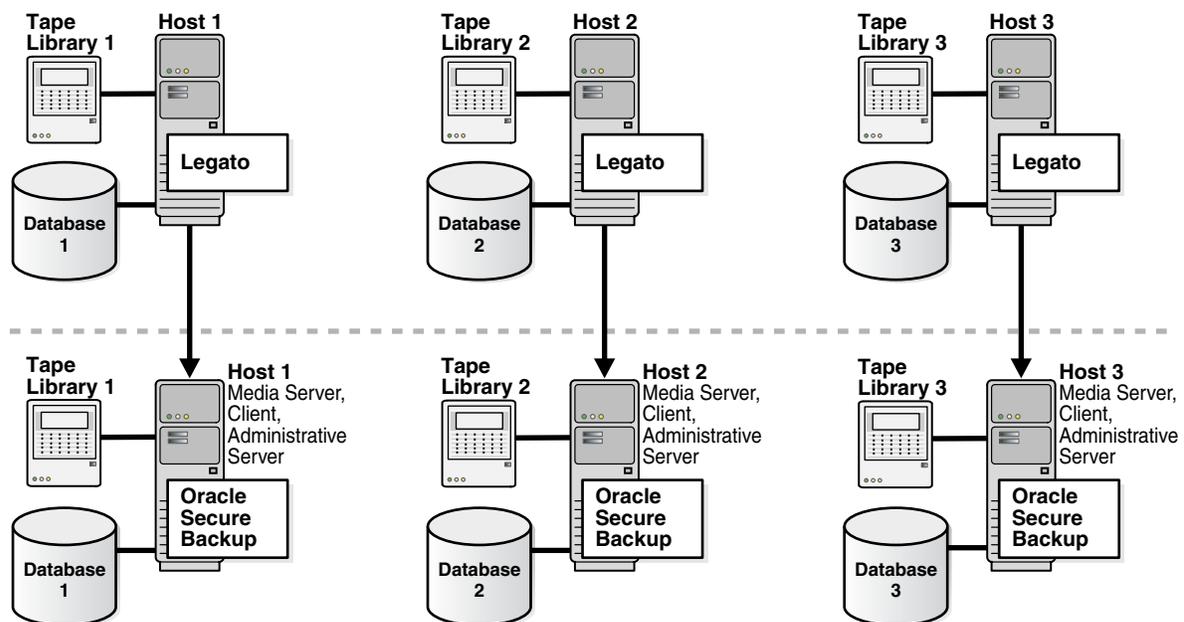
Typically, Legato environments include a small to medium number of hosts, each of which backs up data to a small number of locally attached tape devices. You can use the same model with Oracle Secure Backup and configure each host to use locally attached devices. Alternatively, you can consolidate your backup environment so that backups are sent to centralized media servers within a single administrative domain. This section describes both approaches.

Multiple-Domain Architecture

A multiple-domain architecture most closely corresponds to your existing Legato architecture. In this architecture, you install Oracle Secure Backup on every host on which you previously installed Legato and leave the tape devices as they are. Each host functions as administrative server, media server, and client.

Figure 1-1 illustrates a sample network of three hosts, each of which runs Legato in conjunction with an Oracle database and has a locally attached tape device. During migration, you install Oracle Secure Backup on each host and assign it the roles of client, media server, and administrative server.

Figure 1-1 Multiple-Domain Architecture



To implement this architecture, follow these instructions:

1. Install Oracle Secure Backup on every Oracle database host.
2. Assign each host the role of administrative server, media server, and client.

Make sure to answer *yes* when prompted to configure your Oracle homes to use the Oracle Secure Backup SBT interface for database backups.

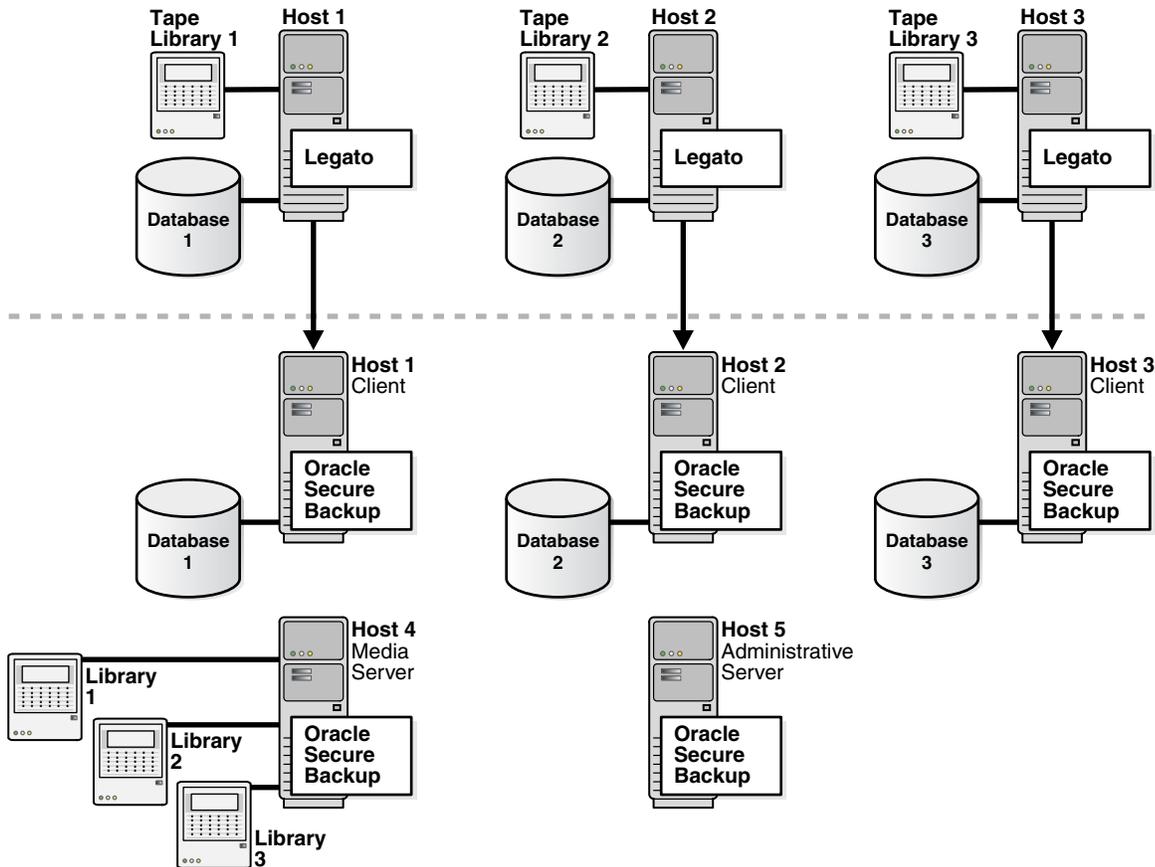
3. Configure the tape devices attached to each host.

See Also: *Oracle Secure Backup Installation and Configuration Guide* to learn how to install and configure Oracle Secure Backup

Single-Domain Architecture

This architecture offers the benefits of centralized media and backup catalog management. [Figure 1–2](#) illustrates the same Legato network depicted in [Figure 1–1](#). During migration, you install Oracle Secure Backup on each of the three hosts and assign it the role of client. The tape devices are centralized on a fourth host, which is the media server. A fifth host is a dedicated administrative server, which manages the administrative domain.

Figure 1–2 Single-Domain Architecture



To implement this architecture, follow these instructions:

1. Identify the host that will be the administrative server and install Oracle Secure Backup on this host.
 You can configure a new host to assume this role, as shown in [Figure 1–2](#), or use an existing host. If you use an existing host, and if one of the hosts contains a centralized RMAN recovery catalog, then this host is a good candidate for the administrative server
2. Identify the hosts that will manage the tape devices and install Oracle Secure Backup on these hosts. Assign these hosts the role of media server.
3. Configure the tape devices attached to the media servers.
4. Install Oracle Secure Backup on the database hosts and assign them the client role.

Make sure to answer **yes** when prompted to configure your Oracle homes to use the Oracle Secure Backup SBT interface for database backups.

See Also: *Oracle Secure Backup Installation and Configuration Guide* to learn how to install and configure Oracle Secure Backup

Backup Procedures and Scripts

Oracle Secure Backup supports both file-system and database backups. Depending on how you implement your Oracle Secure Backup environment, you may need to modify your backup procedures and scripts.

Database Backups

After configuring RMAN to make backups through the Oracle Secure Backup SBT interface, you may need to make the following additional changes:

- Change RMAN tape parallelism if the number of tape drives used for database backups changes during the migration. You can perform this task with the `CONFIGURE DEVICE TYPE SBT PARALLELISM` command.
- Remove `PARMS` parameters that provide the name of the SBT module or vendor-specific environment variables. Oracle Secure Backup does not require these `PARMS` settings.

Note: Because you may need to retain your existing media manager configuration for a period of time during the migration, only remove the `PARMS` settings when they are no longer needed.

- Create database backup storage selectors within Oracle Secure Backup. Simple installations probably do not need storage selectors. You should create them only if you need to direct backups to different types or classes of media.
- Create one or more Oracle Secure Backup preauthorizations. Oracle Secure Backup can grant preauthorized access to the operating system user under which an RMAN backup is performed.

See Also:

- *Oracle Database Backup and Recovery User's Guide* to learn how to configure RMAN for use with a media manager
- *Oracle Database Backup and Recovery Reference* to learn about the `CONFIGURE` command
- *Oracle Secure Backup Administrator's Guide* to learn how to use Oracle Secure Backup with a database

File-System Backups

Because Legato supports only database backups, you probably use a different tool to back up the non-database contents of the systems that host your databases. When migrating to Oracle Secure Backup, decide whether to use Oracle Secure Backup to protect the file-system data as well as the databases on those systems.

See Also: *Oracle Secure Backup Administrator's Guide* to learn how to perform file-system backups.

Managing Legato Backups When Migrating to Oracle Secure Backup

After planning your administrative domain, you can install Oracle Secure Backup and configure the domain. The procedure varies depending on what you do with your legacy Legato backups. You have the following options:

- Discard your Legato tape backups.

In this case, you cannot restore Legato backups after migrating your environment to Oracle Secure Backup, but you do not have the overhead of maintaining or copying the Legato backups.

This technique is described in "[Discarding Legato Backups](#)" on page 1-6.

- Retain your Legato tape backups but do not copy them to tapes managed by Oracle Secure Backup.

In this case, you must manage the Oracle Secure Backup environment as well as a Legato installation capable of restoring the Legato backups.

This technique is described in "[Retaining Legato Backups](#)" on page 1-7.

- Copy some or all of your Legato tape backups to tapes managed by Oracle Secure Backup.

In this case, you do not need to maintain a Legato installation after migration, yet some or all of the data previously stored in Legato is restorable by Oracle Secure Backup. This solution necessitates the overhead of copying your old Legato backups to tapes managed by Oracle Secure Backup, by restoring the contents of each tape from backup using Legato, then backing up the restored files using Oracle Secure Backup.

Your backup retention policies dictate which option is best for your environment.

Discarding Legato Backups

In this option, you uninstall Legato from a database host, install Oracle Secure Backup, and reuse or discard the old Legato tapes. This option requires no overhead and is suitable for databases that meet either of the following criteria:

- Databases with no historical retention requirements
- Databases whose primary backups are located on disk rather than on tape

Only discard your legacy tape backups if you are able to take a new full backup immediately after installing Oracle Secure Backup.

To migrate to Oracle Secure Backup and discard legacy tape backups:

1. Identify the databases to be backed up to the Oracle Secure Backup SBT interface.
2. Perform a consistent shutdown of the databases identified in the previous step.

Note that you do not have to shut down the databases if your configuration meets both of the following criteria:

- You are backing up to disk as well as to tape.
- You have sufficient backups on disk to recover if a failure occurs during the migration.

If your configuration does not meet the preceding criteria, then you risk losing data if a failure occurs before you make a new backup with Oracle Secure Backup.

If you cannot shut down the database during the Oracle Secure Backup migration, and if you have no disk backups, then make a temporary disk backup. This backup protects you from failures during the migration. You can discard the temporary backup after making a backup with Oracle Secure Backup.

3. For each database, run the RMAN command `DELETE BACKUP DEVICE TYPE sbt` to remove its Legato backups.
4. Uninstall Legato from all hosts where it is no longer needed.
5. Install and configure Oracle Secure Backup on each host in your administrative domain according to the architecture that you chose in "[Media Management Architecture](#)" on page 1-3.

Oracle Secure Backup Installation and Configuration Guide explains how to install and configure Oracle Secure Backup.

6. Modify your RMAN scripts to work with Oracle Secure Backup.

As explained in "[Database Backups](#)" on page 1-5, you may need to change the `PARMS` settings used by RMAN when backing up through the Legato interface. *Oracle Database Backup and Recovery User's Guide* to learn how to configure RMAN for use with a media manager.

7. Back up each database to tape.

If you are not using disk backups, then back up the databases to tape *before* opening the database. If you use disk backups, then these backups protect you from failure until your scheduled backup time. *Oracle Secure Backup Administrator's Guide* explains how to back up a database with Oracle Secure Backup.

8. Verify that the new Oracle Secure Backup backups can be restored by using the RMAN `RESTORE VALIDATE` command.
9. Open the databases and make them available to users.

Retaining Legato Backups

In this option, you maintain dual Legato and Oracle Secure Backup installations on a host for as long as you need to restore backups from Legato. You must maintain the legacy Legato tapes along with the Oracle Secure Backup tapes.

This option may be suitable for databases that meet any of the following criteria:

- Databases with long retention requirements
- Databases where it is not desirable or feasible to copy older backups into Oracle Secure Backup
- Databases that cannot be shut down or left unprotected during migration

To migrate to Oracle Secure Backup and retain legacy backups in Legato:

1. Identify the databases to be backed up to the Oracle Secure Backup SBT interface.
2. Install and configure Oracle Secure Backup on each host in your administrative domain according to the architecture that you chose in "[Media Management Architecture](#)" on page 1-3.

Oracle Secure Backup Installation and Configuration Guide explains how to install Oracle Secure Backup.

Note: Because this strategy requires that Legato and Oracle Secure Backup co-exist for some time, consider how to allocate tape resources. Legato and Oracle Secure Backup cannot share tape resources.

3. Modify your RMAN scripts to work with Oracle Secure Backup.

As explained in "[Database Backups](#)" on page 1-5, you may need to change the PARMS settings used by RMAN when backing up through the Legato interface. See *Oracle Secure Backup Administrator's Guide* to learn how to configure RMAN for use with Oracle Secure Backup.

4. Create RMAN scripts to restore backups from Legato.

There will a period of time during which you may need to restore backups from either Legato or Oracle Secure Backup. During this time, you need RMAN scripts to restore from Legato. These scripts should use manually allocated channels that specify the Legato shared library.

Optionally, you can write restore scripts that reference both Legato and Oracle Secure Backup shared libraries, thereby enabling RMAN to restore backups from either Legato or Oracle Secure Backup. [Example 1-1](#) shows a sample script of this type. When you run this script, RMAN automatically uses the correct channel to restore the required backups.

Example 1-1 Specifying Legato and Oracle Secure Backup Libraries

```
RUN
{
  ALLOCATE CHANNEL c1 TYPE sbt
    PARMS 'SBT_LIBRARY=oracle_secure_backup_library';
  ALLOCATE CHANNEL c2 TYPE sbt
    PARMS 'SBT_LIBRARY=legato_library';
  RESTORE DATABASE;
  RECOVER DATABASE;
}
```

5. Verify that you can back up files in the new Oracle Secure Backup environment.

A small backup of the control file, a few data files, and a few archived redo logs is sufficient to test that you can back up.

6. Verify that you can restore files from both Legato and Oracle Secure Backup by using the RMAN RESTORE VALIDATE command.

7. When your Legato backups are no longer needed, perform the following tasks:

- Uninstall Legato.
- Discard the special restore scripts that you created to restore from Legato.
- Reuse the Legato tape resources.

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