Enterprise Option for SAP R/3 for Oracle

Arcserve® Backup for Windows

r17.5

arcserve®

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Arcserve Product References

This document references the following Arcserve products:

- Arcserve® Backup
- Arcserve® Unified Data Protection
- Arcserve® Unified Data Protection Agent for Windows
- Arcserve® Unified Data Protection Agent for Linux
- Arcserve® Replication and High Availability

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- You can use our Live Chat link to instantly launch a real-time conversation between you and the Arcserve Support team. With Live Chat, you can get immediate answers to your concerns and questions, while still maintaining access to the product.

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- You can open a support ticket. By opening a support ticket online, you can expect a callback from one of our experts in the product area you are inquiring about.

- You can access other helpful resources appropriate for your Arcserve product.

Arcserve Backup Documentation

Arcserve Backup documentation contains specific guides and release notes for all major releases and service packs. Click links below to access documentation.

- Arcserve Backup r17.5 SP1 Release Notes
- Arcserve Backup r17.5 Bookshelf

Contents

Chapter 1: Introducing the Option

This section contains the following topics:

Enterprise Option for SAP R/3 for Oracle

Among the options Arcserve Backup offers is the Arcserve Backup Enterprise Option for SAP R/3 for Oracle (the option). This option helps you manage Oracle databases in your SAP R/3 for Oracle environment by letting you remotely manage backups, schedule your backups, and back up to a wide array of media storage devices.

The option supports backup and restore operations launched from the Arcserve Backup user interface or from the following user interfaces:

- BR*Tools for Oracle
- Oracle Recovery Manager

Using the option, you can back up and restore the following Oracle database objects:

- Databases
- Tablespaces
- Archived log files
- Control files

The option handles all communications between Arcserve Backup, SAP R/3 for Oracle, and the Oracle server application while data is being backed up and restored. This includes preparing, retrieving, and processing the data sent back and forth across the network.

More information:

Database Backup Using the BR*Tools Command

Database Restore Using BR*Tool Commands

Option Integration with the Oracle Recovery Manager

Architectural Overview

You can install Arcserve Backup on the same computer as the option and the Oracle database, or on a separate computer. If you install Arcserve Backup on the same computer, then communication with the option is local. If you install it on a separate computer, Arcserve Backup communicates with the option remotely over a LAN or WAN.

An Oracle *instance* is a logical database server environment. You can create an Oracle database within an Oracle instance on your database server. The option provides services that allow Arcserve Backup to back up and restore a SAP-managed Oracle database associated with the option. The networking capabilities of Arcserve Backup enable the option to be located on any Windows server on which an Oracle database is located. You must install one option on each database server that you want Arcserve Backup to manage.
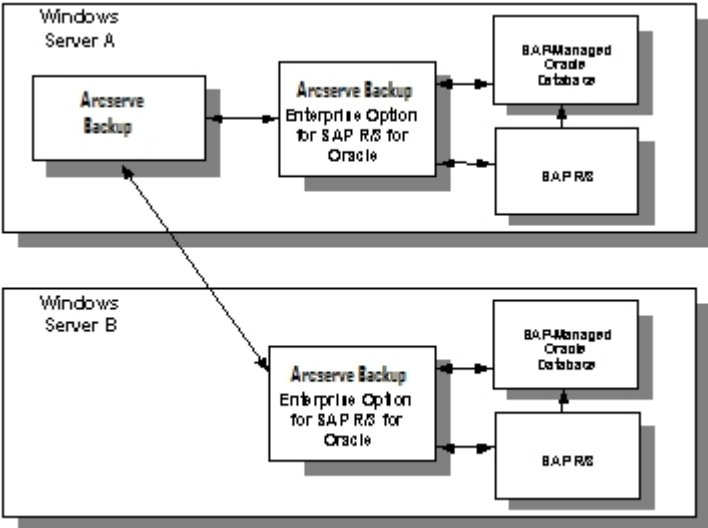
Note: Staging is not supported when you back up the database using SAPDBA or BR*Tools.

Option Integration with Arcserve Backup

You can use the option to perform backups and restores submitted from the Arcserve Backup user interface. The diagrams in the following sections outline the general interaction between the option and Arcserve Backup.

How Arcserve Backup Backs Up Data

The option performs backups with Arcserve Backup using the following steps:

1. The user issues a backup command from the Arcserve Backup user interface.

2. Arcserve Backup receives the backup request and passes it to the option.

3. The option begins copying backup data from the database.

4. The option passes the backup data to Arcserve Backup.

5. Arcserve Backup saves the data to a storage medium.
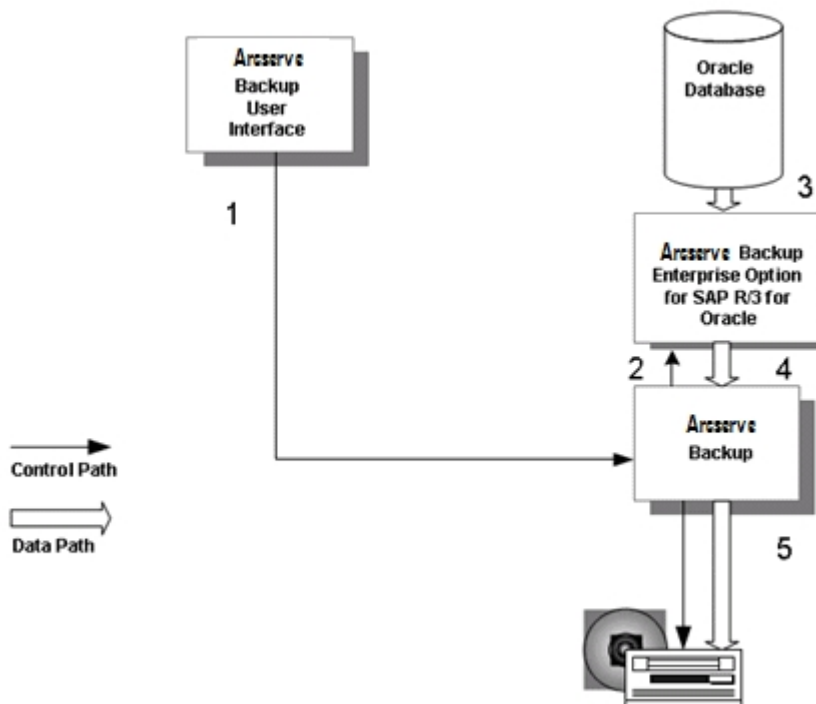
How Arcserve Backup Restores Data

The option restores Oracle objects with Arcserve Backup using the following steps:

1. The user issues a restore command from the Arcserve Backup user interface.

2. Arcserve Backup informs the option of the restore request.

3. Arcserve Backup begins retrieving the data from storage.

4. Arcserve Backup passes the data to the option.

5. The option restores the data to the database.
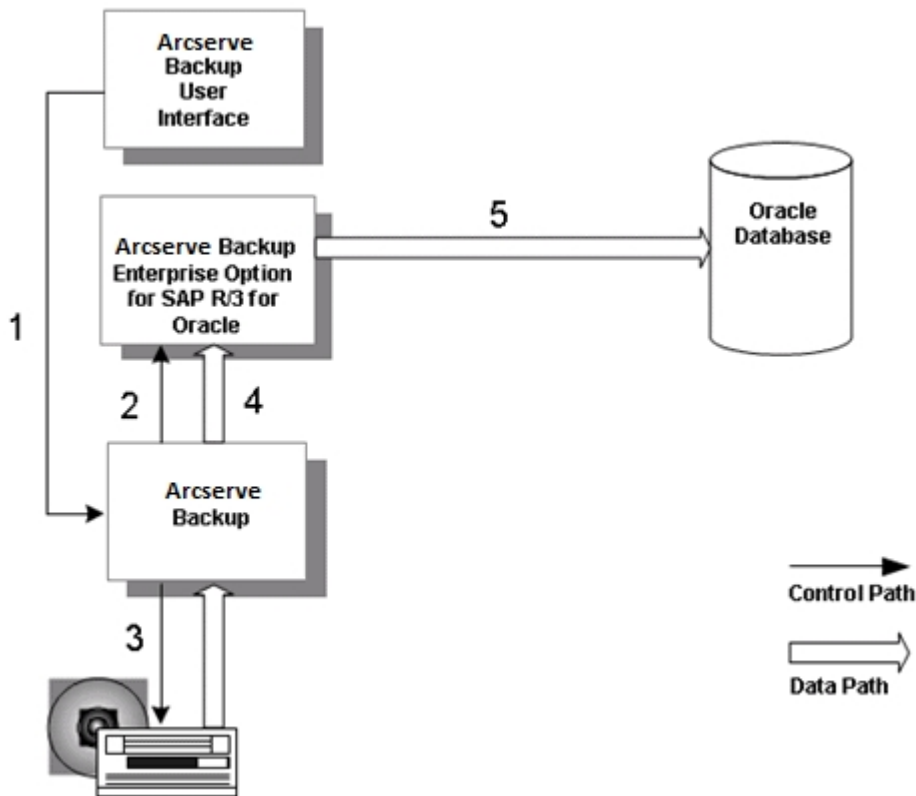
Note: When you restore with Arcserve Backup, you can only restore data that was backed up with Arcserve Backup.

Option Integration with the Oracle Recovery Manager

During installation, you have the option of installing support for Oracle Recovery Manager (RMAN), an Oracle utility for backing up, restoring, and recovering Oracle databases. With support for Recovery Manager, you can submit backup and restore jobs to Arcserve Backup by connecting to RMAN at the command line, or through the Oracle Backup Manager user interface. In addition, you can write and execute your own Recovery Manager scripts.

If you choose to install Arcserve Backup support for Recovery Manager, you must run the Oracle agent configuration before you use Recovery Manager.

Note: For information about how to run this utility, see Configure the Agent for Oracle.

After you install the Arcserve Backup Enterprise Option for SAP R/3 for Oracle, each time you initiate a backup or restore with Recovery Manager, the option transfers data between Arcserve Backup, the Oracle database, and the storage media.

If you back up data using the Recovery Manager interface, you can only restore that data using the Recovery Manager interface. For information on how the Option works with the Agent for Oracle in RMAN mode, see *Agent for Oracle* guide.

Similarly, if you back up data using Arcserve Backup, you can only restore that data using Arcserve Backup. For information on how the Option works with the Agent for Oracle in File-based mode, see *Agent for Oracle* guide.

How Recovery Manager Backs Up Data

Initiate backup jobs from Oracle Recovery Manager using the following steps:

1. The user issues a backup request to the Oracle database from the Recovery Manager command line interface.

2. The database notifies the option of the backup request; the option requests transfer of backup data.

3. The database transfers the backup data to the option.

4. The option passes the backup data to Arcserve Backup.

5. Arcserve Backup saves the data to a storage medium.
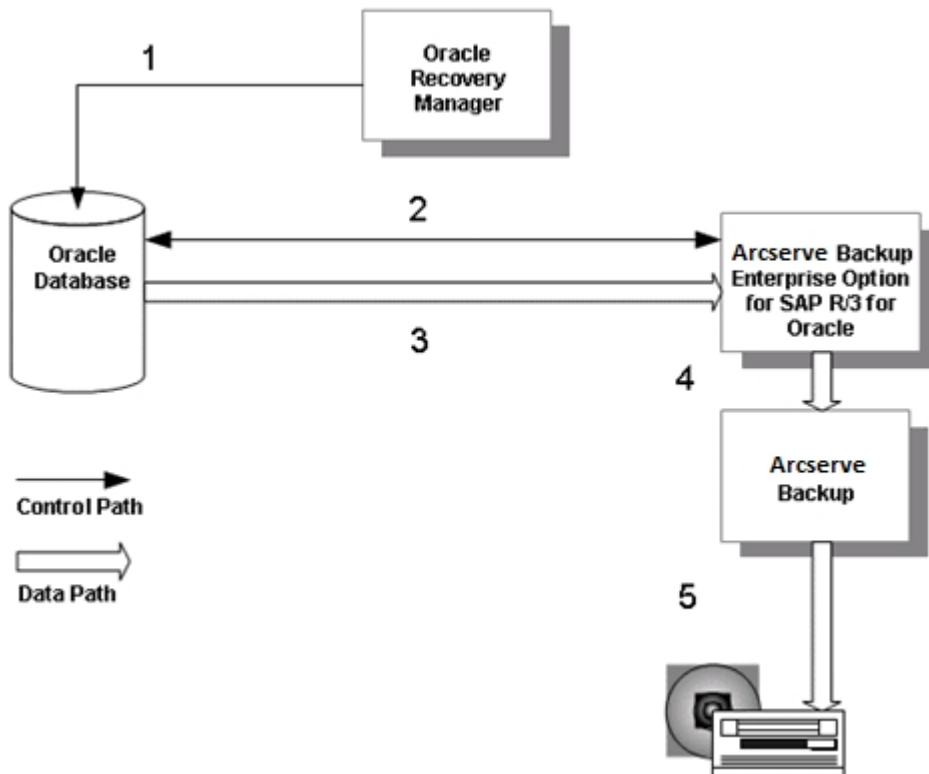
How Recovery Manager Restores Data

Initiate restore jobs from Oracle Recovery Manager using the following steps.

Note: When you restore with Recovery Manager, you can only restore with data that was backed up with Recovery Manager.

1. The user issues a restore request to the Oracle database from the Recovery Manager command line interface.

2. The database notifies the option of the restore request.

3. The option notifies Arcserve Backup of the restore request.

4. Arcserve Backup retrieves the data from a storage medium.

5. The option restores the Oracle database.

   Note: For information about how the Option works with the Agent for Oracle in RMAN mode, see *Agent for Oracle* guide.
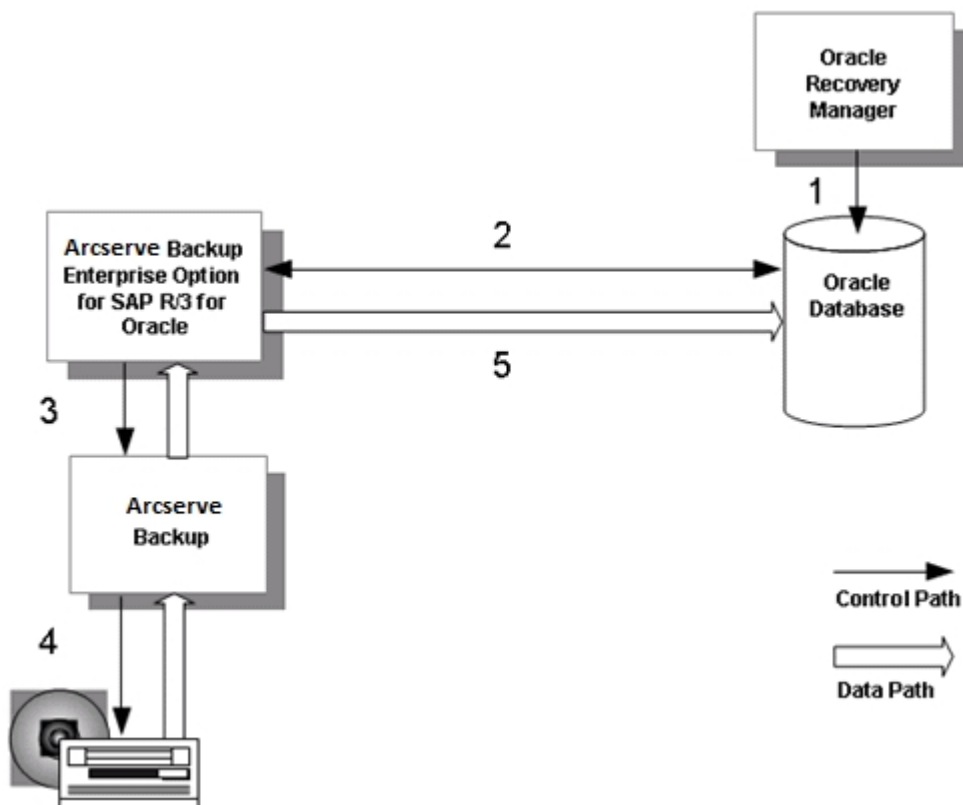
Chapter 2: Installing the Option

This chapter provides the information you need to install and configure the Enterprise Option for SAP R/3 for Oracle. The information in this chapter assumes you are familiar with the characteristics and requirements of the specified Windows operating systems in general, and with administrator responsibilities on those operating systems in particular.

This section contains the following topics:

Installation Prerequisites

Before installing the Enterprise Option for SAP R/3 for Oracle, verify the following prerequisites:

1. Your system meets the software requirements needed to install the option.

   For a list of these requirements, see Release Notes.

2. You have the following applications installed and running on the computer on which you want to install the option:

   - Oracle

     Note: For more information on the supported Oracle versions, see the *Agent for Oracle* guide.

   - SAPDBA for Oracle or BR*Tools for Oracle

   - Oracle Recovery Manager

3. You have administrative privileges or the proper authority to install software on the computers where you will be installing the option.

   Note: You can uninstall the Enterprise Option for SAP R/3 for Oracle using the Add/Remove programs option in Windows.

Hardware and Software Requirements

You can find hardware and software requirements for the Enterprise Option for SAP R/3 for Oracle in the Release Notes for this release.

Install the Option

The Enterprise Option for SAP R/3 for Oracle follows the standard installation procedure for the system components, agents, and options of Arcserve Backup.

For more information, view Implementation Guide.

Configure the Agent for Oracle

After you install the Agent for Oracle, the Oracle Agent Configuration dialog opens. You must configure the agent to perform the backup and restore jobs.

To configure the Agent for Oracle

1. From the Windows Start menu, click Start, Programs (or All Programs), Arcserve, Arcserve Backup, and click Oracle Agent Configuration.

   The Oracle Agent Configuration dialog opens.

   Note: You can run the Oracle Agent Configuration tool as new Oracle instances are created.

2. Specify the necessary details to configure the agent. Some of the options include:

   ◆ **Allow jobs to be submitted directly from the RMAN Console**--Lets you submit jobs from the RMAN console.

   ◆ **Instance Name**--Auto detected. Ensure all instances are enabled that will be backed up.

   ◆ **Username**--Enter the user name.

   ◆ **Password**--Enter the password.

   ◆ **Log File**--Lets you specify the location of the log files. By default, the log files reside in the Log subfolder under the Agent Installation directory.

   ◆ **Debugging Level**--Provides four debugging levels (Level 1 to Level 4).

   Important! If you are unable to set the debugging level option to the appropriate level, contact Technical Support.

Enable Submit Job from RMAN Console

The Arcserve Backup Agent for Oracle provides File-Based Mode backup and restore and RMAN Mode backup and restore. The RMAN Mode provides basic functionalities for RMAN. If you want to use advanced RMAN features, you can submit jobs using the RMAN Console.

To enable submit job from the RMAN console

1. Start the Oracle Agent Configuration tool.

2. Check the Allow jobs to be submitted directly from the RMAN Console option.

    The Agent Host Information and the Server Information fields open.
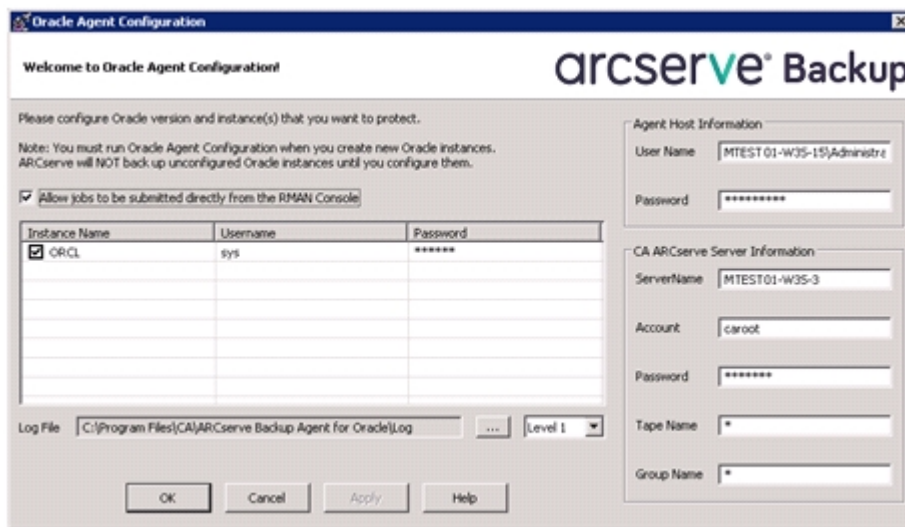
3. Enter details for the following parameters:

    ◆ **Agent Host Information:**

    ‒ **User name**--Enter the user name.

    ‒ **Password**--Enter the password.

    ◆ **Arcserve Server Information:**

    ‒ **Server Name**--Enter the Arcserve server details to ensure the backups and restores are submitted on the server.

    ‒ **Account**--Enter caroot account details.

    ‒ **Password**--Enter the caroot password.

    ‒ **Tape Name**--Enter the tape name that you want to use for backup. If you want to use any tape then enter *.

– **Group Name**--Enter the group name that you want to use for backup. If you want to use any group then enter *.

4. Click OK.

You can now submit RMAN scripts from the RMAN Console to be processed by the Arcserve server.

Note: For more information about how to use the Agent for Oracle, see the *Agent for Oracle* guide.

Configure BACKINT Interface of Enterprise Option for SAP R/3

Before you can execute backup and restore operations using the option and SAPDBA, you must complete several configuration tasks. SAPDBA must be installed on the same computer as the option.

- Configure Parameter File Settings
- Configure the init<SID>.sap File
- Create ACLs (Access Control Lists)
- Check the Arcserve Universal Agent Service Status

Configure Parameter File Settings

The util_par_file parameter file contains parameters for controlling the backup agent configuration module (also known as BACKINT) and Arcserve Backup.

For a file sample, and definitions of file parameters, see the "Sample util_par_file and Parameter Definitions" appendix in this guide.

The parameter file name must be known to SAPDBA utilities for the proper operation of SAPDBA when it is working with Arcserve Backup; the file is located under the $ORACLE_HOME\database directory.

To modify the settings in the parameter file

1. Start the Oracle Configuration Utility from Arcserve, Arcserve Backup Agents, SAP R/3 Oracle Option BACKINT Configuration.

   The Backup Agent for R/3 Oracle Configuration window opens.

2. On the Security Information tab, select Local Server to use the local backup server.

   Note: To use a remote backup server, select Remote/Cluster Server and enter Windows security information.

3. Click on the Volume Backup tab.

   The Volume Backup dialog opens.

4. On the Volume Backup tab, modify media management information for BRBACKUP.

   If you want to use media pool support, first create a media pool on your Arcserve Backup server, and then check the Use Media Pool check box and enter the media pool information.

5. Click on the Volume Archive tab.

   The Volume Archive dialog opens.

6. On the Volume Archive tab, modify media management information for BRARCHIVE.

   To use media pool support, create a media pool on Arcserve Backup server, check the Use Media Pool check box, and enter the media pool information.

Configure the init<SID>.sap File

The init<SID>.sap configuration file for SAPDBA is part of the SAP environment. It contains all backup and archive parameters. To configure this file for use with Arcserve Backup, set these parameters as follows:

To configure the init<SID>.sap file

1. Open the file with Notepad or a similar text editor.

2. Edit the file as required:

   - For an offline backup, set backup_dev_type = util_file

   - For an online backup, set backup_dev_type = util_file_online

   - Set util_par_file= parameter_file_name

3. Save the file.

With these changes, SAPDBA now calls the BACKINT interface instead of CPIO and assumes that BACKINT is located in the directory:

c:\usr\sap\SID\sys\exe\run

You can also change the settings for the above parameters on the SAPDBA or BR* Tools Backup menu.

Create ACLs (Access Control Lists)

Access Control Lists allow you to identify the specific remote Arcserve Backup servers permitted to back up the Oracle database. If the Arcserve Backup Client Agent for Windows is installed, you can create and edit ACLs using the Backup Agent Admin.

See the Arcserve Backup Client Agent for Windows online help for more information.

If the Arcserve Backup Client Agent for Windows is not installed, ACLs can be created manually by adding new registry values.

To create ACLs

1. On the Windows Start menu, click Run.

   The Run dialog opens.

2. In the Open field, enter:

   regedit

   The Registry Editor window opens.

3. In the tree view pane, expand the following folders to view this registry path:

   Software\ComputerAssociates\CA ARCserve Backup\UniversalClientAgent\ACL

4. Double-click the appropriate registry entry and make the following entries in the Edit String dialog:

   ▪ **ServerList** (REG_MULTI_SZ): Arcserve Backup server names. Enter one server name per line.

   ▪ **Type** (REG_DWORD): Enter **one** of the following values:

      0: (default) All Arcserve Backup servers are permitted to back up the database.

      1: only Arcserve Backup servers on the list are permitted to back up the database.

      2: only Arcserve Backup servers NOT on the list are permitted to back up the database.

5. Click OK on the Edit String dialog after you complete each entry.

6. Close the Registry Editor.

Check the Arcserve Universal Agent Service Status

The Arcserve Universal Agent service lets the agent support remote backups and restores of the Oracle database. It also operates as a Windows service. You can configure the server to start automatically during setup or after setup using the Control Panel Services.

To check the Arcserve Backup Universal Agent Service Status

1. Open Control Panel and then open Services.

2. Locate the Arcserve Backup Universal Agent service icon. The current mode of the service is displayed.
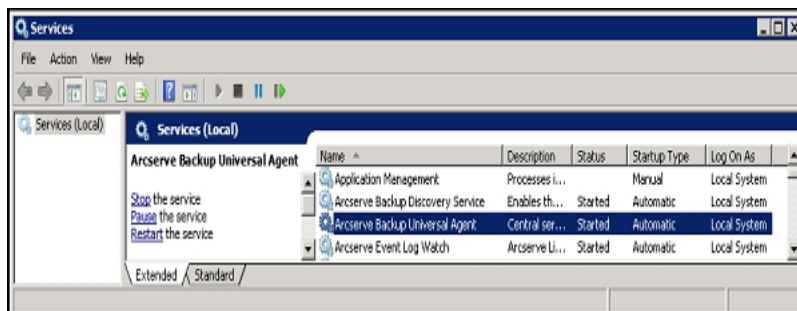
3. To start or stop the service, highlight the Arcserve Backup Universal Agent service icon and click Start or Stop, respectively.

Backup and Restore Limitations

The following are limitations for backups and restores initiated with the option:

- The online redo logs are exclusively locked by Oracle while the Oracle database is online. Perform an offline backup if necessary.

- To restore either the system tablespace or a tablespace containing rollback segments, you must first shut down the database and perform a full database restore. For more information, see the section Restore the System Tablespace in this chapter.

- If you back up the Oracle database using the Arcserve Backup interface, you must restore it using the Arcserve Backup interface. Similarly, if you back up the Oracle database using RMAN, you must restore it using RMAN.

- The Agent for Oracle in File-based mode does not support backup and restore processes on raw devices and Automatic Storage Management (ASM).

- The Agent for Oracle in RMAN mode does not support backing up parameter files on raw devices.

- While performing an RMAN backup job using the Agent for Oracle, if your agent machine is unable to resolve the backup server machine name (for instance, the Backup server is in a different domain using a separate DNS server), you can manually modify your mgmtsvc.conf and clishell.cfg files on both the Arcserve server machine and Arcserve Agent machine to ensure proper hostname resolution. For more information, see the *Agent for Oracle* guide.

- Do not back up individual data files using RMAN.

Chapter 3: Using the Option with Agent for Oracle

This section contains the following topics:

Option with Agent for Oracle

The Oracle server application is organized into databases. Each Oracle database contains the following types of objects:

- **Tablespaces**—These objects contain data and may consist of multiple data files.

- **Online redo log files**—These objects contain records of transactions applied to the tablespaces.

- **Control files**—These objects describe the structure of the database, including the tablespaces. There can be more than one control file for the database.

The Arcserve Backup Enterprise Option for SAP R/3 for Oracle lets you back up a complete database or individual objects within the database.

Online Redo Log Files

Oracle Server uses online redo log files to record all entries to the Oracle tablespaces. However, the Option for SAP R/3 for Oracle requires archived online redo log files to function properly. For Oracle to create archived redo log files, you must set Oracle to operate in ARCHIVELOG mode. Also, for the agent to back up and restore properly, you must set Oracle to automatically archive online redo log files.

Note: For information about setting Oracle so that it operates in ARHIVELOG mode and automatically archives online redo log files, see Enable Automatic Archiving in the *Agent for Oracle guide*.

Multiple Databases

If your Oracle configuration has more than one database you can:

- View and log into the databases

- Back up multiple databases simultaneously

- Quickly find the database objects that you want to back up

More information:

Configure a Backup Session for Multiple Databases

Configure a Backup Session for Multiple Databases

To configure a backup session so you can log into and view the databases you specified during installation on an Oracle configuration containing multiple databases.

To configure a backup session for multiple databases

1. Ensure that all the Arcserve Backup and agent-related services are running.

2. Open the Backup Manager window.

3. In the Backup Manager window, expand the server on which the Oracle server is installed. All the databases you configured on the Oracle server open.

4. Right-click the database you want to log in.

   A pop-up menu opens.

5. Select Security.

6. Enter the user name and password you specified during configuration. Depending on which version of Oracle you are using, this user name should be SYSTEM, or have SYSDBA equivalent privileges.

7. Click OK. Expand the selected database to view objects and to select the objects to back up.

Database Backup

Using the option you can back up complete Oracle databases and individual Oracle database objects, such as tablespaces, archived redo log files, and control files (each tablespace in a database is backed up as a separate session), parameter files and the recovery area.

You should back up all of the objects in a database immediately after you create the database and maintain a regular backup schedule to ensure smooth recovery in case of database or media failure. Arcserve Backup allows you to set and maintain a schedule of automatic backups.

For each online tablespace marked for backup, the option instructs Oracle to begin backup mode operation for the tablespace. The option retrieves the tablespace and passes it directly to Arcserve Backup, which sends it to a backup media drive. When the backup is complete, the option instructs Oracle to end the backup mode operation.

More information:

Back Up Online Databases with Arcserve Backup

Back Up Offline Databases with Arcserve Backup

Back Up in an Oracle Fail Safe Environment

Back Up Online Databases with Arcserve Backup

If you back up an Oracle database using the Arcserve Backup interface, you must restore it using the Arcserve Backup interface. Similarly, if you back up an Oracle database using Recovery Manager, you must restore it using Recovery Manager.

To back up an Oracle database

1. Ensure that the Oracle server application is running.

2. Start Arcserve Backup and the option.

3. In the Source tab on the Backup Manager, select the databases that you want to back up. You can select any number of databases in any combination, or all of them together.

   Important! Make sure all of the tablespaces on the database are online before backing up the Oracle database.

   When you back up multiple databases, you are prompted to enter the user name and password for each database. All options that apply to backing up a single online database can be applied to backing up multiple online databases.

   Databases are backed up sequentially on the media.

   Arcserve Backup saves each tablespace (or database object) as a session. Therefore, the total number of sessions equals the total number of tablespaces, plus two additional sessions: one for archive logs for each Oracle database, and the other for the control file.

   Note: If you select ~ARCHIVE LOG, the option backs up all of the archived log files under the archive log directory. If you select the control file, you must select only the control file or select the control file and **all** other tablespaces; otherwise the backup job will fail.

4. Click the Destination tab to select a backup destination.

5. Click the Schedule tab. Choose Custom Schedule or Use Rotation Scheme, and select the scheduling options you want to apply to the job.

6. Click Submit to submit the job.

   The Security and Agent Information dialog opens.

7. Enter security information.

   Note: In the Security and Agent Information dialog, the column and button labeled Agent refer to the Client Agent, not the Enterprise Option for SAP R/3 for Oracle. You can enter client agent information.

See the *Arcserve Backup Client Agents Guide* for more information about Client Agents.

8. Select the Oracle object and click Security.

   You can enter or change the user name and password for the Oracle server application.

9. Click OK.

   The Submit Job dialog opens.

10. Click OK.

   The job is submitted to the queue and can be monitored from the Job Queue Manager.

   Note: For more information about customizing your backup, see the *Administration Guide*.

Back Up Offline Databases with Arcserve Backup

You can back up an offline Oracle database. In this case, Arcserve Backup treats the Oracle database files the same way as it treats any other system files.

To back up an offline Oracle database

1. Start Arcserve Backup and open the Backup Manager.

2. Expand the directories.

3. Select all of the individual data files that make up the Oracle database or select the directories that contain the targeted files.

   Note: Oracle database files can be located anywhere (on any hard disk or in any directory). If you are performing a full offline backup of all your Oracle databases, make sure you select all the Oracle database files located on different drives.

4. Click the Destination tab to select a backup destination.

5. Click the Schedule tab, and select the scheduling options you want to apply to the job.

6. Click Submit to submit the job.

   The Security and Agent Information dialog opens.

   Note: See the *Client Agents Guide* for more information about Client Agents.

7. To enter or change the user name and password for the Oracle server application, select the Oracle object and click Security.

8. Click OK.

   The Submit Job dialog opens.

9. Click OK.

The job is submitted to the queue and can be monitored from the Job Queue Manager.

Back Up in an Oracle Fail Safe Environment

You can back up data in an Oracle Fail Safe environment.

Note: For more information about OFS, see the Oracle documentation.

To back up data in an Oracle Fail Safe environment

1. Verify that the Oracle Fail Safe group is running in your Microsoft Cluster environment.

2. Start Arcserve Backup and open the Backup Manager.

3. On the Source tab, browse the Microsoft Network or the preferred shares to locate the Oracle Fail Safe groups.

   Select the appropriate Oracle server from its Oracle Fail Safe group.
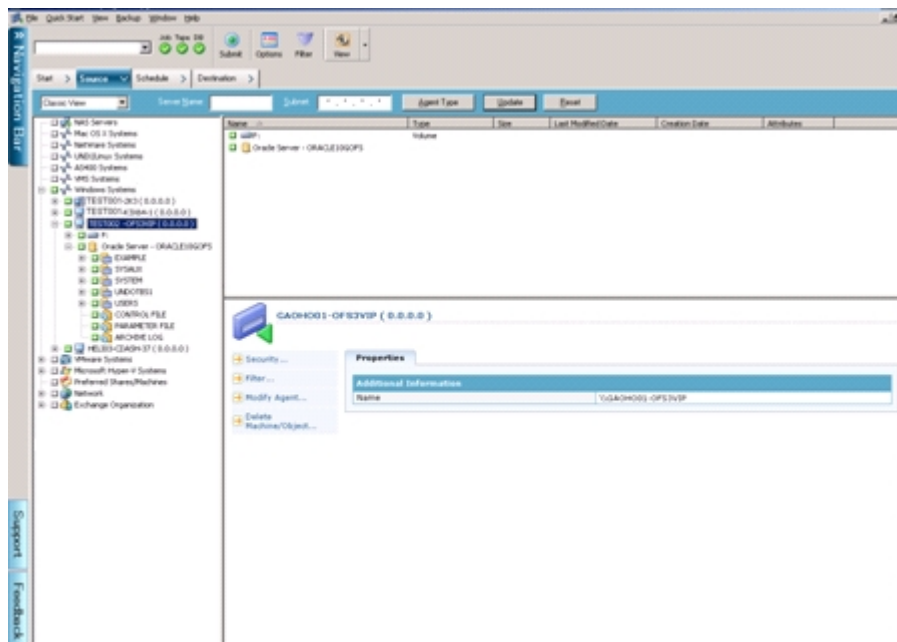
4. To set backup options, select the Source tab and then right-click to select Local Options.

   The Oracle Backup Options dialog opens.

5. On the Agent for Oracle Options dialog, select Back up Oracle database with File-based mode.
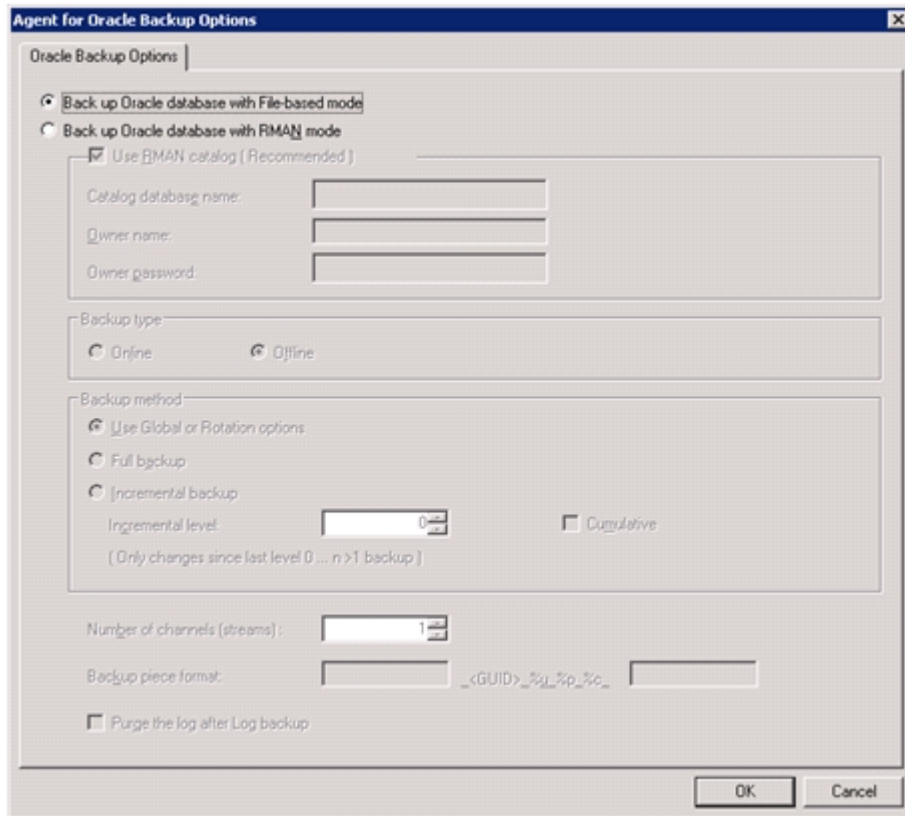
6. Click OK.

7. Double-click the Oracle server to display and select tablespaces for this instance.

8. Click the Destination tab and select a backup destination.

9. Click the Schedule tab and select the scheduling options you want to assign to this backup job.

10. Click Submit.

11. Enter the user name and password of the Oracle Fail Safe group. To enter or change security information for the Oracle Fail Safe group, select the Oracle Fail Safe group and click Security.

12. Click OK.

   The job is submitted.

   Note: Although you can browse all Oracle databases from any Oracle Fail Safe group, you can only achieve a successful backup by selecting the Oracle databases from its corresponding Oracle Fail Safe group. If the node on which the Oracle Fail Safe group is currently running enters failover mode during a backup job, the backup job is incomplete and must be resubmitted.

Oracle Recovery Manager Backup

Before performing any backup or restore operations using RMAN, enable Allow jobs to be submitted directly from the RMAN console option in the Oracle agent Configuration utility.

The media that will contain the backup file must be ready in the media drive connected to the Arcserve Backup server. If not, Arcserve Backup displays a message asking you to mount the correct media.

Note: For more information about the agent for Oracle in File-based mode and RMAN mode, see *Agent for Oracle* guide.

Connect to Recovery Manager and Back Up

You can use the following procedure to backup database objects.

To connect to Recovery Manager at the command line and back up database objects

1. Log in on the computer on which the option is running. Use a user ID with administrator privileges.

2. From the Windows Start button menu, start a command prompt session.

3. Enter the following command:

   rman nocatalog

   The Recovery Manager starts in the command prompt window.

4. Enter the following commands to back up the database instance named test.

   Note: In the following command, the @*instance_name* parameter is required only if you have multiple database instances.

   connect target system/manager@test
   RMAN> run {

   The program provides numbered prompts for each of the following entries:

   2> allocate channel dev1 type 'sbt_tape';
   3> backup database format 'as_%s_%t';
   4> release channel dev1;
   5> }

   The backup begins. The progress of the backup is displayed in the command prompt session. When the backup is complete, you can continue to work with RMAN, or you can exit the command prompt session.

   Here is an example of a command prompt session that is connected to Recovery Manager:

```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>rman nocatalog

Recovery Manager: Release 9.0.1.1.1 - Production

(c) Copyright 2001 Oracle Corporation.  All rights reserved.

RMAN> connect target system/manager

connected to target database: TEST (DBID=1742829507)
using target database controlfile instead of recovery catalog

RMAN> run {
2> allocate channel dev1 type 'sbt_tape' ;
3> backup database format 'as_%s_%t' ;
4> release channel dev1 ;
5> }

allocated channel: dev1
channel dev1: sid=12 devtype=SBT_TAPE
channel dev1: MMS Version 0.0.0.0

Starting backup at 02-NOV-01
channel dev1: starting full datafile backupset
channel dev1: specifying datafile(s) in backupset
including current controlfile in backupset
input datafile fno=00001 name=G:\ORACLE\ORADATA\TEST\SYSTEM01.DBF
input datafile fno=00002 name=G:\ORACLE\ORADATA\TEST\UNDOTBS01.DBF
input datafile fno=00005 name=G:\ORACLE\ORADATA\TEST\EXAMPLE01.DBF
input datafile fno=00006 name=G:\ORACLE\ORADATA\TEST\INDX01.DBF
input datafile fno=00008 name=G:\ORACLE\ORADATA\TEST\USERS01.DBF
input datafile fno=00003 name=G:\ORACLE\ORADATA\TEST\CWMLITE01.DBF
input datafile fno=00004 name=G:\ORACLE\ORADATA\TEST\DRSYS01.DBF
input datafile fno=00007 name=G:\ORACLE\ORADATA\TEST\TOOLS01.DBF
channel dev1: starting piece 1 at 02-NOV-01
channel dev1: finished piece 1 at 02-NOV-01
piece handle=as_1_444743078 comment=API Version 1.1,MMS Version 0.0.0.0
channel dev1: backup set complete, elapsed time: 00:05:48
Finished backup at 02-NOV-01

released channel: dev1
```

After a backup job is done, you can check the job status in the Arcserve Backup activity log, or by viewing the Database Manager.

Database Restore with the Option

This section explains how to restore database objects such as tablespaces, archive log files, and control files. You can recover an individual tablespace or data file (a tablespace is composed of one or more data files).

Note: If the Oracle database is online, you can restore an individual tablespace or data file if the tablespace is offline. If the database is offline, you must recover the entire database in order to recover a tablespace or data file.

The option lets you restore the control files when you restore the database. However, Arcserve Backup backs up the control file only if you select it as a backup source on the Source tab of the Backup Manager. To back up the control file, either select all tablespaces (database objects) **and** the control file or select **only** the control file.

Note: If the current control files and the online redo log files are not damaged, it may not be necessary to overwrite the control files. Keeping the current control files makes the recovery a simpler task.

See the Oracle Server Administrator's Guide for more information about restoring a control file.

Note: The backup sessions you select to restore must have been successfully completed backup jobs. You should not attempt to restore a cancelled or failed backup job.

Best Practices for Restoring Data

The following are best practices that you can use when restoring data:

- To restore the control file, select the ~CONTROLFILE icon. The restore process saves the control file as CONTROL.SIDNAME in the option home directory. You can then use the MS-DOS copy command to copy the restored control file to the appropriate directory.

  Important! You must overwrite all default database control files with the restored one. Use this format: copy CONTROL.ORCL path\ctl1ORCL.ORA

  For example:

  copy CONTROL.ORCL <path>\ctl1ORCL.ORA

  For more information on restoring a control file, see the Oracle Server Administrator's Guide.

- To restore either the system tablespace or a tablespace containing rollback segments, you must shut down the database and perform a full database restore.

- To restore an older session of a tablespace, click Recovery Point and select the session you want to restore. After you have selected, click OK and finish the rest of the restore procedure.

- If your current control files and the archived redo log files are not damaged, you may not want to recover the backed up control files and overwrite the current control files. Keeping the current control files allows you to restore your database to the latest usable version before a crash has occurred.

Restore a Database with Arcserve Backup

You can restore a database using the following procedure.

To restore a database, tablespaces, data files, or control files

1. Shut down the Oracle server application. If you prefer not to shut down the Oracle server application, and you are restoring only a tablespace or data file, take the tablespace offline.

2. Open the Arcserve Backup Restore Manager.

3. In the Restore Manager Restore by Tree view, expand the Oracle server application and select the database or the objects you want to restore.

   Note: You do not need to select a destination—the Oracle database objects are automatically restored to their original locations.

4. Click the Schedule tab and select the scheduling options you want to apply to this job.

5. Click Submit to submit the job.

Restore to an Alternate Server

You can restore to an alternate server using the following procedure.

To restore to a server other than the server from which the backup was created

1. Select the server and the file directory you want to restore.

   Note: This server must be running one of the Windows operating systems required by the option. For a list of operating systems, see Release Notes.

2. Click the Schedule tab and select the scheduling options you want to apply to this job.

3. Click Submit. The Session User Name and Password dialog opens.
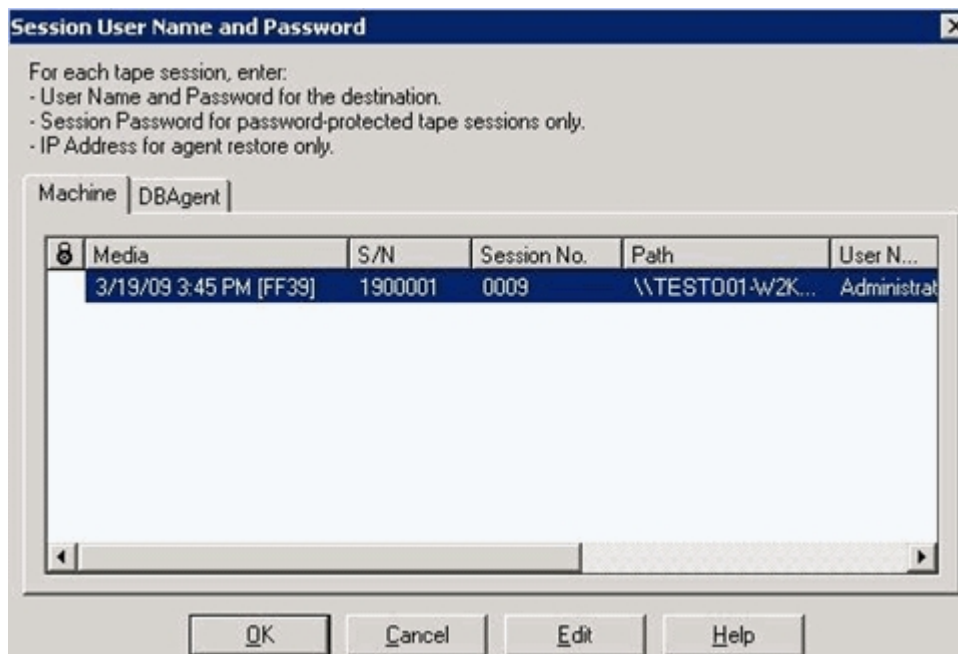
4. To enter or change the user name and password (and the session password) for the computer on which the source Oracle application server is running, select the session and click Edit.

5. Click the DBAgent tab.

   The DBAgent tab opens.
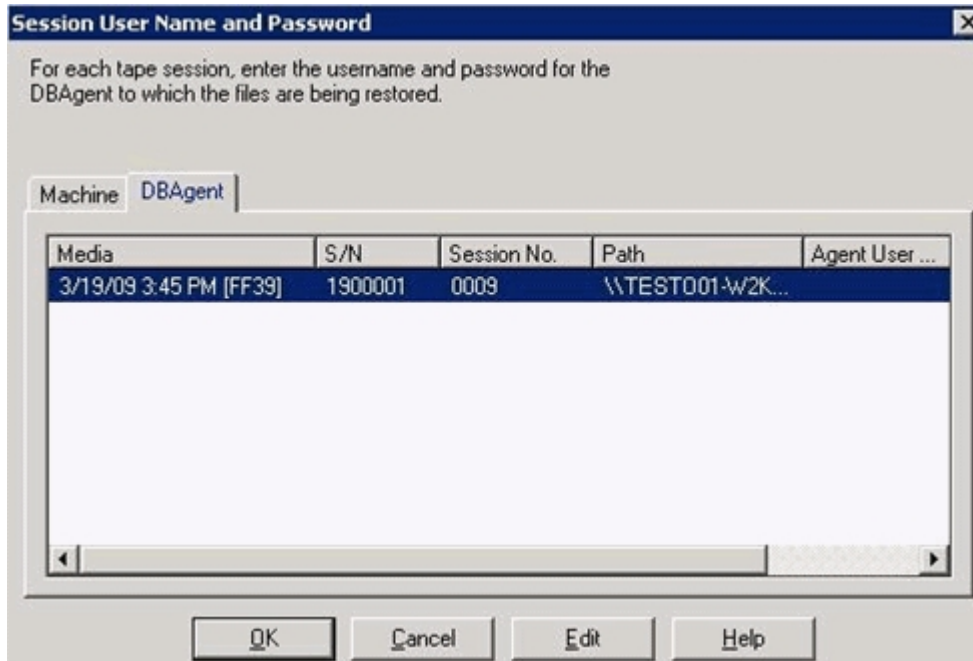
6. Enter the user name and password.

    Note: For Oracle, enter the user name SYSTEM.

7. For any version, the user name can also be any account with SYSDBA equivalent privileges.

8. Click OK.

    The job is submitted to the queue and can be monitored from the Job Queue Manager.

    When the job is completed, the database objects are restored to the selected server. It may be necessary to manually move the Oracle files into the proper locations after the restore is complete.

    If the Oracle database has multiple archived log directories and archived log files that have been restored, to synchronize them, you must copy the restored files to the archived log directories.

    See the following sections for information about recovering the Oracle database. For more information about submitting a restore job, see the *Administration Guide*.

Restore the System Tablespace

You can use the following procedure to restore the system tablespace.

To restore the system tablespace

1. Shut down the database.

2. Open the Restore Manager.

3. On the Source tab, select the Restore by Tree view and select the tablespace you want to restore.

   Note: The Oracle database objects are automatically restored to their original locations. You do not need to select a destination.

4. Click the Schedule tab and select the scheduling options you want to apply to this job.

5. Click Submit.

   The Session User Name and Password dialog opens.

6. To enter or change the user name and password (and the session password) for the machine on which the Oracle server is running, select the session and click Edit.

7. Enter the user name and password:

   ▪ For Oracle, enter the user name SYSTEM.

   ▪ For any version, the user name can also be any account with SYSDBA equivalent privileges.

8. Click OK.

   The job is submitted to the queue and can be monitored from the Job Queue Manager.

Restore Databases Backed Up Offline

To restore an offline backup, shut down the Oracle server application, and restore the Oracle files using Arcserve Backup. You must select all of the files that make up the database; these files may be located on different physical drives or volumes.

Note: The backup you want to restore from must be a backup that was created with the Arcserve Backup Manager. You cannot use the Arcserve Backup interface to restore from a backup that was created with Recovery Manager.

Restore in an Oracle Fail Safe Environment

You can use the following procedure to restore in an Oracle fail safe environment.

To restore in an Oracle Fail Safe environment with Arcserve Backup

1. Open the Arcserve Backup Restore Manager.

2. On the Source tab, select the Restore by Tree or Restore by Session option. Select the source you want to restore and a backup version or sessions for the tablespace.

3. Click the Destination tab and select a destination. You can restore to either the original location or server or an alternate location or server.

    ◆ If you are restoring to the original location, verify that Restore files to their original location(s) is selected.

    ◆ If you are restoring to a specific node in the Oracle Fail Safe group, clear the checkmark next to Restore files to their original location(s) and select the Oracle database from the node to which you want to restore.

4. Click Submit.

    The Session User Name and Password dialog opens.

5. Verify or change the user name and password for the Oracle Fail Safe group tablespace and the Microsoft Cluster Server. To change the user name and password for the Microsoft Cluster Server, select the session and click Edit. If a session password was assigned to this session, enter the session password. Click OK.

    The Job Scheduler dialog opens.

6. Schedule the job to run now or at a later time, and then click OK.

    The job is submitted to the queue and can be monitored from the Job Queue Manager.

Oracle Recovery Manager Restore

Before performing any backup or restore operations with Oracle Recovery Manager (RMAN), enable Allow jobs to be submitted directly from the RMAN console option in the Oracle agent Configuration utility. For more information, see Oracle Recovery Manager Backup.

The media containing the backup file that you are restoring from must be ready in the media drive connected to the Arcserve Backup server. If not, Arcserve Backup displays a message asking you to mount the correct media.

Note: The backup you want to restore from must be a backup that was created with Recovery Manager. You cannot use Recovery Manager to restore from a backup that was created with the Arcserve Backup interface.

Connect to Recovery Manager and Restore

You can use the following procedure to connect to recovery manager.

To connect to Recovery Manager at the command line and restore database objects

1. Log in on the computer on which the option is running. Use a user ID with administrator privileges.

2. From the Windows Start button menu, start a command prompt session.

3. Enter the following command:

   rman nocatalog

   The Recovery Manager starts in the command prompt window, and the command line prompt becomes RMAN>.

4. Enter the following commands to back up the database instance named test.

   Note: In the following command, the @*instance_name* parameter is required only if you have multiple database instances.

   connect target system/manager@test
   RMAN> run {

   The program provides numbered prompts for each of the following entries:

   2> allocate channel dev1 type 'sbt_tape';
   3> restore database;
   4> release channel dev1;
   5> }

   The restore begins and the progress of the restore is displayed in the command prompt session. When the restore is complete, you can continue to work with RMAN, or you can exit the command prompt session.

Restore to a Particular Point in Time

To restore a database or tablespace to a particular point in time, follow the procedures to restore a database or a tablespace and the associated archive log files. For more information, see Restore a Database with Arcserve Backup.

See your *System Administrator Guide* for more information about restoring or recovering the database or tablespace to a particular point in time.

Archive Logs Restore

If both the control files and archive log files have been lost or corrupted, you must select both ~CONTROLFILE and ~ARCHIVE LOG icons as source sessions to be restored.

Database Recovery

After you restore the database objects to the server, you must recover the database. You can recover the database or database objects using one of the following methods:

- Recover a complete database
- Recover a complete database with a backed up control file
- Recover a tablespace or data file
- Recover from an offline full backup

These methods are described in the following sections.

Recover Old Databases

After you have completed a successful restore of a database, you must use the Oracle Server Manager Console to recover the database of the earlier versions.

To recover a database with current control files

1. Start the database instance, and mount the database without opening it.

   Now at the SQL*Plus prompt enter

   CONNECT SYS/SYS_PASSWORD AS SYSDBA;
   STARTUP MOUNT

   Note: You may use a different Oracle SYSDBA instead of SYSTEM if the SYSDBA has the proper backup and restore privileges.

2. Begin the database recovery process by entering the following command at the SQL*Plus prompt:

   RECOVER DATABASE

3. Oracle checks for the archive redo log files it needs to apply and prompts for the names of theses archive redo log files in chronological order.

   For example, if Oracle needs the name of the archive redo log file with a sequence number of 49, the following message displays:

   ORA-00279: Change 10727 generated at 09/15/95 16:33:17 needed for thread 1
   ORA-00289: Suggestion : D:\ORANT|saparch\ARC00049.001
   ORA-00200: Change 10727 for thread 1 is in sequence #49
   Specify log<<RET>=suggested : filename : AUTO : FROM logsource : CANCEL

4. If you have all of the necessary archived log files, enter AUTO to apply the files. Oracle applies the log data to restore the datafiles. After Oracle finishes applying the redo log file, the following message is displayed:

   Applying suggested logfile...
   Log applied.

   After each log is applied, Oracle continues to apply the next redo log file until the recovery is complete.

   Note: If Oracle returns an error indicating that the log file cannot be opened, the log file may not be available. At the prompt, enter CANCEL. This command stops the complete media recovery.

   For more information about recovery and archive redo log files, see the Oracle documentation.

5. Open the database by entering the following command:

ALTER DATABASE OPEN;

The database is now recovered to the last log file available.

Note: For the most reliable database objects recovery, you should back up archived log files using the ~ARCHIVELOG object. For more information on database recovery, see Oracle documentation.

Recover Complete Databases with Backed Up Control Files

You must also use the Oracle Server Manager or Oracle SQL*Plus to perform the recovery procedure.

To recover the complete database

1. Start and mount the database and recover the database. At the SQL*Plus prompt, enter the following commands:

   CONNECT SYS/SYS_PASSWORD AS SYSDBA;
   STARTUP MOUNT;
   RECOVER DATABASE USING BACKUP CONTROLFILE UNTIL CANCEL;

2. You are prompted to enter the log file names.

   Oracle first looks for the archive log files, and automatically supplies the correct names for the files that exist. If it cannot find the necessary archive log files, you must manually apply the online redo logs.

3. Enter the complete path and file name for the online redo logs. If you enter an incorrect log, re-enter the command:

   RECOVER DATABASE USING BACKUP CONTROLFILE UNTIL CANCEL;

   Now enter the correct online redo log file name at the prompt. Continue this procedure until all logs have been successfully applied.

4. To bring the database back online and reset the logs, enter the following command at the SQL*Plus prompt:

   ALTER DATABASE OPEN RESETLOGS;

5. In the directories where the archived redo logs are stored, delete all of the log files.

6. To bring any tablespaces that are still offline back online, enter the following command at the SQL*Plus prompt:

   ALTER TABLESPACE *TABLESPACE_NAME* ONLINE;

Recover Old Tablespaces or Data Files

If the Oracle database is open, you can restore and recover a tablespace by first placing the tablespace offline.

To recover a tablespace or data file

1. Take the tablespace offline by entering the following command at the SQL*Plus prompt:

   ALTER TABLESPACE "tablespace_name" OFFLINE;

   Note: The Oracle server may take the damaged tablespace offline automatically. If that is the case, go to Step 2.

2. Restore the tablespace or data file using Arcserve Backup and the Arcserve Backup Agent for Oracle if you have not done so.

3. Begin the database recovery process:

   ◆ If you are recovering a **tablespace,** enter the following command at the SQL*Plus prompt:

   RECOVER TABLESPACE "tablespace_name";

   ◆ If you are recovering a **data file**, enter the following command at the SQL*Plus prompt:

   RECOVER DATAFILE 'path';

   For example,

   RECOVER DATAFILE 'T\Oracle\Oradata\Orcl\Backup.Ora';

4. Oracle checks for the archive redo log files it needs to apply and prompts for the names of these archive redo log files in chronological order.

   For example, when Oracle needs the name of the archive redo log file with a sequence number of 49, it displays the following message:

   ORA-00279: Change 10727 generated at 09/15/95 16:33:17 needed for thread 1
   ORA-00289: Suggestion : D:\ORANT|saparch\ARC00049.001
   ORA-00200: Change 10727 for thread 1 is in sequence #49
   Specify log<<RET>=suggested : filename : AUTO : FROM logsource : CANCEL

5. If you have all the necessary archived log files, enter AUTO to apply the files. Oracle applies the log data to restore the datafiles. After Oracle finishes applying the redo log file, it displays the following message:

   Applying suggested logfile...
   Log applied.

After each log is applied, Oracle continues to apply the next redo log file until the recovery is complete.

Note: If Oracle returns an error indicating that the log file cannot be opened, the log file may not be available. At the prompt, enter CANCEL. This command stops the complete media recovery. In this case, perform the incomplete media recovery to restore the tablespace again. After all the log files are applied, database recovery is complete. For more information about incomplete media recovery, see the Oracle documentation.

6. Open the database by entering the following command:

ALTER TABLESPACE "tablespace_name" ONLINE;

The tablespace is now recovered to the last available log file.

Note: For the most reliable database objects recovery, you should back up archived log files using the ~ARCHIVELOG object. For more information on database recovery, see the Oracle documentation.

Recover From Offline Full Backups

You can recover an Oracle database from an offline full backup. To recover from an offline backup, shut down the Oracle server application and restore the Oracle files using the Arcserve Backup Restore Manager. You must select all of the files that make up the database.

Note: The backup you want to restore from must be a backup that was created with Backup Manager. You cannot use Restore Manager to restore from a backup that was created with the Recovery Manager interface.

Chapter 4: Using the Option with BR*Tools for Oracle

This section contains the following topics:

BR*Tools

BR*Tools is the program package containing BRBACKUP, BRARCHIVE, and BRRESTORE and other options. BR*Tools 6.40, can be used for all SAP releases based on Oracle. You can use the BR*Tools with the Arcserve Enterprise Option for SAP R/3 for Oracle and perform the backup and restore jobs.

Note: For more information about BR*Tools, see the SAP documentation.

Configure BR*Tools

You must configure the BR*Tools by using the following procedure.

To configure BACKINT interface

1. Configure the BACKINT interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set environment variables. For example:

   set ORACLE_SID=CER
   set ORACLE_HOME=e:\oracle\ora92
   set SAPDATA_HOME=e:\oracle\cer
   set Path=%PATH%;e:\usr\sap\CER\sys\exe\run

   Note: For more information about environment variables, see Environment Variables.

3. Run the necessary BR*Tools command to perform backup and restore jobs.

Profile File

The initialization profile init <ORACLE_SID>.sap contains parameters that decide how the SAP tools perform various functions. You can specify the required settings in the initialization profile. The default initialization profile init<ORACLE_SID>.sap is as follows:

%<ORACLE_HOME>%\database\init< ORACLE_SID >.sap

Environment Variables

Environment variables define parameter values used by the Oracle database and BR*Tools. This section describes the variables used in the Windows operating system.

ORACLE_SID

This variable is the System ID of the database instance.

ORACLE_HOME

This variable is the home directory of the Oracle software. This variable no longer needs to be set. If not set, the SAP tools determine its value from the registry.

SAPDATA_HOME

This variable is the directory of the database files.

Database Backup Using the BR*Tools Command

You can perform the backup and archive jobs using the BR*Tools commands. Some of the command options include the BRBACKUP, BRRESTORE and BRARCHIVE.

- Online Backup of a Complete Database

- Online Backup of Control File

- Offline Backup of Tablespace

- Save Offline Redo Log Files

- Copy and Delete Saved Offline Redo Log Files and Save New Redo Log Files

Online Backup of a Complete Database

Arcserve Backup lets you back up a complete database.

To back up complete database

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Execute the following command:

   brbackup -d util_file -t online -m all [-u <username>/<password>]

```
C:\Documents and Settings\Administrator>BRBackup -d util_file -t online -m PSAPB
TABI -u system/manager
BR0051I BRBACKUP 6.40 (26)
BR0169W Value 'ibs=' of parameter/option 'dd_in_flags' ignored for 'Windows' - '
bs=' assumed
BR0055I Start of database backup: bdyhdruw.pnf 2008-07-04 17.32.26

BR0280I BRBACKUP time stamp: 2008-07-04 17.32.43
BR0319I Control file copy created: e:\oracle\cer\sapbackup\cntrlCER.dbf 3629056

BR0280I BRBACKUP time stamp: 2008-07-04 17.32.45
BR0057I Backup of database: CER
BR0058I BRBACKUP action ID: bdyhdruw
BR0059I BRBACKUP function ID: pnf
BR0110I Backup mode: PARTIAL
BR0060I Tablespace for backup: PSAPBTABI
BR0077I Database file for backup: e:\oracle\cer\sapbackup\cntrlCER.dbf
BR0061I 2 files found for backup, total size 8.469 MB
BR0143I Backup type: online
BR0130I Backup device type: util_file
BR0109I Files will be saved by backup utility
BR0280I BRBACKUP time stamp: 2008-07-04 17.32.45
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRBACKUP:
```

Online Backup of Control File

You can use the following procedure to back up control file.

To backup online control file

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set environment variable.

3. Run the command

   brbackup -d util_file -t online -m 0 [-u <username>/<password>]

Offline Backup of Tablespace

You can perform offline back up of a tablespace using the following procedure.

To perform an offline backup of a tablespace

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Execute the following command:

   brbackup -d util_file -t offline -m <TABLESPACENAME> [-u <username>/<password>]

Save Offline Redo Log Files

You can save and archive the redo log files using the following procedure.

To save offline redo log files

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Execute the following command to save the log files:

   brarchive -d util_file -s [-u <username>/<password>]

```
C:\Documents and Settings\Administrator>BRArchive -d util_file -s -u system/mana
ger
BR0002I BRARCHIVE 6.40 (26)
BR0169W Value 'ibs=' of parameter/option 'dd_in_flags' ignored for 'Windows' - '
bs=' assumed
BR0006I Start of offline redo log processing: adyhdugz.sve 2008-07-04 18.00.13

BR0280I BRARCHIVE time stamp: 2008-07-04 18.00.18
BR0008I Offline redo log processing for database instance: CER
BR0009I BRARCHIVE action ID: adyhdugz
BR0010I BRARCHIVE function ID: sve
BR0048I Archive function: save
BR0011I 63 offline redo log files found for processing, total size 124.935 MB
BR0130I Backup device type: util_file
BR0109I Files will be saved by backup utility
BR0280I BRARCHIVE time stamp: 2008-07-04 18.00.18
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRARCHIVE:
```

Copy and Delete Saved Offline Redo Log Files and Save New Redo Log Files

You can copy and delete saved offline redo log files and save new redo log files using the following procedure.

To copy and delete saved offline redo log files and save new redo log files

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Copy and delete saved offline redo log files and save new redo logs files using the following command.

    brarchive -d util_file -cds [-u <username>/<password>]

Database Restore Using BR*Tool Commands

You can perform restore jobs using the BR*Tools commands and the option.

Note: Ensure you have a copy of the original files as the BRRestore command can delete original files when database is shutdown or when the tablespaces are off-line.

- Restore Complete Database
- Restore Control Files
- Restore Offline Redo Log Files
- Partial Restore to a Different Directory

Restore Complete Database

You can restore all tablespaces without the control file and online redo log files, starting from the last successful backup.

Note: Ensure you have a copy of the original files as the BRRestore command can delete original files when database is shutdown or when the tablespaces are off-line.

To restore complete database

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set environment variable.

3. Run the command.

   brrestore -d util_file -b last -m all [-u <username>/<password>]

```
C:\Documents and Settings\Administrator>BRRestore -d util_file -b last -m PSAPBI
ABI -u system/manager
BR0401I BRRESTORE 6.40 (26)
BR0169W Value 'ibs=' of parameter/option 'dd_in_flags' ignored for 'Windows' - '
bs=' assumed
BR0405I Start of file restore: rdyhdsgv.rsb 2008-07-04 17.37.37

BR0428W File E:\ORACLE\CER\SAPDATA2\BTABI_1\BTABI.DATA1 will be overwritten
BR0280I BRRESTORE time stamp: 2008-07-04 17.37.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2008-07-04 17.37.44
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0457I Probably the database must be recovered due to partial restore

BR0280I BRRESTORE time stamp: 2008-07-04 17.37.44
BR0407I Restore of database: CER
BR0408I BRRESTORE action ID: rdyhdsgv
BR0409I BRRESTORE function ID: rsb
BR0449I Restore mode: partial
BR0410I Tablespace for restore: PSAPBIABI
```

Restore Control Files

Arcserve Backup lets you restore a control file using the following procedure.

Note: Ensure you have a copy of the original files as the BRRestore command can delete original files when database is shutdown or when the tablespaces are off-line.

To restore control files

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Execute the following command.

   brrestore -d util_file -m 0[-u <username>/<password>]

Restore Offline Redo Log Files

You can restore offline redo log files for the log sequence numbers from <log_nr1> to <log_nr2>.

Note: Ensure you have a copy of the original files as the BRRestore command can delete original files when database is shutdown or when the tablespaces are off-line.

To restore offline redo log files

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Execute the following command:

   brrestore -d util_file -a <log_nr1>-<log_nr2> [-u <username>/<password>]

   For example, the following syntax restores offline redo log files contained within log sequence numbers 200 to 220:

   brrestore -d util_file -a 200-220 [-u <username>/<password>]

Partial Restore to a Different Directory

You can perform a partial restore to a different directory from the last backup.

To perform a partial restore to different directory

1. Configure the backint interface using SAP R3 Oracle Option BACKINT Configuration.

2. Set the environment variable.

3. Run the command.

   brrestore -d util_file -b last -m <TABLESPACENAME>=<The whole path of directory> [-u <username>/<password>]

   For example:

   To restore tablespace PSAPDDICD from the last backup to the directory "E:\temp":

   brrestore -d util_file -b last -m PSAPDDICD=E:\temp [-u <username>/<password>]

Using BACKINT Command Line for Querying Backup Information

You can use the BACKINT command line to query backup information.

To query backup information using BACKINT command line

1. Query all backed up information using a BACKINT call. The call requires no further specifications. The input file must contain the entry '#NULL' and optionally the '-o' switch.

   backint -u <SID> -f inquire -t file -p <util_profile> -i <input_file> [-o <output_file>]

   SID: Oracle SID

   util_profile: util file init<SID>.utl path

   input file: the input file which context must contain an entry '#NULL'

   For example:

   backint -u CER -f inquire -t file -p "F:\oracle\product\10.2.0\db_1\database\initcer.utl" -i "c:\input.txt" [-o "c:\output.txt"]

2. Query all backed up information using a BACKINT call. You must specify the backup_id. The input file must contain the entry '<backup_id>' and optionally the '-o' switch.

   backint -u <SID> -f inquire -t file -p <util_profile> -i <input_file> [-o <output_file>]

3. Query all backed up information using a BACKINT call. You must specify a value for file_name. The input file must contain the entry '#NULL <backup_id>' and optionally the '-o' switch.

   backint -u <SID> -f inquire -t file -p <util_profile> -i <input_file> [-o <output_file>]

4. Query all backed up information using a BACKINT call. You must specify a value for backup_id and file_name. The input file must contain values that are similar to '<backup_id_1><file_name_1>', '<backup_id_2><file_name_2>', or both, and optionally the '-o' switch.

   backint -u <SID> -f inquire -t file -p <util_profile> -i <input_file> [-o <output_file>]

Chapter 5: Best Practices

This chapter presents best practices for using the Enterprise Option for SAP R/3 for Oracle to backup and restore Oracle databases managed by SAP R/3 for Oracle.

This section contains the following topics:

Recommended Backup Procedures

We recommend following these backup procedures:

- When a database is initially created, perform a full offline backup of the entire database using Arcserve Backup without the option. This provides copies of all data files, redo log files, and control files of your database.

- Perform an online backup of your Oracle databases.

- Extensively used tablespaces should be backed up frequently to reduce database recovery time.

For more information about Oracle backup and recovery procedures, see the Oracle Server Administrator's Guide.

Backup and Recovery Strategies

Plan your backup and recovery strategies for a database before you create the database, and maintain a regular backup schedule to ensure smooth recovery in case of database or media failure. If such planning is not considered before database creation, database recovery may not be possible in certain cases.

Note: For more information about disaster recovery planning, see Disaster Recovery Scenarios.

When you develop your backup and recovery strategy, consider the following:

- **Full backups**—Full database backups should be performed regularly; it is easier to recover a database from a full backup.

- **Tablespace-level backups**—Recoverable databases allow tablespace-level backups, which can be done online or offline. For an isolated application error, it is easier to restore from a tablespace-level backup image.

- **Online or offline backups**—Offline backups are usually faster, but require exclusive access to the database. Online backups reduce the database downtime; however, they allow other connections to the database while the backup is taking place.

Test Environment

Test your backup and recovery strategy in a test environment before you move to a production system. By thoroughly testing your proposed backup and recovery strategy, you can identify and correct unexpected problems before they occur in a production situation.

Log File Protection

Do not overwrite log files if you archive and retrieve files on the same directory. To protect your archived log files, restore them to a separate retrieval directory.

Backups After Organizational Changes

Initiate a backup each time you take the following actions:

- Rename a tablespace.

- Restore a tablespace that has been renamed, using the new tablespace name.

- Reorganize a table.

- Back up a corresponding tablespace after you reorganize a table.

- Change the tablespace or database configuration.

- Change anything in the configuration or organization of a database or tablespace.

Chapter 6: Troubleshooting

This section contains the following topics:

Debug Methods

When troubleshooting the Enterprise Option for SAP R/3 for Oracle, we recommend that you generate and view a debugging trace file. The following sections describe how to enable debugging for the option, the backup agent integration module (BACKINT), and the Oracle Recovery Manager.

Enable Debugging for the Backup Option Integration Module

The option supports the creation of a debugging log for troubleshooting the backup option integration module (BACKINT). Debugging is disabled by default.

Important! Be very careful when making changes to the Windows Registry. Improper entries can affect the functionality of the product and the operation of your computer.

To enable debugging for the backup option integration module

1. On the Windows Start menu, click Run.

   The Run dialog opens.

2. In the Open field, enter:

   regedit

3. Click OK.

   The Registry Editor window opens.

4. In the tree view pane, expand the following folders to view this registry path:

   SOFTWARE\ComputerAssociates\CA ARCserve Backup
   \DSAgent\CurrentVersion\BACKINT

5. Double-click the debug entry in the Name list.

   The Edit String dialog opens.

6. In the Open field, change the debug value from 0 (debugging disabled) to 1 (debug-ging enabled). By default, the debugging trace file is created in the installed option home directory.

7. Click OK.

8. If you want the debugging trace file to be created in a different directory, follow these steps, otherwise, continue with Step 9.

   ▪ Double-click the traceDir entry in the Name list. The Edit String dialog opens.

   ▪ In the Open field, enter the complete path name for the directory where you want the BACKINT trace file to be created.

   ▪ Click OK.

9. Close the Registry Editor.

   Important! Be sure to set the key entry back to 0 (disabled) when you have finished troubleshooting to prevent the needless consumption of disk space and CPU time by the creation and maintenance of a debugging file.

Job Status Information

When you use the option to back up or restore a database, you can view the status of the job.

To monitor the Job Activity

1. Click the Job Status icon in the Arcserve Backup Quick Start window.

2. After you submit a backup or restore job to Arcserve Backup by the option, you can monitor the status of the job using the Job Status Manager:
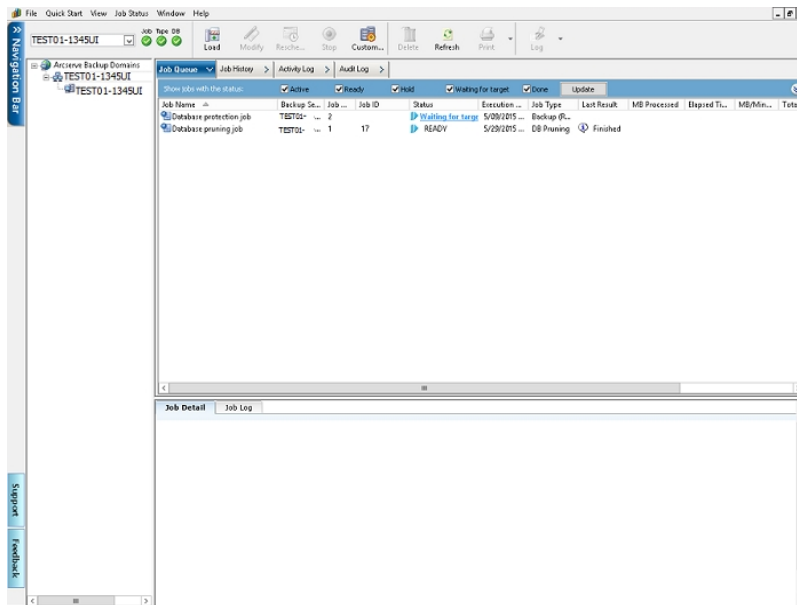
For more information about the Job Status Manager, see the *Administration Guide* and the *Implementation Guide*.

BACKINT Job Status

After a backup or restore job is submitted to Arcserve Backup by BACKINT, you can monitor the status of the job from the Arcserve Backup Job Queue window. The option backup ID is used to identify the backup job in the Job Queue window, and is displayed in the owner field.
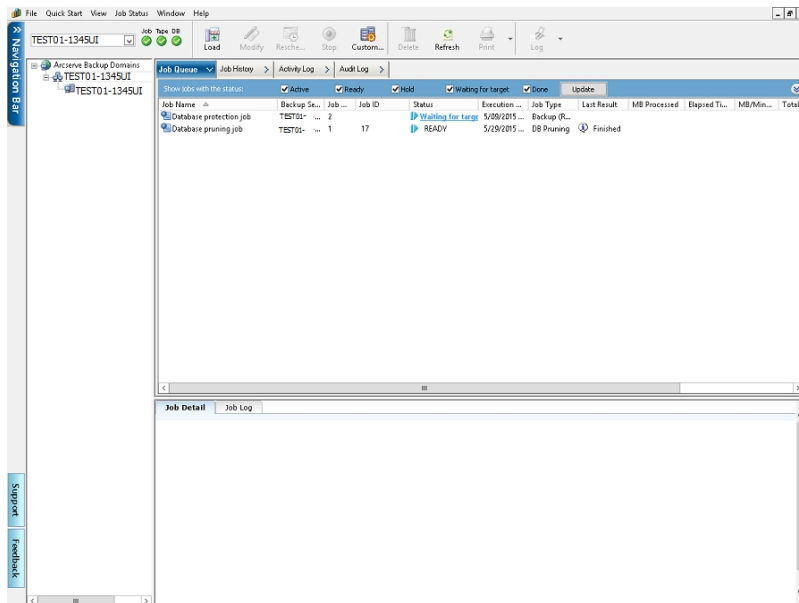
Using RMAN Command to Backup, Restore, and Recover Archived Logs

You can perform the backup, restore and recovery operations for the archived logs using the advanced RMAN command, if you do not want to change the database settings in the RAC environment or unable to map to a computer the network.

However, ensure that you put the archived logs on a shared disk or use multiple archived logs destination or map each computer to the network so that they can access the archived logs on all other computers.

Assuming that there are three computers ORA-RAC1, ORA-RAC2 and ORA-RAC3 in the RAC environment, perform the backup and recovery operations using the advanced RMAN scripts.

To perform backup, restore and recovery processes in RAC environment

1. Open command prompt on ORA-RAC1.

2. Execute the command

   RMAN target sys/oracle@RAC1 catalog <catalog owner name>/<password of owner>@<catalog database>

3. Run RMAN scripts to perform the backup and restore processes.

   - Run the following RMAN script to backup the archived logs.

     RUN

     {

     ALLOCATE CHANNEL C1 D

     EVICE TYPE SBT;

     ALLOCATE CHANNEL C2 DEVICE TYPE SBT CONNECT sys/oracle@RAC2;

     ALLOCATE CHANNEL C3 DEV1 DEVICE TYPE SBT CONNECT sys/oracle@RAC3;

     SQL 'ALTER SYSTEM ARCHIVE LOG CURRENT';

     BACKUP ARCHIVELOG ALL;

     }

   - Run the following RMAN script to restore the archived logs.

     RUN

     {

     ALLOCATE CHANNEL C1 DEVICE TYPE SBT;

     ALLOCATE CHANNEL C2 DEVICE TYPE SBT CONNECT sys/oracle@RAC2;

ALLOCATE CHANNEL C3 DEVICE TYPE SBT CONNECT sys/oracle@RAC3;

RESTORE ARCHIVELOG ALL;

}

OR

RUN

{

ALLOCATE CHANNEL C1 DEVICE TYPE SBT;

ALLOCATE CHANNEL C2 DEVICE TYPE SBT CONNECT sys/oracle@RAC2;

ALLOCATE CHANNEL C3 DEVICE TYPE SBT CONNECT sys/oracle@RAC3;

RESTORE ARCHIVELOG FROM LOGSEQ 1 UNTIL LOGSEQ 10 THREAD 1;

RESTORE ARCHIVELOG FROM LOGSEQ 1 UNTIL LOGSEQ 15 THREAD 2;

RESTORE ARCHIVELOG FROM LOGSEQ 1 UNTIL LOGSEQ 20 THREAD 3;

}

Important! Before running the RMAN command for recovery, you must copy all the Archive Logs from ORA-RAC2 and ORA-RAC3 to the Archive Logs destination of RAC1 on ORA-RAC1.

More information:

Unable to Access Archived Logs in Oracle Cluster Environment

Unable to Access Archived Logs in Oracle Cluster Environment

Symptom

In Oracle cluster environment, after configuring the archive logs on a local disk, the <caab> Agent for Oracle is not accessing the archived logs on other computers in the cluster.

Solution

If you want to access the archived logs on a computer in the network, ensure that you put the logs on a shared disk or map to the network as the Oracle service is running on a local disk.

To map a machine to the network to access archived logs

1. Navigate to link and download psexec.exe utility.

   The utility is downloaded.

2. Open command prompt and go to the directory which contains the psexec.exe utility.

3. Execute the following command:

   psexec.exe -s cmd

4. Then execute the following command to connect to the network:

   net use X: \\ORA-RAC1\C$ /PERSISTENT:YES

   You can now map Y: and Z: drives to the network.

   Note: If you are unable to map to the network, then you can perform the backup, restore and recovery operations using the advanced RMAN commands.

More information:

Using RMAN Command to Backup, Restore, and Recover Archived Logs

ORA-12546: TNS: permission denied

Symptom

I get the error *ORA-12546: TNS:permission denied* when I try logging into Oracle from the <caab> Manager.

Solution

This is a Oracle code defect. This may occur when Oracle version is 9.2.0.1. Apply the Oracle patch set 9.2.0.8.

Chapter 7: Disaster Recovery Scenarios

This section contains the following topics:

Scenarios for Restoring to the Original Windows Server

Assume you have a Windows server running Oracle, and that there are two Oracle database instances on the server: ORCL and ORA. A disaster occurs and it is necessary to rebuild the entire server.

Recovery of your Oracle databases proceeds in two phases, each of which is explained in detail in the following sections:

- Phase 1 - Recover the ORCL database
- Phase 2 - Recover the ORA database

Recover the ORCL Database

You must create an Oracle instance before you start the recovery procedure. Because you had the starter database (ORCL) when reinstalling Oracle, we recommend that you create the instance for ORA.

To recover the ORCL database

1. Reinstall Windows.

2. Install Arcserve Backup if it was on the same server as your Oracle databases.

3. Do **one** of the following:

   ◆ Reinstall Oracle

   ◆ Restore all necessary sessions (files) from media (for example, sessions for Oracle executables, configuration files and registry information)

4. Reinstall the option, and create an Oracle database instance entry for **each** of the instances you intend to restore.

5. Restore the last full backup of ORCL.

   Note: If it is an offline backup, then no further recovery is needed. Proceed to Recover the ORA Database. If it is an online backup, continue with the next step.

6. Check the initorcl.ora file to see if it contains all the necessary settings for the following entries:

   LOG_ARCHIVE_START
   LOG_ARCHIVE_DEST
   LOG_ARCHIVE_FORMAT

7. Copy the restored control file (CONTROL.ORCL) from the option home directory to all necessary directories and rename this file with the appropriate name.

8. Connect to ORCL as user SYSTEM.

9. Mount the database.

10. Enter the following command at the SQL*Plus prompt:

    recover database using backup controlfile until cancel;

11. When the recovery has been completed, enter the following command:

    alter database open resetlogs

    Note: If the database does not open and a message reports on the status of the redo logs, enter the following query at the SQL*Plus prompt:

    select * from v$logfile

This query returns, among other information, the directory structure in which Oracle looks for the redo logs. If the directory structure does not exist, create it. When you have done so, enter the following command again:

alter database open resetlogs

Oracle should open the database and recreate the redo logs.

Important! The following step is very important. DO NOT OMIT IT.

12. Delete all archive logs for ORCL.

    The ORCL database is now fully recovered. You can now proceed to the second phase, recovering the ORA database.

Recover the ORA Database

Use the following procedure to recover the ORA database.

To recover the ORA database

1. Create an instance for the ORA database and start the ORA instance.

2. Make sure the INITORA.ORA file contains all the necessary configuration inform-
   ation, as described in Step 6 of the previous phase. Do one of the following:

   ◆ Restore the latest backup copy of the INITORA.ORA file from media.

   ◆ Recreate this file by using INITORCL.ORA as your template and making all
     the necessary changes to it.

3. Restore the last full backup of ORA.

   Note: If it is an offline backup, then no further recovery is needed. You have now
   completed recovery of your Oracle server.

4. Copy the restored control file (CONTROL.ORA) from the option home directory to
   all necessary directories and rename it with the appropriate name.

5. Connect to the instance you started in Step 1 of this procedure.

6. To mount the ORA database, enter the following command:

   startup mount pfile=DRIVE:\PATH\initORA.ora

7. Enter the following command at the SQL*Plus prompt:

   recover database using backup controlfile until cancel;

8. When the recovery has been completed, enter the following command:

   alter database open resetlogs

   If the database does not open and a message reports on the status of the redo logs,
   enter the following query at the SQL*Plus prompt:

   select * from v$logfile

   This query returns, among other information, the directory structure in which
   Oracle looks for the redo logs. If the directory structure does not exist, create it.
   When you have done so, enter the following command again:

   alter database open resetlogs

   Oracle should open the database and recreate the redo logs.

9. Delete all archive logs for ORA. The ORA database is now fully recovered.

10. (Optional) You can recreate an instance for ORA using the oradim utility (for
    example, oradim.exe). The syntax is:

oradim -new -sid SID -srvc ServiceName -intpwd Password -startmode auto | manual -pfile FullPathToOracleInitSIDFile

11. (Optional) Create the password file if necessary, using the orapwd.exe utility.

Scenarios for Restoring to an Alternate Server

For faster disaster recovery, you may prefer restoring the Oracle database to a different server than the original server. In this section, we present scenarios as examples for restoring to alternate servers:

- Scenario 1 - The alternate server can support the exact directory structures of the original Oracle server.

- Scenario 2 - The alternate server cannot support the exact directory structures of the original Oracle Server. For example, the destination server does not have a volume (such as drive f:) that the original server had.

- Scenario 3 - Restore to an alternate location using the SAP BACKINT agent.

Restore to a Server that Supports Exact Directory Structures

You can restore to an alternate server that can support the exact directory structure, follow these steps:

To restore to a server that supports the exact directory structures

1. Install the option on the target server, and add an additional database instance for the new database that you want to recover.

2. Create an ORACLE instance or PWFILE if necessary.

3. In the Arcserve Backup Restore Manager, clear the Restore to Original Location option.

4. Restore all necessary recovery files (for example, configuration files) to the original location on the target server.

5. Restore the database to the target's temporary directory (the temporary directory is where you would like to keep the files—database files, archive logs, and control files).

6. Move database files and archive logs to their original location on the target server.

7. Copy the restored control file (CONTROL%SID%) to all necessary directories and rename it with the appropriate name.

8. After the database files are restored, you can follow the same steps for recovering the Oracle database as described in Recover the ORCL Database.

Restore to an Alternate Server that Cannot Support Exact Directory Structures

You can restore to an alternate server that cannot support the exact directory structure by following these steps:

To restore to an alternate server that cannot support exact directory structures

1. Install the option on the target server, and add an additional Oracle database instance for the new database that you want to recover.

2. Create an ORACLE instance or PWFILE if necessary, as described in Recover the ORCL Database.

3. In the Arcserve Backup Restore Manager, clear the Restore to original location option.

4. Restore all necessary recovery files (for example, configuration files) to a new location on the target server.

5. Restore the database to the target's temporary directory (the temporary directory is where you would like to keep the files—database files, archive logs, and control files).

6. Move database files and archive logs to their new location on the target server.

7. Edit the INITSID.ORA to reflect your new directory structure. Because the directory structures are different from the original, the control files must be recreated.

8. Start up the instance but do not mount or open the database.

9. Connect to the instance.

10. Execute the following command:

    Startup nomount

11. Issue the create control file command.

    For the exact syntax, see the Oracle Administrators Guide. An example might be:

    create controlfile

    set database TEST

    logfile group 1('e:\oracle\test\redlog1a.ora') size 200K,

    group 2('e:\oracle\test\redlog1b.ora') size 50K

Scenarios for Restoring to an Alternate Server

RESETLOGS

datafile 'e:\oracle\test\systest.ora' size 10M,

'e:\oracle\test\testrollback.dbs' size 2M

maxlogfiles 50

maxlogmembers 3

maxdatafiles 200

maxinstances 6

archivelog;

Note: The user has specified the RESETLOGS and ARCHIVELOG options.

12. Ensure that the control file is copied to all necessary locations and renamed with the appropriate name.

13. Enter the following command:

Recover database using backup controlfile until cancel;

14. When the recovery is complete, enter the following command:

Alter database open resetlogs

This action recreates the redo logs and opens the database. If you get an error, check the previous section.

15. Delete the archive logs.

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Restore Data to an Alternative Server Using the SAP BACKINT Agent

You can restore to an alternate location using the SAP BACKINT agent using the Arcserve Backup server. You must install the Arcserve Backup on Computer A and the SAP options on Computer B and Computer C.

To restore data to an alternate server using the SAP BACKINT agent

1. Install the Arcserve Backup server component on Computer A.

2. Install the Arcserve Backup Enterprise Option for SAP R/3 for Oracle on Computer C.

3. From the Windows Start menu, click Start, All Programs, Arcserve, Arcserve Backup and click SAP R3 Oracle Option BACKINT Configuration on Computer C.

   Enterprise Option for SAP R/3 for Oracle Configuration dialog opens.

4. Enter the Arcserve Backup name as Computer A and other details on the Enterprise Option for SAP R/3 for Oracle Configuration dialog.

5. Install Enterprise Option for SAP R/3 for Oracle and Client Agent on the Computer B.

6. Enter the Backup Server Name as Computer A in the Enterprise Option for SAP R/3 for Oracle Configuration dialog to configure the agent and server.
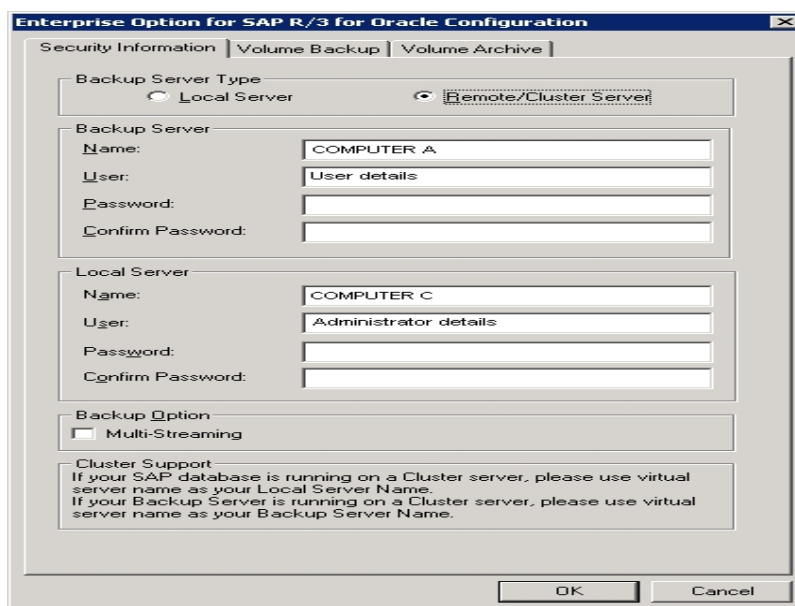
7. Create a temporary folder SAPRestore under the C: Drive on the Computer B.

8. Run brbackup.exe –d util_file –t online –m all on Computer C to back up full database.

   The backup process is complete.

9. Run brarchive -d utl_file -s on Computer C to back up archived logs.

   The archive logs are backed up.

10. You must shutdown the CER database on Computer B.

11. On the Restore Manager on Computer A, select Source, Restore by Session, and select the session, backed up in the step 8, containing the Configuration Files and Backup History Files of the Option.
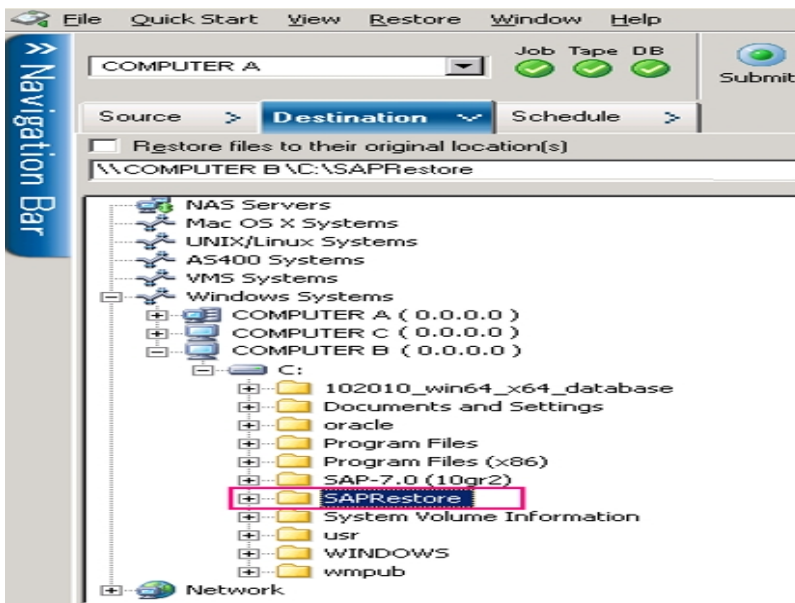
   The files are selected.
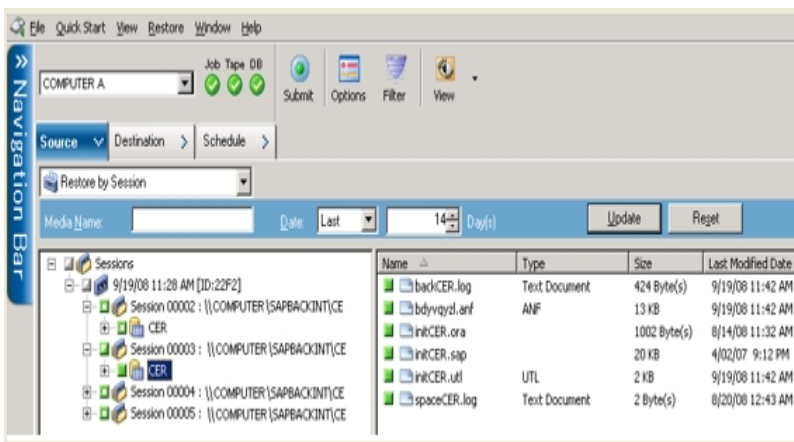
12. Select Destination and clear Restore files to their original location(s) option.
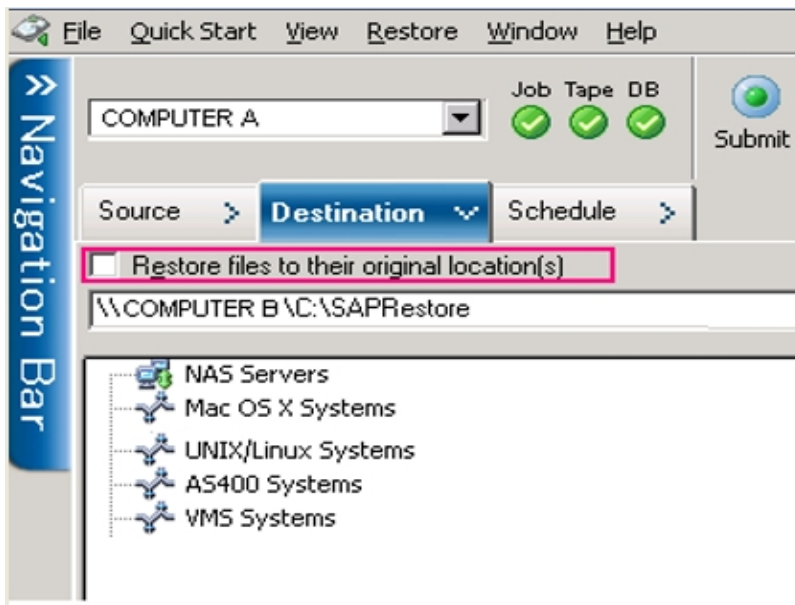
13. Add Computer B under the Windows Systems. Browse the Computer B, and select the temporary folder SAPRestore.

14. Click Submit and start the restore process.

    The restore process is complete.

15. On the Restore Manager on Computer A, select Source, Restore by Session and select the session, backed up in the step 9, containing the Configuration Files and Backup History Files of the Option.

    Select destination and clear Restore files to their original location(s) option.

16. Add Computer B under the node Windows Systems. Browse the Computer B, and select the temporary folder SAPRestore.

17. Click Submit on the toolbar to submit the restore job.

18. Open the temporary folder to view the directory hierarchy. The directory hierarchy has cer as the directory of SAP Software, while product is the directory of Oracle Software and Oracle Home.

19. You must now navigate the directory "C:\SAPRestore\product\10.2.0\db_1\database for the following files:

    - initCER.ora — The init file of Oracle Database CER.

    - initCER.sap — The configuration file of SAP.

    - initCER.util —The configuration of SAP Agent which meets the requirement of SAP BACKINT.

20. Copy all the files except initCER.utl to the folder C:\ product\10.2.0\db_1\database to the Computer B. InitCer.utl is created automatically by BACKINT Configuration option.

21. Navigate the directory C:\SAPRestore\cer\sapbackup for the database backup history files of SAP and copy them to the folder C:\cer\sapbackup, which is the SAP Software on Computer B.

22. Navigate the directory C:\SAPRestore\cer\saparch for the Archived Logs backup history files of SAP and copy them to the folder C:\cer\saparch, which is the SAP Software on Computer B.

23. Navigate the directory C:\SAPRestore\cer\sapreorg and copy the spaceCer.log file to the folder C:\cer\sapreorg, which is the SAP Software on the Computer B.

24. On Computer B, run brrestore -d util_file -b last -m 0 to restore the Control File.

    The Control file is restored.

25. On Computer B, execute the brrestore.exe –d util_file –b last –m all to restore the Control File.

    The Control file is restored.

26. On Computer B, execute the brrestore.exe –d util_file –a 1-152 to restore the Archived Logs. The Sequence number (1-152) depends on what it generated when back up.

    The archive logs are restored.

27. Log into the Database on the Computer B and start up the database to mount and recover it.

28. Verify if the data is the same as the one on Computer C to complete the restore process.

Chapter 8: Sample util_par_file and Parameter Definitions

This section contains the following topics:

Description for a Sample Backup Option Integration Module (BACKINT)

This appendix provides descriptions for a sample backup option integration module (BACKINT) parameter file util _par_file. You can find the file in the $ORACLE_ HOME\database directory.

- Sample file
- Parameter Definitions

Sample File

-- par_file (initOR2.utl)---
##
This is the parameter file of BACKINT for Arcserve Backup containing parameters that determine the backup procedure.#
BACKINT reads this file and submits a job to the Arcserve Backup queue for execution.
#
#Instructions for filling out each line start with a pound sign (#) and precede the actual information line that the user needs to fill in.#
##
Tape Name that Arcserve Backup should use for the backup (eg. tape0, tape1,.., or '*')
DESTTAPE=*
Group Name that Arcserve Backup should use for the backup (eg. GROUP0, GROUP1,.., or '*')
DESTGROUP=*
First Tape Option that Arcserve Backup should use for the backup (eg. APPEND or OVERWRITE)
APPEND: Append job sessions to the selected tape
OVERWRITE: Overwrite any tape found in the drive only for the first BACKINT call
TAPEMETHOD=APPEND
volumes for brarchive/brbackup
[volume_name | volume_name_list | SCRATCH]
no default
volume_archive_line = 2
volume_archive1 = XXLA01, XXLA02, XXLA03, XXLA04, XXLA05
volume_archive2 = XXLA06, XXLA07, XXLA08, XXLA09, XXLA10
volume_backup_line = 2
volume_backup1 = XXLB01, XXLB02, XXLB03, XXLB04, XXLB05
volume_backup2 = XXLB06, XXLB07, XXLB08, XXLB09, XXLB10
expiration period for backup volumes in days
default: 0
expir_period = 30
##
Login information for communication with Arcserve Backup on remote server
##
[Remote]
REMOTE_FLAG = 0
LOCAL_COMPUTER_NAME=Local_Server
LOCAL_USER_NAME=Local_User
LOCAL_PASSWORD=t
REMOTE_COMPUTER_NAME=Remote_Arcserve Backup_Server
REMOTE_USER_NAME=Remote_Arcserve Backup_User
REMOTE_PASSWORD=t

```
############################################################
Automatic Volume Management for brbackup
############################################################
[Volume Brbackup]
DESTGROUP=*
DESTTAPE=*
TAPEMETHOD=APPEND
VOLUME_BACKUP_LINE=0
EXPIR_PERIOD=0
############################################################
Automatic Volume Management for brarchive
############################################################
[Volume Brarchive]
DESTGROUP=*
DESTTAPE=*
TAPEMETHOD=APPEND
VOLUME_ARCHIVE_LINE=0
EXPIR_PERIOD=0
[Internal]
first_call_tape_name=none
first_call_group_name=none
```

Parameter Definitions

The util_par_file configuration file is divided into several sections. The parameters for each section are described in the following sections of this guide.

- Remote Section
- Volume Brbackup Section
- Volume Brarchive Section
- Internal Section

Remote Section

This section stores the Windows security information for the local server so it can communicate with Arcserve Backup on a remote server.

[Remote]
REMOTE_FLAG=Arcserve Backup type
LOCAL_COMPUTER_NAME=Local server name
LOCAL_USER_NAME=Local user name
LOCAL_PASSWORD=Local user password
REMOTE_COMPUTER_NAME=Remote Arcserve Backup server name
REMOTE_USER_NAME=Remote Arcserve Backup server user name
REMOTE_PASSWORD=Remote Arcserve Backup server user password

For example, if BACKINT integrates with Arcserve Backup running on a remote server, you must set the REMOTE_FLAG=1, in addition to specifying the other Windows security information. If BACKINT uses local Arcserve Backup, set REMOTE_FLAG=0, and do not set the other Windows security information.

Volume Brbackup Section

This section stores automatic volume management settings for BRBACKUP.

[Volume Brbackup]
DESTGROUP=Arcserve Backup *device group name*
DESTTAPE=*tape name*

For example, if you use TAPE1 in GROUP0 for backup, set:

DESTGROUP=GROUP0
DESTTAPE=TAPE1

If you use any available group or tape for backup, set:

DESTGROUP=*
DESTTAPE=*
TAPEMETHOD=APPEND|OVERWRITE

The TAPEMETHOD can specify either APPEND or OVERWRITE. APPEND specifies that Arcserve Backup appends job sessions to the selected tape; OVERWRITE specifies that Arcserve Backup overwrites the selected tape for the first BACKINT call.

VOLUME_BACKUP_LINE=*number of lines*
VOLUME_BACKUPN=*tape names*

For example, if BRBACKUP uses TAPE1, TAPE2, TAPE3, TAPE4, TAPE5, TAPE6, TAPE7, TAPE8, TAPE9, and TAPE10 for backup sequentially, these lines should be:

VOLUME_BACKUP_LINE=2
VOLUME_BACKUP1=TAPE1, TAPE2, TAPE3, TAPE4, TAPE5
VOLUME_BACKUP2=TAPE6, TAPE7, TAPE8, TAPE9, TAPE10
EXPIR_PERIOD=*retention period in days*

Use the EXPIR_PERIOD parameter to define the number of days you want to prevent a tape from being overwritten.

For example, if you specify 10 days, BACKINT protects the tape from being overwritten for 10 days. This line should be:

EXPIR_PERIOD=10

For more information about the automatic volume management, see BCSAP Database Administrator: ORACLE.

Volume Brarchive Section

This section stores automatic volume management settings for BRARCHIVE.

[Volume Brarchive]
DESTGROUP=Arcserve Backup device group name
DESTTAPE=*tape name*
TAPEMETHOD=*first tape option*
VOLUME_ARCHIVE_LINE=*number of lines*
VOLUME_ARCHIVEN=*tape names*
EXPIR_PERIOD=*retention period in days*

The definitions in this section are the same as those in the previous section.

Internal Section

This section contains no user-configurable settings. Do not delete or modify this section.

Chapter 9: Glossary

This section contains the following topics:

ACL

An ACL (Access Control List) lets you identify the specific Arcserve Backup servers permitted to back up the Oracle database.

Agent Admin interface

The Agent Admin interface is a component of the Arcserve Backup Client Agent for Windows and is used (in addition to other tasks) to create Access Control Lists (ACLs). ACLs allow you to identify the specific remote Arcserve Backup servers permitted to back up the Oracle database.

Backup option integration module

The backup option integration module is the option interface for Oracle databases. The backup option integration module links Arcserve Backup to SAPDBA or BR* Tools.

disaster recovery

Disaster recovery is a backup and recovery process used to protect computing environments against the loss of data caused by a catastrophic events or natural disasters.

GL_Arcserve Universal Agent

The Arcserve Universal Agent is a Windows service that lets the agent support remote backups and restores of the Oracle database.

offline backup

An offline backup is a backup that is run while the database is offline. This type of backup is usually faster, but does require exclusive access to the database.

online backup

An online backup is a backup that is run on a database that is online. Online backups reduce database downtime, but still allow other connections to the database while the backup is occurring.

RMAN

RMAN (Oracle Recovery Manager) is an Oracle utility for backing up, restoring, and recovering Oracle databases. During installation of Arcserve Backup, you have the option of installing support for RMAN so you can submit backup and restore jobs to Arcserve Backup by connecting to RMAN using either the command line or the Oracle Backup Manager user interface.

tablespace-level backup

Rather than backing up a complete database, you can back up individual database objects, such as tablespaces. A tablespace-level backup is a backup on either the Oracle system tablespace or a tablespace containing rollback segments.

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