

# Administration Guide - SAP for Oracle iDataAgent

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- Selective Online Full Backup
- SnapProtect Backup
- Command Line Support
- Backup and Recovery Failovers
- Efficient Job Management and Reporting
- Block Level Deduplication

### Terminology

## INTRODUCTION

Calypso software provides a simplified end-to-end data protection for large scale SAP environments. It helps deliver a robust and comprehensive backup and recovery with significant speed performance and efficient use of disk and tape drives. It also assists you in full system rebuilds and eliminates recovery failures.

## KEY FEATURES

The SAP iDataAgents offers the following key features:

### FULL RANGE OF BACKUP AND RECOVERY OPTIONS

The SAP agents provide the flexibility to backup the SAP for Oracle database in different environments. This is very essential since SAP data is always subject to constant changes.

You can perform a full or incremental backup of the entire database or individual data files/ table spaces, or archive logs at any point of time. The following section describes the backups that can be performed in different environments.

#### OFFLINE BACKUP

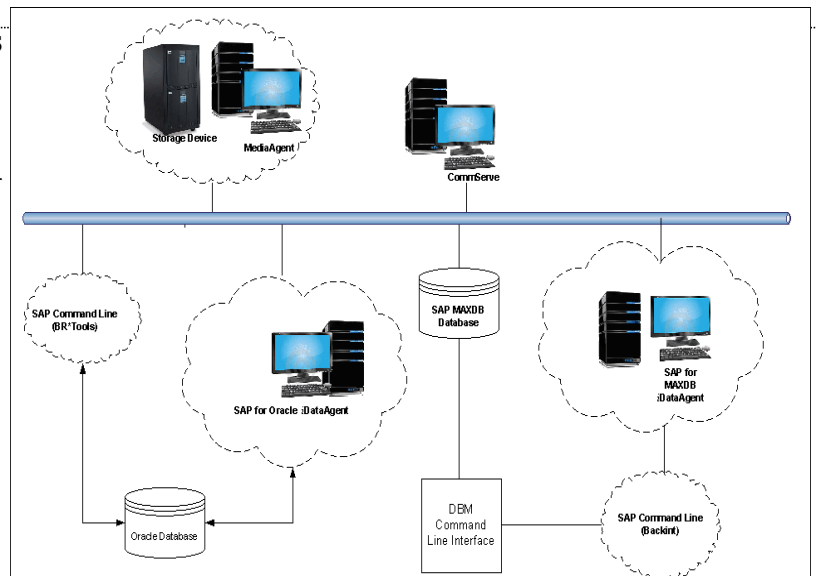
When the database is shutdown and not available for use, you can perform a full backup of the database without the logs. This is especially used when the data is consistent and there are no transactions in the database.

#### ONLINE BACKUP

In cases, when you cannot bring down the database to perform an offline backup, you can use the online backup method. Here, you can perform full or incremental backups when the database is online and in ARCHIVELOG mode. This is very useful when you want to perform a point-in-time restore of the database.

You also have the facility the backup only the archive logs when the database is online. These logs can be applied to an online backup to recover the database to the current point-in-time.

You can also protect the non-database files and profiles using the appropriate File System iDataAgent.



### SELECTIVE ONLINE FULL BACKUP

This iDataAgent allows you to backup and store copies of valid data from a source copy of a specific storage policy to all or one active secondary copy within a storage policy providing for a better tape rotation. An online full backup job is copied to a selective copy, if the full backup job cycle completes successfully thereby allowing you to select, store and protect your valuable data on a secondary copy for future restores in a more viable and economic mode.

### SNAPPROTECT BACKUP

SAP for Oracle iDataAgent works in conjunction with hardware snapshot engines to create a point-in-time snapshot of the data to be used for various data protection operations. This is an efficient way of backing up live data and it facilitates frequent point-in-time backups and faster recovery time.

### COMMAND LINE SUPPORT

Data protection and recovery operations can be initiated from the SAP command line as per SAP requirements. The iDataAgent is fully integrated with the

Oracle database using BRTOOLS and with the SAP MAXDB database through DBM CLI, a database management tool provided by SAP and supports backup and restore operations of database and parameter files using BACKINT interface from SAP Command Line.

In addition to SAP command line, you can also perform data protection and recovery operations from the command line interface using qcommands. You also have the facility to save the operations as a script file and execute them from the command line at a later point of time.

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## BACKUP AND RECOVERY FAILOVERS

In the event that a MediaAgent used for the backup or recovery operation fails, it is automatically resumed on alternate MediaAgents. In such cases, the backup or restore job will not restart from the beginning, but will resume from the point of failure. This is especially useful for backups and restores on large SAP databases.

In the event, that a network goes down, the backup and recovery jobs are resumed on alternate data paths. Similarly, in the event of a device failure, the jobs are automatically switched to alternate disk and tape drives.

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## EFFICIENT JOB MANAGEMENT AND REPORTING

You can view and verify the status of SAP backup and recovery operations from the Job Controller and Event Viewer windows within the CommCell Console. You can also track the status of the jobs using Reports, which can be saved and easily distributed. Reports can be generated for different aspects of data management. You also have the flexibility to customize the reports to display only the required data and save them to any specified location in different formats. For example, you can create a backup job summary report to view at-a-glance the completed backup jobs. Y

In addition, you can also schedule these reports to be generated and send them on email without user intervention.

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## BLOCK LEVEL DEDUPLICATION

Deduplication provides a smarter way of storing data by identifying and eliminating the duplicate items in a data protection operation.

Deduplication at the data block level compares blocks of data against each other. If an object (file, database, etc.) contains blocks of data that are identical to each other, then block level deduplication eliminates storing the redundant data and reduces the size of the object in storage. This way dramatically reduces the backup data copies on both the disk and tapes.

## TERMINOLOGY

The SAP documentation uses the following terminology:

<b>CLIENT</b>	The computer in which the iDataAgent is installed and contains the data to be secured.
<b>INSTANCE</b>	The SAP for Oracle database to be used for the backup and restore operations.
<b>SUBCLIENT</b>	The SAP data to be backed up.
<b>DBM CLI</b>	DBM CLI (DBM Command Line Interface) is a Database Management Tool supplied with every SAP MAXDB that is used to perform backup and restore operations.
<b>BACKINT</b>	Backint is an interface program that allows DBM CLI to communicate with SAP MAXDB using streams/pipes to perform backup and restore operations.

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# System Requirements - SAP for Oracle iDataAgent

System Requirements | Supported Features

The following requirements are for the SAP for Oracle iDataAgent:

APPLICATION/OPERATING SYSTEM		PROCESSOR
<b>SAP BR*TOOLS 7.0, 7.1, 7.2 AND 7.4 FOR ORACLE 10G/11G (R1, R2 OR HIGHER) DATABASES ON:</b>		
<b>AIX</b>	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3	Power PC (Includes IBM System p)
<b>HP-UX</b>	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v2 (11.23)	PA-RISC
	HP-UX 11i v2 (11.23)	Itanium
<b>LINUX</b>	<b>RED HAT ENTERPRISE LINUX/CENTOS</b>	
	Red Hat Enterprise Linux/CentOS 6.x with glibc 2.12.x	Intel Pentium, Itanium, x64, Power PC (Includes IBM System p) or compatible processors
	Red Hat Enterprise Linux/CentOS 5.x with glibc 2.5.x	Intel Pentium, Itanium, x64, Power PC (Includes IBM System p) or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x with a minimum of glibc 2.3.4	Intel Pentium, Itanium, x64, Power PC (Includes IBM System p) or compatible processors
	<b>SUSE LINUX (SLES)</b>	
	SuSE Linux 11.x with glibc 2.9.x and above	Intel Pentium, Itanium, x64, Power PC (Includes IBM System p) or compatible processors
SuSE Linux 10.x with glibc 2.4.x	Intel Pentium, Itanium, x64, Power PC (Includes IBM System p) or compatible processors	
<b>SOLARIS</b>	Solaris 11.x	x64, Sparc5 (or higher recommended)
	Solaris 10.x	x64, Sparc5 (or higher recommended)
<b>WINDOWS</b>	<b>WINDOWS 2008</b>	
	Microsoft Windows Server 2008 Editions with a minimum of Service Pack 1* *Core Editions not supported	All Windows-compatible processors supported
<b>WINDOWS</b>	<b>WINDOWS 2003</b>	
	Microsoft Windows Server 2003 Editions with a minimum of Service Pack 1	All Windows-compatible processors supported

## CLUSTER - SUPPORT

The software can be installed on a Cluster if clustering is supported by the above-mentioned operating systems.

For information on supported cluster types, see Clustering - Support.

## HARD DRIVE

### WINDOWS

112 MB minimum of hard disk space for software/ 498 MB recommended

50 MB of additional hard disk space for log file growth

725 MB of temp space required for install or upgrade (where the temp folder resides)

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**UNIX**

230 MB minimum of hard disk space for software

**MEMORY**

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**WINDOWS**

32 MB RAM minimum required beyond the requirements of the operating system and running applications

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**HP-UX**

16 MB RAM minimum required beyond the requirements of the operating system and running applications

Swap space = 2\*RAM size

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**SOLARIS**

64 MB RAM per stream/drive minimum required beyond the requirements of the operating system and running applications

Swap space = 2\*RAM size

**SOLARIS ZONES/CONTAINERS SUPPORT**

Data Protection of data residing on global and non-global zones is supported.

For a comprehensive list of supported components, see Unix Virtualization.

**AIX LPAR/WPAR SUPPORT**

Data protection on Logical Partitioning (LPAR) and Workload Partitioning (WPAR) is supported.

**PERIPHERALS**

DVD-ROM drive

Network Interface Card

**MISCELLANEOUS**

The File System iDataAgent will be automatically installed during installation of this software, if it is not already installed. For System Requirements and install information specific to the File System iDataAgents, refer to:

- System Requirements - Microsoft Windows File System iDataAgent
- System Requirements - AIX File System iDataAgent
- System Requirements - HP-UX File System iDataAgent
- System Requirements - Linux File System iDataAgent
- System Requirements - Solaris File System iDataAgent

On Solaris computers, the operating system must have been installed with at least the `user_level software` option selected.

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**NETWORK**

TCP/IP Services configured on the computer.

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**SELINUX**

If you have SELinux enabled on the client computer, create the SELinux policy module as a root user before performing a backup. The SELinux Development package must be installed on the client.

To create an SELinux policy module, perform the following steps as user "root":

1. Create the following files in the `/usr/share/selinux/devel` directory:

File Name	Content of the File
<code>&lt;directory&gt;/&lt;file_name&gt;.te</code> where: <code>&lt;directory&gt;</code> is <code>/usr/share/selinux/devel</code> <code>&lt;file_name&gt;</code> is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file.	The content of the file should be as follows: <code>policy_module(&lt;name&gt;,&lt;version&gt;)</code> <code>#####</code> where: <code>&lt;name&gt;</code> is the name of the policy module. You can give any unique name to the policy module,

<p>For example: When you are creating a policy module for backup_IDA application, you can use the following file name: backup_IDA.te</p>	<p>such as a process or application name.</p> <p>&lt;version&gt; is the version of the policy module. It can be any number, such as 1.0.0.</p> <p>For Example: While creating a policy module for the backup_IDA application, you can use the following content.</p> <pre>policy_module(backup_IDA,1.0.0)</pre>
<p>&lt;directory&gt;/&lt;file_name&gt;.fc</p> <p>where:</p> <p>&lt;directory&gt; is /usr/share/selinux/devel</p> <p>&lt;file_name&gt; is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file.</p> <p>For example: When you are creating a policy module for backup_IDA application, you can use the following file name: backup_IDA.fc</p>	<p>The content of the file should be as follows:</p> <p>Note that the following list of files is not exhaustive. If the process fails to launch, check /var/log/messages. Also, if required, add it to the following list of files.</p> <pre>/opt/&lt;software installation directory&gt;/Base/libCTreeWrapper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libCVMAGuiImplgso -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libdb2locale.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libdb2osse.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libDb2Sbt.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libdb2trcapi.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libDrDatabase.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libIndexing.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/&lt;software installation directory&gt;/Base/libSnooper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)</pre>

2. Create the policy file from command line. Use the following command. Ensure that you give the following commands in the /usr/share/selinux/devel directory.

```
[root]# make backup_IDA.pp
Compiling targeted backup_IDA module
/usr/bin/checkmodule: loading policy configuration from tmp/backup_IDA.tmp
/usr/bin/checkmodule: policy configuration loaded
/usr/bin/checkmodule: writing binary representation (version 6) to tmp/backup_IDA.mod
Creating targeted backup_IDA.pp policy package
rm tmp/backup_IDA.mod tmp/backup_IDA.mod.fc
[root]# semodule -i backup_IDA.pp
[root]#
```

3. Execute the policy module. Use the following command:

```
[root]# restorecon -R /opt/<software installation directory>
```

SELinux is now configured to work with this application.

#### DISCLAIMER

Minor revisions and/or service packs that are released by application and operating system vendors are supported by our software but may not be individually listed in our System Requirements. We will provide information on any known caveat for the revisions and/or service packs. In some cases, these revisions and/or service packs affect the working of our software. Changes to the behavior of our software resulting from an application or operating system revision/service pack may be beyond our control. The older releases of our software may not support the platforms supported in the current release. However, we will make every effort to correct the behavior in the current or future releases when necessary. Please contact your Software Provider for any problem with a specific application or operating system.

Additional considerations regarding minimum requirements and End of Life policies from application and operating system vendors are also applicable



# Getting Started - Deploying on Windows



The SAP for Oracle iDataAgent is used to protect SAP for Oracle databases. Follow the steps given below to install the SAP for Oracle iDataAgent.

## INSTALLATION

The software can be installed using one of the following methods:

### METHOD 1: INTERACTIVE INSTALL

Use this procedure to install directly on a client computer.

### METHOD 2: INSTALL SOFTWARE FROM COMMCCELL CONSOLE

Use this procedure to remotely install the on a client computer.

## METHOD 1: INTERACTIVE INSTALL

1. Run **Setup.exe** from the **Software Installation Disc** on Windows client computer where the SAP application resides.
2. Select the required language.  
Click **Next**.

3. Select the option to install software on this computer.  
The options that appear on this screen depend on the computer in which the software is being installed.

4. Select **I accept the terms in the license agreement**.  
Click **Next**.

5. Expand **Client Modules | Backup & Recovery | Database** and select **SAP for Oracle**.  
Click **Next**.

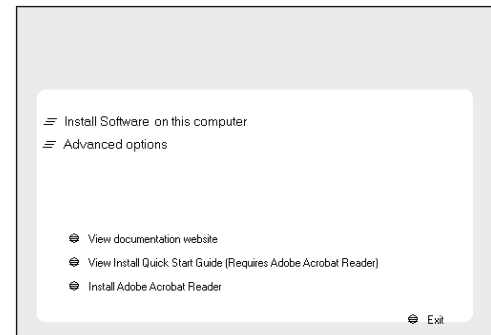
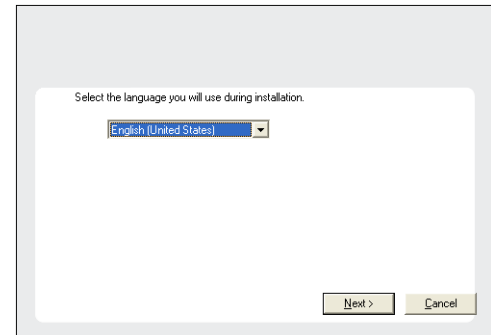
## BEFORE YOU BEGIN

### Download Software Packages

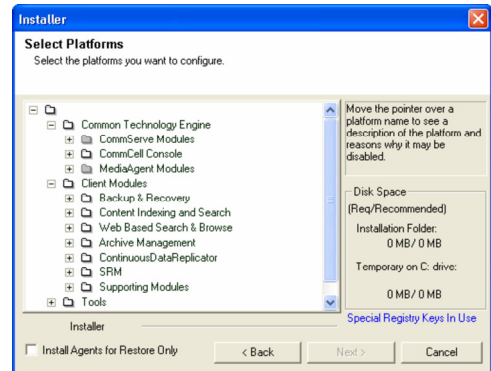
Download the latest software package to perform the install.

### System Requirements

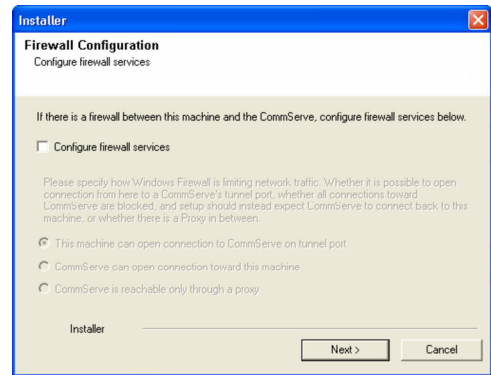
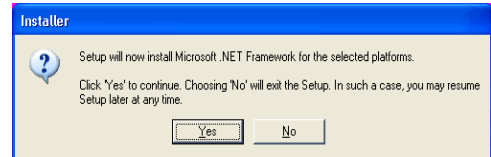
Verify that the computer in which you wish to install the software satisfies the System Requirements.



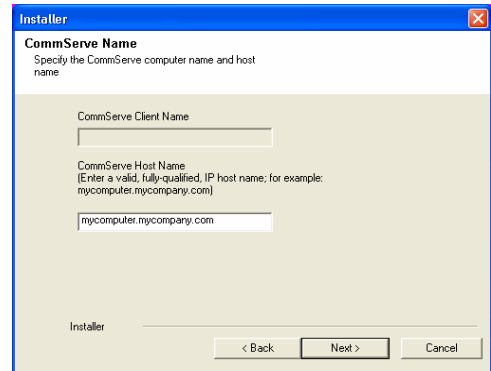
6. Click **YES** to install Microsoft .NET Framework package.
  - This prompt is displayed only when Microsoft .NET Framework is not installed.
  - Once the Microsoft .NET Framework is installed, the software automatically installs the Microsoft Visual J# 2.0 and Visual C++ redistributable packages.
7. If this computer and the CommServe is separated by a firewall, select the **Configure firewall services** option and then click **Next**.  
 For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.  
 If firewall configuration is not required, click **Next**.



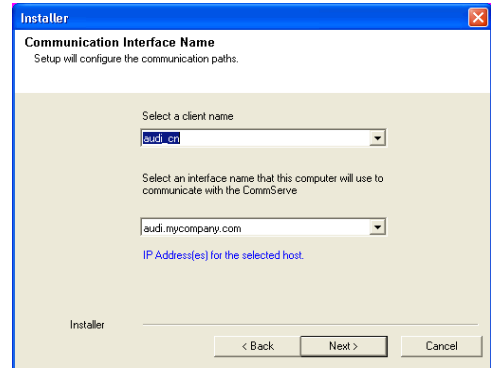
8. Enter the fully qualified domain name of the **CommServe Host Name**.  
 Click **Next**.  
 Do not use space and the following characters when specifying a new name for the CommServe Host Name:  
`\ | ` ~ ! @ # $ % ^ & * ( ) + = < > / ? , [ ] { } ; : ; " ' " "`



9. Click **Next**.



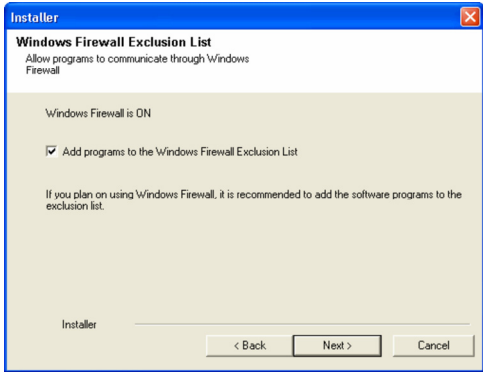
10. Select **Add programs to the Windows Firewall Exclusion List**, to add CommCell programs and services to the Windows Firewall Exclusion List.



Click **Next**.

This option enables CommCell operations across Windows firewall by adding CommCell programs and services to Windows firewall exclusion list.

It is recommended to select this option even if Windows firewall is disabled. This will allow the CommCell programs and services to function if the Windows firewall is enabled at a later time.



11. Verify the default location for software installation.

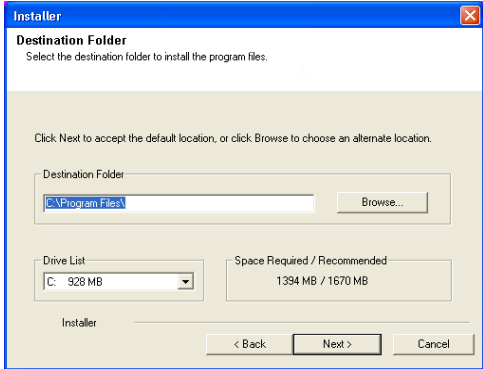
Click **Browse** to change the default location.

Click **Next**.

- Do not install the software to a mapped network drive.
- Do not use the following characters when specifying the destination path:

/ : \* ? " < > | #

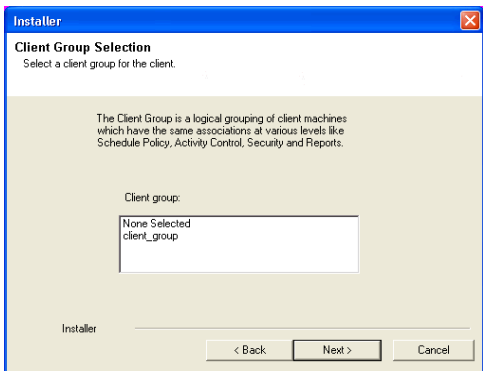
It is recommended that you use alphanumeric characters only.



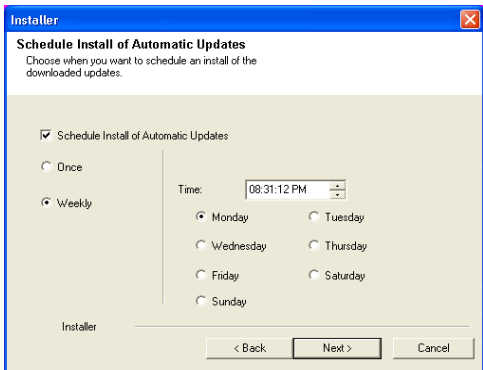
12. Select a Client Group from the list.

Click **Next**.

This screen will be displayed if Client Groups are configured in the CommCell Console.



13. Click **Next**.



14. Click **Next**.

15. Select a **Storage Policy**.  
Click **Next**.

If you do not have Storage Policy created, this message will be displayed.

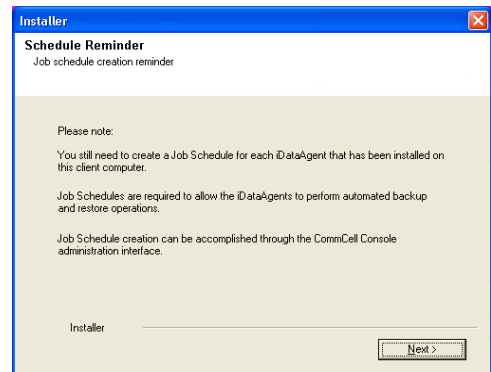
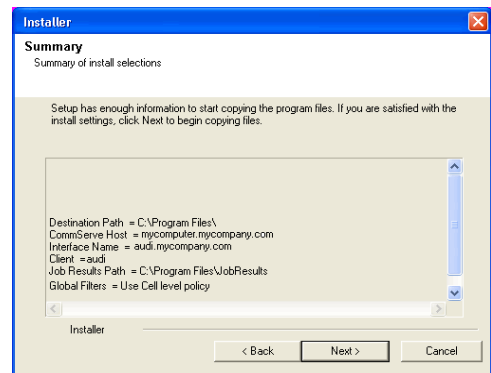
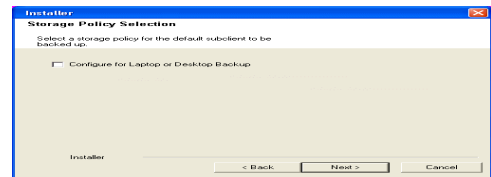
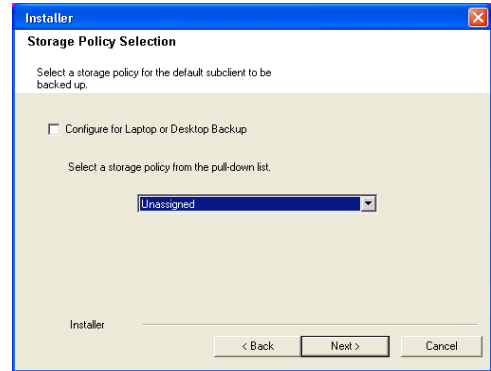
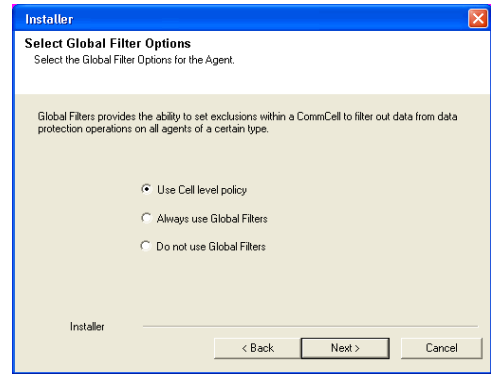
Click **OK**.

You can create the Storage Policy later in step 19.

16. Click **Next**.

17. Click **Next**.

18. Click **Finish**.



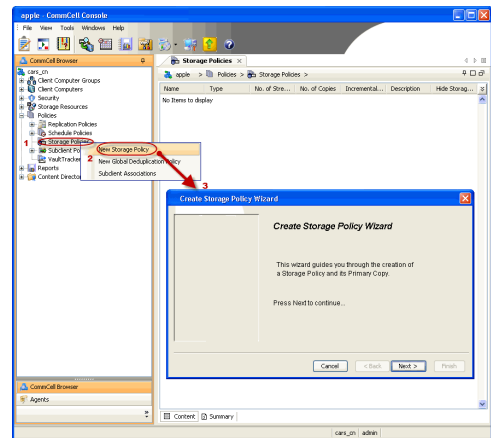
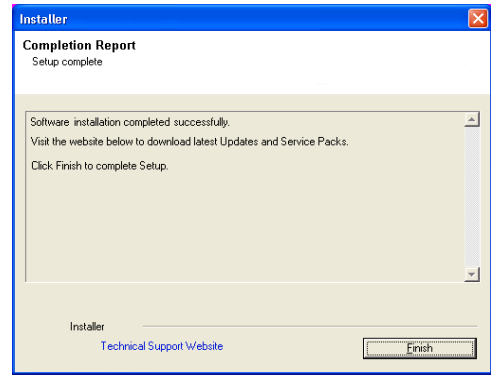


If you already have a storage policy selected in step 15, click the **Next** button available on the bottom of the page to proceed to the **Configuration** section.

If you do not have Storage Policy created, continue with the following step.

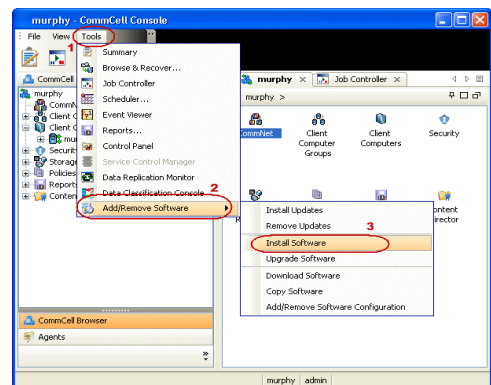
**19. Create a Storage Policy:**

1. From the CommCell Browser, navigate to **Policies**.
2. Right-click the **Storage Policies** and then click **New Storage Policy**.
3. Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
  - Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
  - Enter the name in the **Storage Policy Name** box and click **Next**.
  - From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.  
Ensure that you select a library attached to a MediaAgent operating in the current release.
  - From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
  - For the device streams and the retention criteria information, click **Next** to accept default values.
  - Select **Yes** to enable deduplication for the primary copy.
  - From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.  
Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.
  - Review the details and click **Finish** to create the Storage Policy.

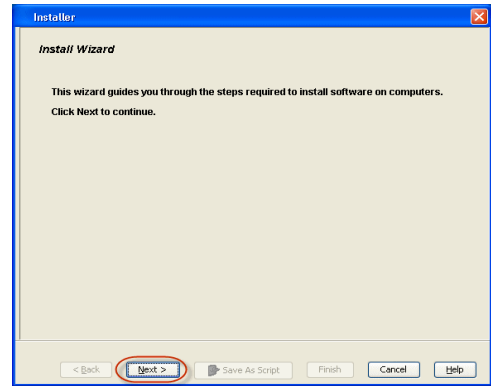


**METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE**

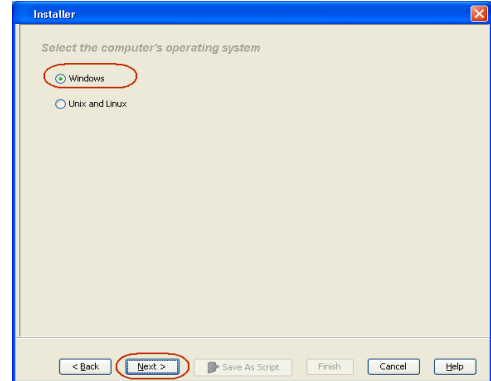
1. From the CommCell Browser, select **Tools | Add/Remove Software | Install Software**.
2. Click **Next**.



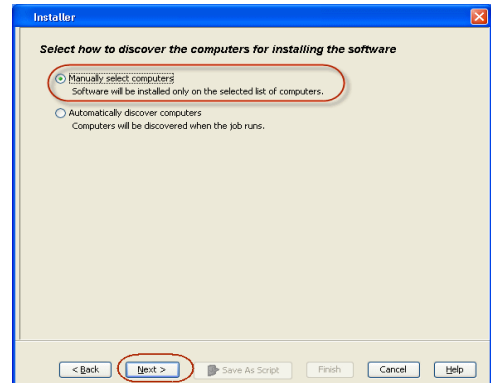
3. Select **Windows**.  
Click **Next**.



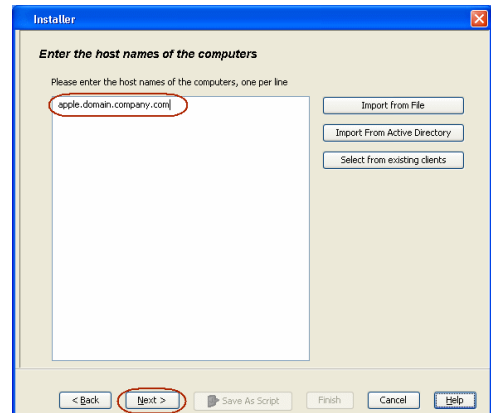
4. Select **Manually Select Computers**.  
Click **Next**.



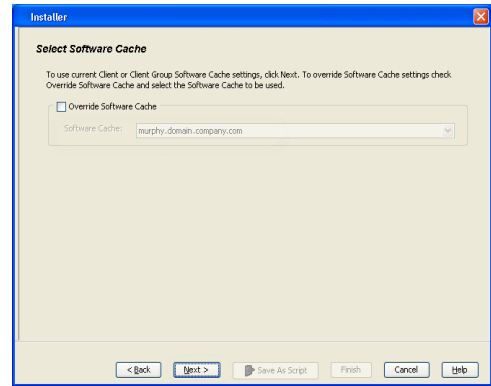
5. Enter the fully qualified domain name of the Windows client computer where the SAP for Oracle is resided.  
For example: apple.domain.company.com  
The SAP for Oracle iDataAgent will be installed on this client computer.  
Click **Next**.



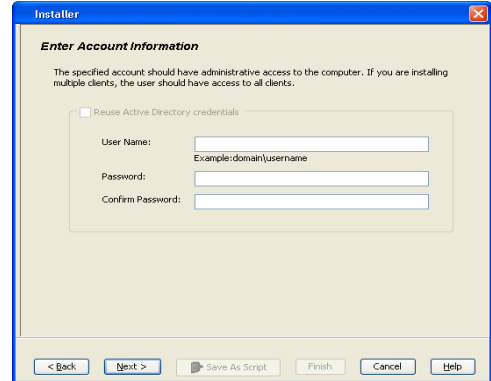
6. Click **Next**.



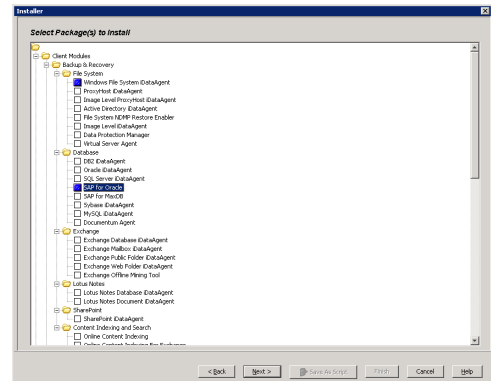
- Specify **UserName** and **Password** of the computer.  
Click **Next**.



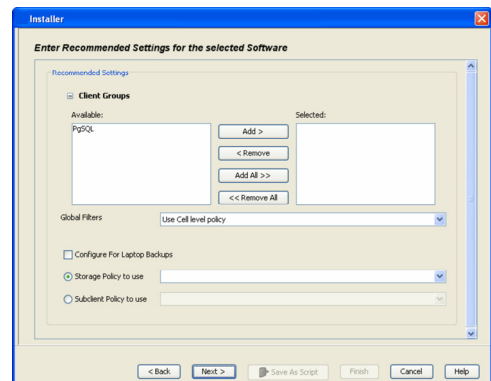
- Select **SAP for Oracle**.  
Click **Next**.



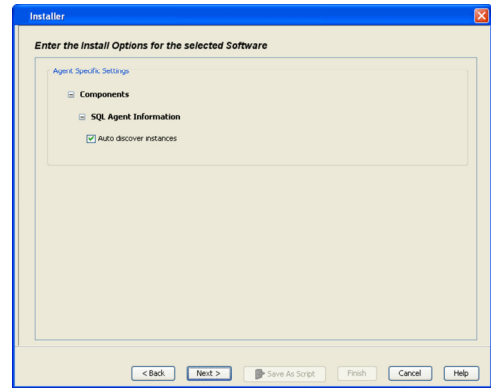
- Click **Next**.



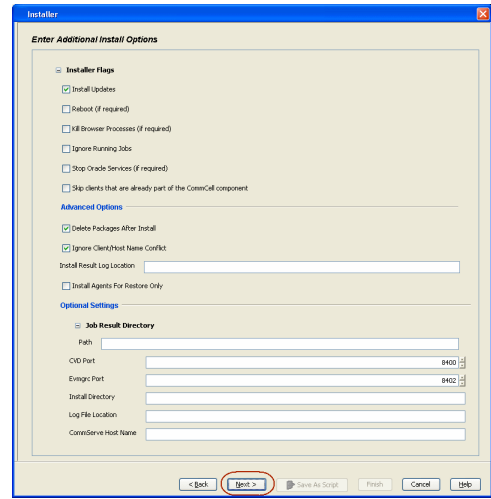
- Click **Next**.



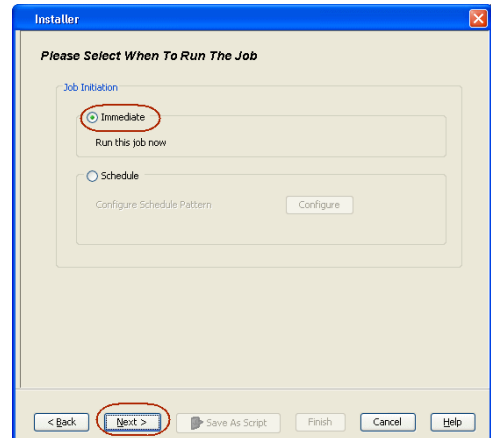
11. Click **Next**.



12. Select **Immediate**.  
Click **Next**.

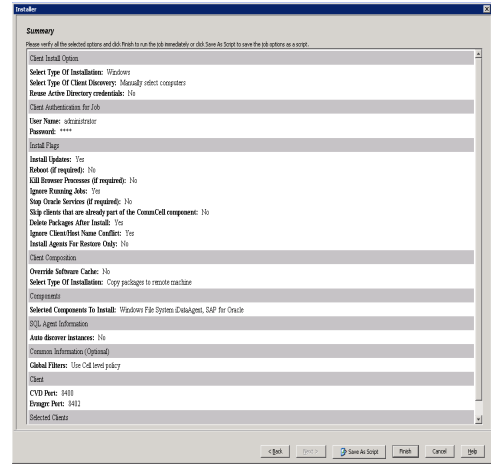


13. Click **Finish**.

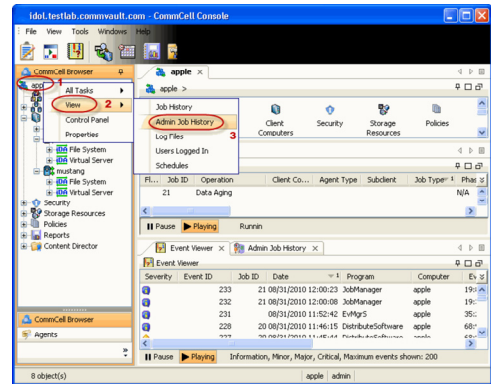
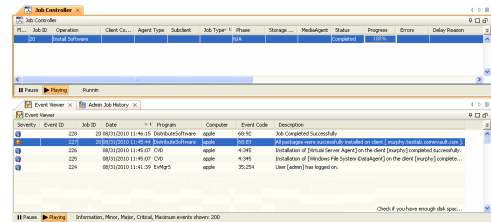




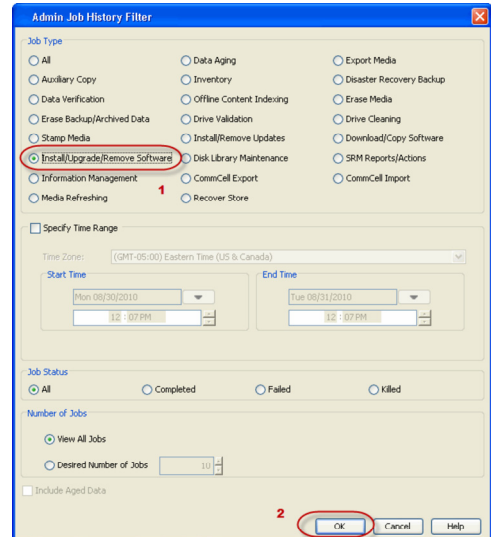
14. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



15. Once the job is complete, right-click the **CommServe** computer, click **View** and then click **Admin Job History**.

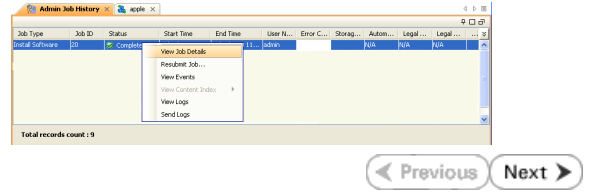


16. Select **Install/Upgrade/Remove Software**.  
Click **OK**.



17. You can view the following details about the job by right-clicking the job:
- Items that succeeded during the job
  - Items that failed during the job
  - Details of the job

- Events of the job
- Log files of the job



# Getting Started - Deploying in a Global Zone or Unix Servers

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## WHERE TO INSTALL

Install the software directly on the computer hosting the global zone or the Unix Server that you wish to protect. Make sure the computer satisfies the minimum requirements specified in the System Requirements.

It is recommended to install the software on the global zone to protect non-changing or static data on non-global zones. If the data is dynamic or contains application data, install the software on the non-global zone.

Use the following steps to install the SAP for Oracle iDataAgent on the following:

- Global Zone or a Solaris Server
- Any other supported Unix Server

## INSTALLATION

The software can be installed using one of the following methods:

### METHOD 1: INTERACTIVE INSTALL

Use this procedure to install the software directly on client computer.

### METHOD 2: INSTALL SOFTWARE FROM COMMCCELL CONSOLE

Use this procedure to remotely install the software on a client computer.

## METHOD 1: INTERACTIVE INSTALL

1. Run the following command from the Software Installation Disc:  
`./cvpkgadd`
2. The product banner and other information is displayed.  
 Press **Enter**.
3. Read the license agreement. Type **y** and press **Enter**.
4. Press **Enter**.
5. If your computer is 32-bit, press **Enter**.  
 If your computer is 64-bit, see Install Unix Agents on 64-bit Platform for step-by-step procedure.
6. Press **Enter**.

## RELATED TOPICS

### System Requirements

Verify that the computer in which you wish to install the software satisfies the System Requirements.

### Firewall

Provides comprehensive information on firewall.

Please select a setup task you want to perform from the list below:

Advance options provide extra setup features such as creating custom package, recording/replaying user selections and installing External Data Connector software.

- 1) Install data protection agents on this computer
- 2) Advance options
- 3) Exit this menu

Your choice: [1]

This machine supports both 32 bit and 64 bit binaries. By default, we will install 32 bit binary set that has full support for all the modules included in this package. Please note that 64 bit binary set currently only support limited modules.

- 1) All platform (32 bit)
- 2) FS and MA only (64 bit)

Your choice: [1]

Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

You now have a choice of performing a regular Calypso install on the physical host or installing Calypso on a virtual machine for operation within a cluster.

Most users should select "Install on a physical machine" here.

- 1) Install on a physical machine

7. If you have only one network interface, press **Enter** to accept the default network interface name and continue.

If you have multiple network interfaces, enter the interface name that you wish to use as default, and then press **Enter**.

The interface name and IP addresses depend on the computer in which the software is installed and may be different from the example shown.

8. Press **Enter**.

9. Type the appropriate number to install **SAP for Oracle iDataAgent**.

A confirmation screen will mark your choice with an "X".

Type **d** for **Done**, and press **Enter**.

10. Press **Enter**.

11. Type the appropriate number to install the latest software scripts and press **Enter** to continue.

- Select **Download from the software provider website** to download the latest software scripts from your software provider website.

Make sure you have internet connectivity when you are using this option.

- Select **Use the one in the installation media**, to install the software scripts from the disc or share from which the installation is performed.
- Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.

12. Press **Enter**.

13. Press **Enter** to accept the default path and continue, or

Enter a path to modify the default path and press **Enter**.

Do not use the following characters when specifying the path:

!@#%&\*():?\  
 \

14. Press **Enter** to accept the default location for the log files and continue, or

Enter a path to modify the default location and press **Enter**.

All the modules installed on the computer will store the log files in this directory.

15. Type **no**.

If entering **Yes**, go to Step 17.

2) Install on a virtual machine

3) Exit

Your choice: [1]

We found one network interface available on your machine. We will associate it with the physical machine being installed, and it will also be used by the CommServe to connect to the physical machine. Note that you will be able to additionally customize Datapipe Interface Pairs used for the backup data traffic later in the Calypso Java GUI.

Please check the interface name below, and make connections if necessary:

Physical Machine Host Name: [angel.company.com]

Please specify the client name for this machine.

It does not have to be the network host name: you can enter any word here without spaces. The only requirement is that it must be unique on the CommServe.

Physical Machine Client name: [angel]

Install Calypso on physical machine 172.19.99.62

Please select the Calypso module(s) that you would like to install.

[ ] 1) MediaAgent [1301] [CVGxMA]>

[ ] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

[a=all n=none r=reverse q=quit d=done >=next <=previous ? =help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here:

Do you want to use the agents for restore only without consuming licenses? [no]

Installation Scripts Pack provides extra functions and latest support and fix performed during setup time. Please specify how you want to get this pack.

If you choose to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

1) Download from the software provider website.

2) Use the one in the installation media

3) Use the copy I already have by entering its unix path

Your choice: [1] 2

Keep Your Install Up to Date - Latest Service Pack

Latest Service Pack provides extra functions and latest support and fix for the packages you are going to install. You can download the latest service pack from software provider website.

If you decide to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

Do you want to download the latest service pack now? [no]

Please specify where you want us to install Calypso binaries.

It must be a local directory and there should be at least 176MB of free space available. All files will be installed in a "calypso" subdirectory, so if you enter "/opt", the files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

Please specify where you want to keep Calypso log files.

It must be a local directory and there should be at least 100MB of free space available. All log files will be created in a "calypso/Log\_Files" subdirectory, so if you enter "/var/log", the logs will actually be placed into "/var/log/calypso/Log\_Files".

Log Directory: [/var/log]

Most of Software processes run with root privileges, but some are launched by databases and inherit database access rights. To make sure that registry and log files can be written to by both kinds of processes we can either make such files world-writeable or we can grant write access only to processes belonging to a particular group, e.g. a

16. Type **d** for done.

"calypso" or a "dba" group.

We highly recommend now that you create a new user group and enter its name in the next setup screen. If you choose not to assign a dedicated group to Software processes, you will need to specify the access permissions later.

If you're planning to backup Oracle DB you should use "dba" group.

Would you like to assign a specific group to Software?  
[yes]

Access Permissions for Other Users

Installer will assign full access rights to root user and its belonging group for all installed Software files and its processes.

For any other users, you can specify the access permissions now.

However, since you chose not to assign a dedicated group in previous step, make sure you specify sufficient access rights for other users if you are also planning to install Software agents involving third party software protection.

[X] 1) Allow read permission to other users  
[X] 2) Allow write permission to other users  
[X] 3) Allow execute permission to other users

[a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]

Enter number(s)/one of "a,n,r,q,d,>,<,>,<,>?" here:

17. If you indicated **Yes** in Step 15., you will be prompted for the group name that must be used to launch processes.

Enter the group name and then press **Enter**.

See your Unix systems administrator for assistance in creating a user group.

Please enter the name of the group which will be assigned to all Software files and on behalf of which all Software processes will run.

In most of the cases it's a good idea to create a dedicated "calypso" group. However, if you're planning to use Oracle iDataAgent or SAP Agent, you should enter Oracle's "dba" group here.

Group name: dba

REMINDER

If you are planning to install Calypso Informix, DB2, PostgreSQL, Sybase or Lotus Notes iDataAgent, please make sure to include Informix, DB2, etc. users into group "dba".

18. Type a network TCP port number for the Communications Service (CVD) and press **Enter**.

Type a network TCP port number for the Client Event Manager Service (EVMgrC) and press **Enter**.

Every instance of Calypso should use a unique set of network ports to avoid interfering with other instances running on the same machine.

The port numbers selected must be from the reserved port number range and have not been registered by another application on this machine.

Please enter the port numbers.

Port Number for CVD : [8600]

Port Number for EVMgrC: [8602]

19. If this computer and the CommServe is separated by a firewall, type **Yes** and then press **Enter**.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

If you do not wish to configure the firewall services, type **No** and then press **Enter**.

Is there a firewall between this client and the CommServe?  
[no]

20. Type the fully qualified domain name for **CommServe Host Name** and press **Enter**.

Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.

Please specify hostname of the CommServe below. Make sure the hostname is fully qualified, resolvable by the name services configured on this machine.

CommServe Host Name:

21. Press **Enter**.

Commcell Level Global Filters are set through Calypso GUI's Control Panel in order to filter out certain directories or files from backup Commcell-widely. If you turn on the Global filters, they will be effective to the default subclient. There are three options you can choose to set the filters.

1) Use Cell level policy  
2) Always use Global filters  
3) Do not use Global filters

Please select how to set the Global Filters for the default subclient? [1]


22. Type the number of a Client Group and press **Enter**.

Client Group(s) is currently configured on CommServe cs.company.com. Please choose the group(s) that you want

A confirmation screen will mark your choice with an "X". Type **d** for done with the selection, and press **Enter** to continue.

This screen will be displayed only if Client Groups are configured for the CommCell.

- 23. Enter the number corresponding to the storage policy through which you want to back up the External Data Connector and press **Enter**.

 If you do not have Storage Policy created, this message will be displayed. You may not be prompted for user input.

You can create the Storage Policy later in step 26.

- 24. Type the path of the **SAPEXE** directory and then press **Enter**.

- 25. Type **3** to the **Exit** option and press **Enter**. The installation is now complete.

If you already have a storage policy selected in step 24, click the Next button available on the bottom of the page to proceed to the Configuration section.

If you do not have Storage Policy created, follow the procedure given below.

- 26.
  - From the CommCell Browser, navigate to **Policies**.
  - Right-click the **Storage Policies** and then click **New Storage Policy**.
  - Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
    - Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
    - Enter the name in the **Storage Policy Name** box and click **Next**.
    - From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.  
Ensure that you select a library attached to a MediaAgent operating in the current release.
    - From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
    - For the device streams and the retention criteria information, click **Next** to accept default values.
    - Select **Yes** to enable deduplication for the primary copy.
    - From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.  
Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.
    - Review the details and click **Finish** to create the Storage Policy.

to add this client client.company.com to. The selected group(s) will be marked (X) and can be deselected if you enter the same number again. After you are finished with the selection, select "Done with the Selection".

```
[ ] 1) Unix
[ ] 2) DR
[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]
```

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: 2  
Please select one storage policy for this IDA from the list below:

- 1) SP\_StandAloneLibrary2\_2
- 2) SP\_Library3\_3
- 3) SP\_MagLibrary4\_4

Storage Policy: [1]

There seem to be no Storage Policies configured on the CommServe. Before you can run any backups of this IDA, you will need to install a MediaAgent, create a Storage Policy Adjusting modes and permissions of files

Successfully installed Calypso

Please specify the location of SAPEXE directory.

SAPEXE: /usr/sap/CER/sys/exe/run

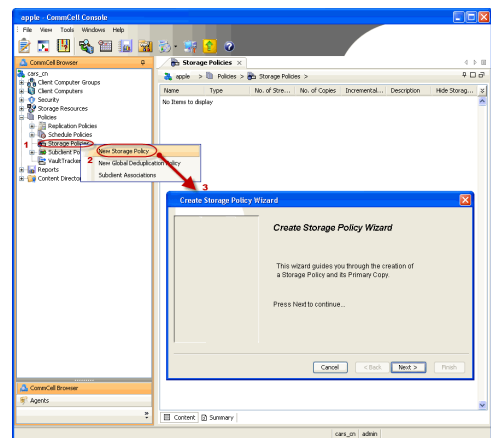
Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

Currently you have Calypso installed on physical node stone.company.com.

Now you have a choice of either adding another package to the existing installation or configure Calypso on a virtual machine for use in a cluster.

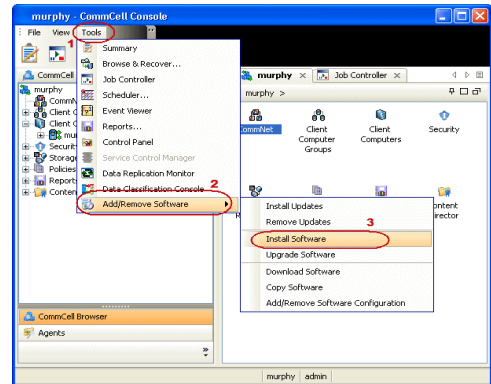
- 1) Add another package to stone.company.com
- 2) Install Calypso on a virtual machine
- 3) Exit

Your choice: [1]

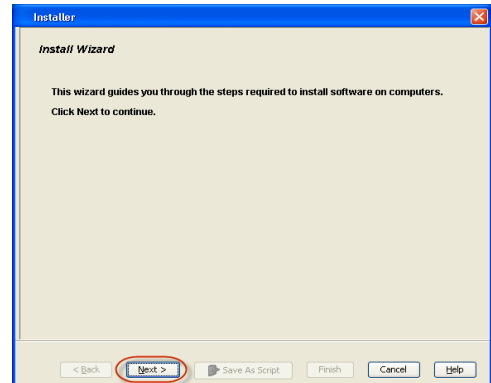


## METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

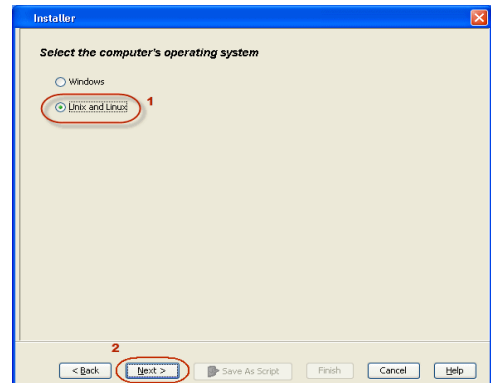
1. From the CommCell Browser, select **Tools | Add/Remove Software | Install Software**.



2. Click **Next**.

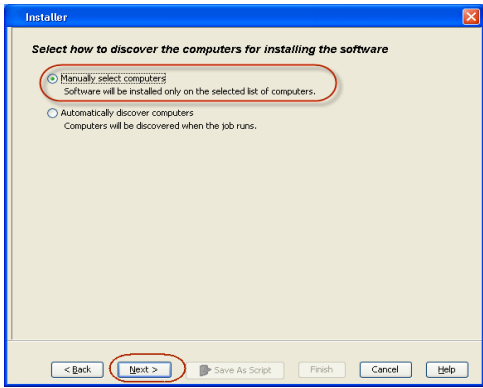


3. Select **Unix and Linux**.  
Click **Next**.

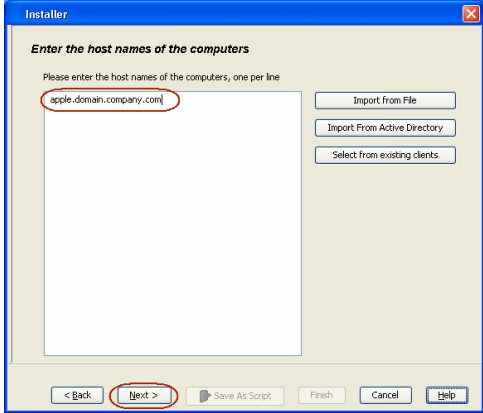


4. Select **Manually Select Computers**.  
Click **Next**.

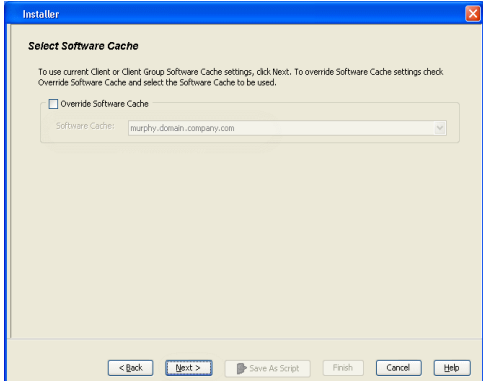
- 5. Enter the fully qualified domain name of the computer in which you wish to install.  
For example: apple.domain.company.com  
The SAP for Oracle iDataAgent will be installed on this client computer.  
Click **Next**.



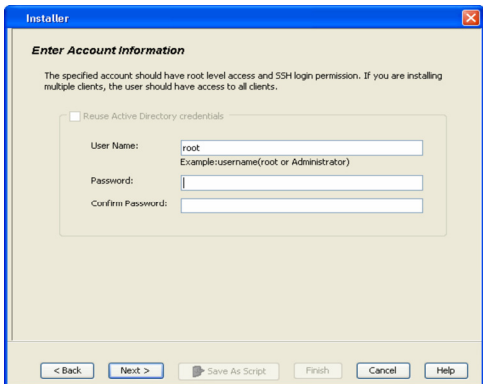
- 6. Click **Next**.



- 7. Specify **UserName** and **Password** of client computer.  
Click **Next**.

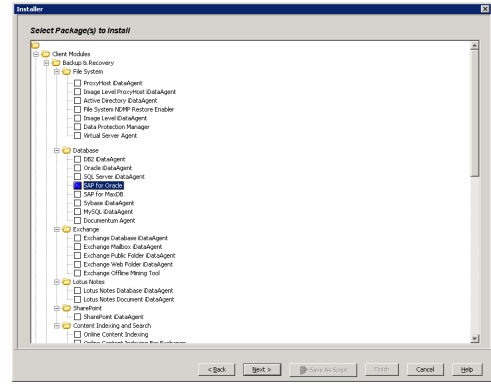


- 8. Select **SAP For Oracle**.  
Click **Next**.

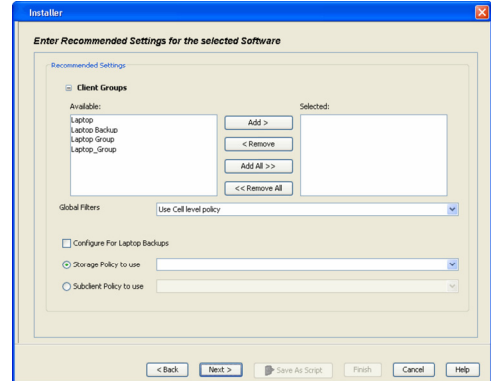




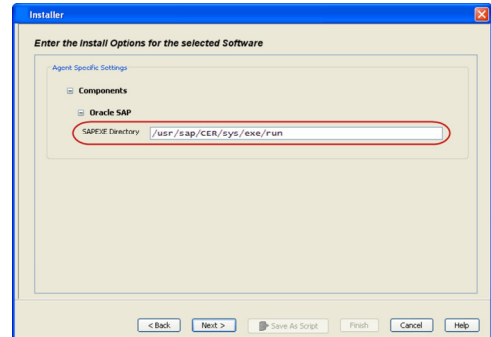
9.
  - Select **Client Group** from **Available** and click **Add**.  
Do not add more than one Client Group.
  - Select a **Storage Policy** from the drop-down list. Click **Next**.



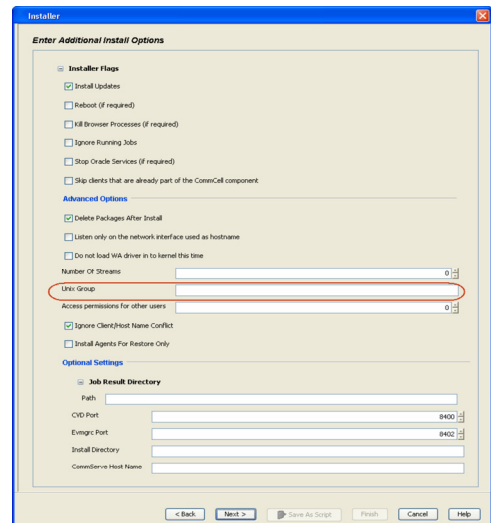
10. Type the path to **SAPEXE Directory**.  
Click **Next**.



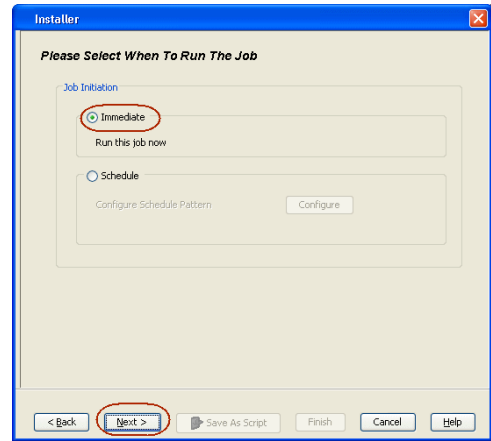
11. Click **Next**.



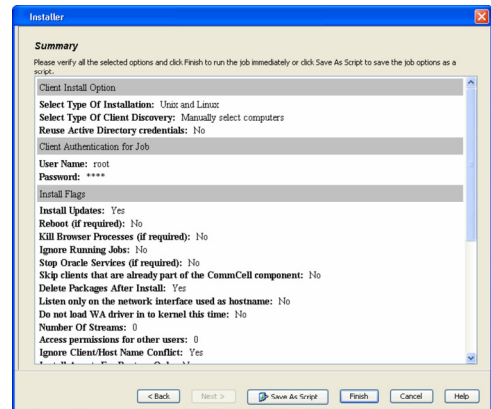
12. Select **Immediate**.  
Click **Next**.



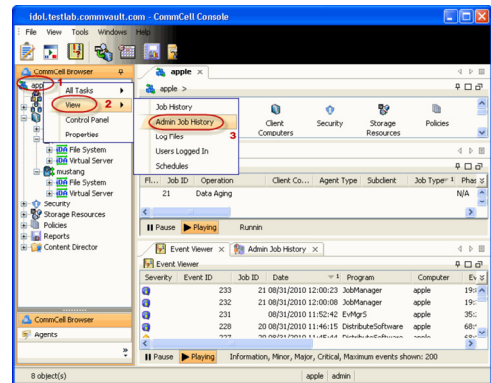
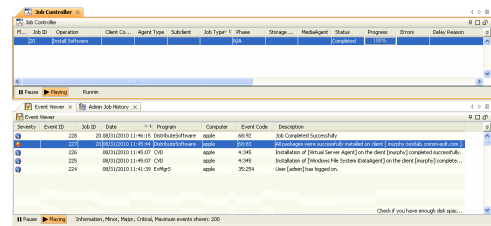
13. Click **Finish**.



14. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



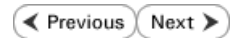
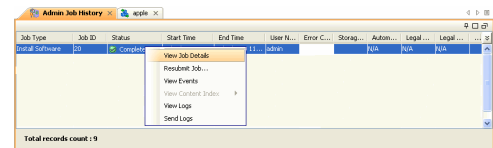
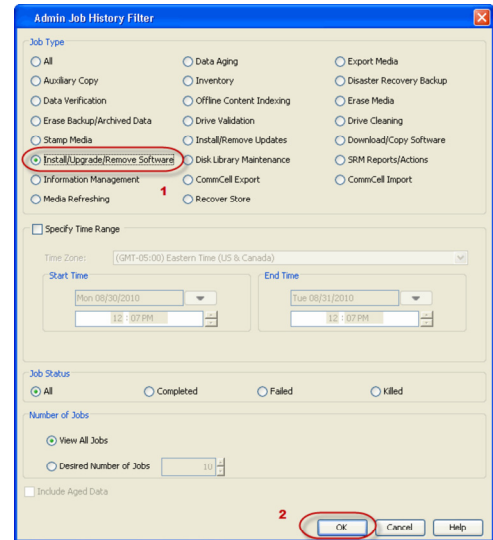
15. Once the job is complete, right-click the **CommServe** computer, click **View** and then click **Admin Job History**.



16. Select **Install/Upgrade/Remove Software**.  
Click **OK**.

17. You can view the following details about the job by right-clicking the job:

- Items that succeeded during the job
- Items that failed during the job
- Details of the job
- Events of the job
- Log files of the job



# Getting Started - Deploying in a Non-Global Zone

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## WHERE TO INSTALL

Install the software on each of the non-global zones where you have application data.

It is recommended to install the software on the global zone to protect non-changing or static data on non-global zones. If the data is dynamic or contains application data, install the software on the non-global zone.

## INSTALLATION

The software can be installed using one of the following methods:

### METHOD 1: INTERACTIVE INSTALL

Use this procedure to install the software directly on client computer.

### METHOD 2: INSTALL SOFTWARE FROM COMMCCELL CONSOLE

Use this procedure to remotely install the software on a client computer.

## METHOD 1: INTERACTIVE INSTALL

1. Mount the installation disc on the non-global zone.

```
mkdir <Non-Global Zone root location>/<Non-Global Zone local directory>
```

```
mount -F lofs <Global zone software Install Disc mount point> <Non-Global Zone root location>/<Non-Global Zone local directory>
```

Connect to Non-Global Zone terminal

2. Run the following command from the Software Installation Disc:

```
./cvpkgadd
```

3. The product banner and other information is displayed.

Press **Enter**.

4. Read the license agreement. Type **y** and press **Enter**.

5. Press **Enter**.

6. If your computer is 32-bit, press **Enter**.

If your computer is 64-bit, see [Install Unix Agents on 64-bit Platform for step-by-step procedure](#).

7. Press **Enter**.

## RELATED TOPICS

### System Requirements

Verify that the computer in which you wish to install the software satisfies the System Requirements.

### Firewall

Provides comprehensive information on firewall.

Please select a setup task you want to perform from the list below:

Advance options provide extra setup features such as creating custom package, recording/replaying user selections and installing External Data Connector software.

1) Install data protection agents on this computer

2) Advance options

3) Exit this menu

Your choice: [1]

This machine supports both 32 bit and 64 bit binaries. By default, we will install 32 bit binary set that has full support for all the modules included in this package. Please note that 64 bit binary set currently only support limited modules.

1) All platform (32 bit)

2) FS and MA only (64 bit)

Your choice: [1]

Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

You now have a choice of performing a regular Calypso install on the physical host or installing Calypso on a virtual machine for operation within a cluster.

Most users should select "Install on a physical machine" here.

8. If you have only one network interface, press **Enter** to accept the default network interface name and continue.

If you have multiple network interfaces, enter the interface name that you wish to use as default, and then press **Enter**.

The interface name and IP addresses depend on the computer in which the software is installed and may be different from the example shown.

9. Press **Enter**.

10. Type the appropriate number to install **SAP for Oracle iDataAgent**.

A confirmation screen will mark your choice with an "X".

Type **d** for **Done**, and press **Enter**.

11. Press **Enter**.

12. Type the appropriate number to install the latest software scripts and press **Enter** to continue.

- Select **Download from the software provider website** to download the latest software scripts from your software provider website.

Make sure you have internet connectivity when you are using this option.

- Select **Use the one in the installation media**, to install the software scripts from the disc or share from which the installation is performed.
- Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.

13. Press **Enter**.

14. Press **Enter** to accept the default path and continue, or  
Enter a path to modify the default path and press **Enter**.

Do not use the following characters when specifying the path:

!@#%&\*():? \

15. Press **Enter** to accept the default location for the log files and continue, or  
Enter a path to modify the default location and press **Enter**.

All the modules installed on the computer will store the log files in this directory.

16. Type **no**.

If entering **Yes**, go to Step 18.

1) Install on a physical machine

2) Install on a virtual machine

3) Exit

Your choice: [1]

We found one network interface available on your machine. We will associate it with the physical machine being installed, and it will also be used by the CommServe to connect to the physical machine. Note that you will be able to additionally customize Datapipe Interface Pairs used for the backup data traffic later in the Calypso Java GUI.

Please check the interface name below, and make connections if necessary:

Physical Machine Host Name: [angel.company.com]

Please specify the client name for this machine.

It does not have to be the network host name: you can enter any word here without spaces. The only requirement is that it must be unique on the CommServe.

Physical Machine Client name: [angel]

Install Calypso on physical machine 172.19.99.62

Please select the Calypso module(s) that you would like to install.

[ ] 1) MediaAgent [1301] [CVGxMA]>

[ ] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

[a=all n=none r=reverse q=quit d=done >=next <=previous ? =help]

Enter number(s)/one of "a,n,r,q,d,>,<," here:

Do you want to use the agents for restore only without consuming licenses? [no]

Installation Scripts Pack provides extra functions and latest support and fix performed during setup time. Please specify how you want to get this pack.

If you choose to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

1) Download from the software provider website.

2) Use the one in the installation media

3) Use the copy I already have by entering its unix path

Your choice: [1] 2

Keep Your Install Up to Date - Latest Service Pack

Latest Service Pack provides extra functions and latest support and fix for the packages you are going to install. You can download the latest service pack from software provider website.

If you decide to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

Do you want to download the latest service pack now? [no]

Please specify where you want us to install Calypso binaries.

It must be a local directory and there should be at least 176MB of free space available. All files will be installed in a "calypso" subdirectory, so if you enter "/opt", the files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

Please specify where you want to keep Calypso log files.

It must be a local directory and there should be at least 100MB of free space available. All log files will be created in a "calypso/Log\_Files" subdirectory, so if you enter "/var/log", the logs will actually be placed into "/var/log/calypso/Log\_Files".

Log Directory: [/var/log]

Most of Software processes run with root privileges, but some are launched by databases and inherit database access rights. To make sure that registry and log files can be written to by both kinds of processes we can either make such files world-writeable or we can grant write access

17. Type **d** for done.

only to processes belonging to a particular group, e.g. a "calypso" or a "dba" group.

We highly recommend now that you create a new user group and enter its name in the next setup screen. If you choose not to assign a dedicated group to Software processes, you will need to specify the access permissions later.

If you're planning to backup Oracle DB you should use "dba" group.

Would you like to assign a specific group to Software?  
[yes]

Access Permissions for Other Users

Installer will assign full access rights to root user and its belonging group for all installed Software files and its processes.

For any other users, you can specify the access permissions now.

However, since you chose not to assign a dedicated group in previous step, make sure you specify sufficient access rights for other users if you are also planning to install Software agents involving third party software protection.

[X] 1) Allow read permission to other users  
[X] 2) Allow write permission to other users  
[X] 3) Allow execute permission to other users

[a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]  
Enter number(s)/one of "a,n,r,q,d,>,<,>?" here:

18. If you indicated **Yes** in Step 16., you will be prompted for the group name that must be used to launch processes.

Enter the group name and then press **Enter**.

See your Unix systems administrator for assistance in creating a user group.

Please enter the name of the group which will be assigned to all Software files and on behalf of which all Software processes will run.

In most of the cases it's a good idea to create a dedicated "calypso" group. However, if you're planning to use Oracle iDataAgent or SAP Agent, you should enter Oracle's "dba" group here.

Group name: dba

REMINDER

If you are planning to install Calypso Informix, DB2, PostgreSQL, Sybase or Lotus Notes iDataAgent, please make sure to include Informix, DB2, etc. users into group "dba".

19. Type a network TCP port number for the Communications Service (CVD) and press **Enter**.

Type a network TCP port number for the Client Event Manager Service (EvMgrC) and press **Enter**.

Every instance of Calypso should use a unique set of network ports to avoid interfering with other instances running on the same machine.

The port numbers selected must be from the reserved port number range and have not been registered by another application on this machine.

Please enter the port numbers.

Port Number for CVD : [8600]

Port Number for EvMgrC: [8602]

20. If this computer and the CommServe is separated by a firewall, type **Yes** and then press **Enter**.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

If you do not wish to configure the firewall services, type **No** and then press **Enter**.

Is there a firewall between this client and the CommServe?  
[no]

21. Type the fully qualified domain name for **CommServe Host Name** and press **Enter**.

Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.

Please specify hostname of the CommServe below. Make sure the hostname is fully qualified, resolvable by the name services configured on this machine.

CommServe Host Name:

22. Press **Enter**.

Commcell Level Global Filters are set through Calypso GUI's Control Panel in order to filter out certain directories or files from backup Commcell-widely. If you turn on the Global filters, they will be effective to the default subclient. There are three options you can choose to set the filters.

1) Use Cell level policy  
2) Always use Global filters  
3) Do not use Global filters

Please select how to set the Global Filters for the default subclient? [1]


23. Type the number of a Client Group and press **Enter**.

Client Group(s) is currently configured on CommServe

A confirmation screen will mark your choice with an "X". Type **d** for done with the selection, and press **Enter** to continue.

This screen will be displayed only if Client Groups are configured for the CommCell.

- 24. Enter the number corresponding to the storage policy through which you want to back up the External Data Connector and press **Enter**.

 If you do not have Storage Policy created, this message will be displayed. You may not be prompted for user input.

You can create the Storage Policy later in step 27.

- 25. Type the path of the **SAPEXE** directory and then press **Enter**.

- 26. Type **3** to the **Exit** option and press **Enter**. The installation is now complete.

If you already have a storage policy selected in step 24, click the Next button available on the bottom of the page to proceed to the Configuration section.

If you do not have Storage Policy created, follow the procedure given below.

- 27.
  - From the CommCell Browser, navigate to **Policies**.
  - Right-click the **Storage Policies** and then click **New Storage Policy**.
  - Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
    - Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
    - Enter the name in the **Storage Policy Name** box and click **Next**.
    - From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.  
Ensure that you select a library attached to a MediaAgent operating in the current release.
    - From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
    - For the device streams and the retention criteria information, click **Next** to accept default values.
    - Select **Yes** to enable deduplication for the primary copy.
    - From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.  
Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.

- o Review the details and click **Finish** to create the Storage Policy.

cs.company.com. Please choose the group(s) that you want to add this client client.company.com to. The selected group(s) will be marked (X) and can be deselected if you enter the same number again. After you are finished with the selection, select "Done with the Selection".

```
[ ] 1) Unix
[ ] 2) DR
[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]
```

Enter number(s)/one of "a,n,r,q,d,>,<," here: 2

Please select one storage policy for this IDA from the list below:

- 1) SP\_StandAloneLibrary2\_2
- 2) SP\_Library3\_3
- 3) SP\_MagLibrary4\_4

Storage Policy: [1]

There seem to be no Storage Policies configured on the CommServe. Before you can run any backups of this IDA, you will need to install a MediaAgent, create a Storage Policy

Adjusting modes and permissions of files

Successfully installed Calypso

Please specify the location of SAPEXE directory.

SAPEXE: /usr/sap/CER/sys/exe/run

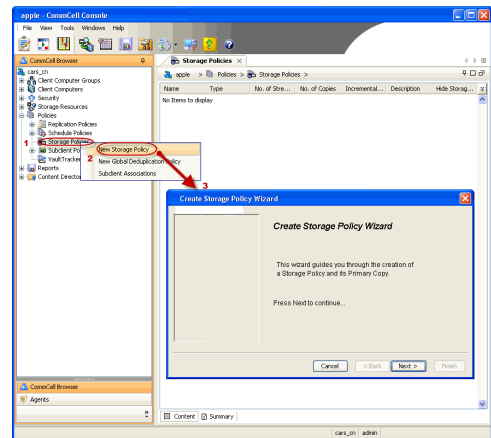
Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

Currently you have Calypso installed on physical node stone.company.com.

Now you have a choice of either adding another package to the existing installation or configure Calypso on a virtual machine for use in a cluster.

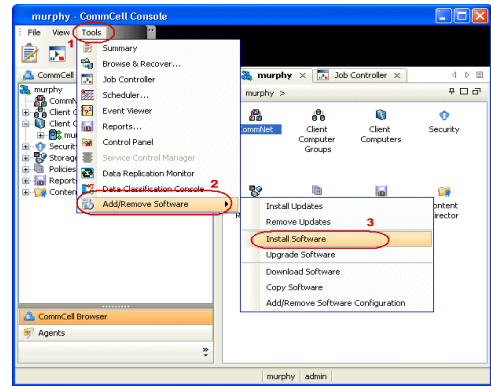
- 1) Add another package to stone.company.com
- 2) Install Calypso on a virtual machine
- 3) Exit

Your choice: [1]

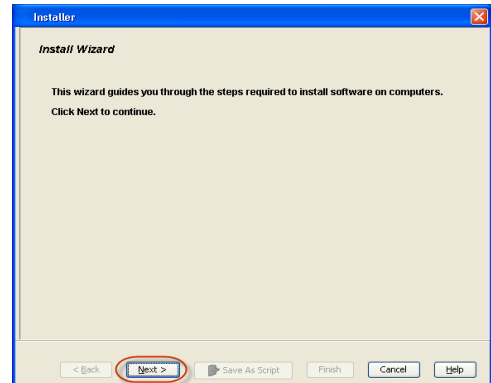


## METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

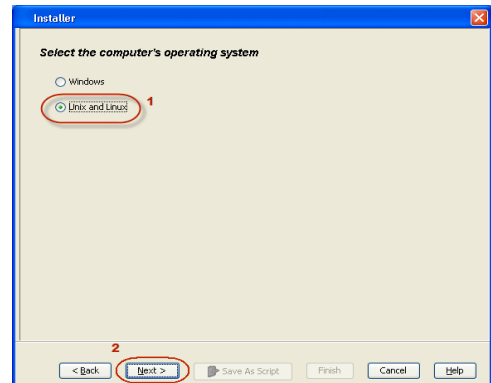
1. From the CommCell Browser, select **Tools | Add/Remove Software | Install Software**.



2. Click **Next**.



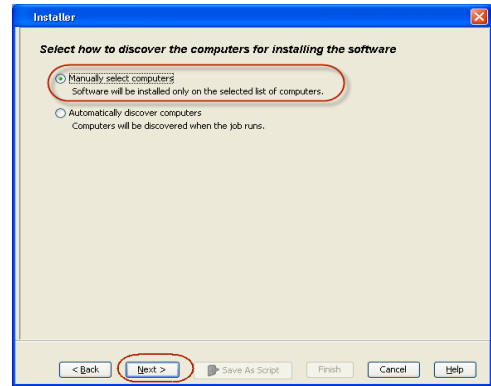
3. Select **Unix and Linux**.  
Click **Next**.



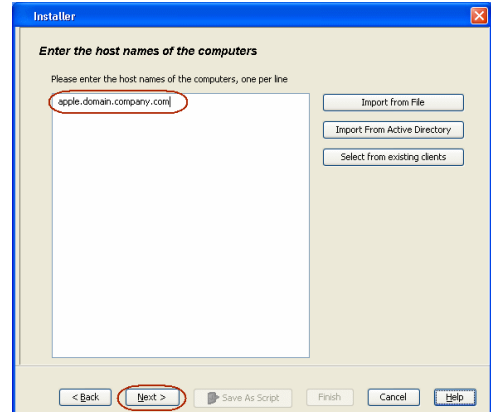
4. Select **Manually Select Computers**.  
Click **Next**.



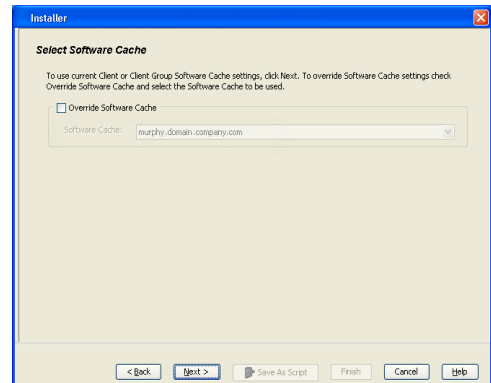
5. Enter the fully qualified domain name of the computer in which you wish to install.  
For example: apple.domain.company.com  
The SAP for Oracle iDataAgent will be installed on this client computer.  
Click **Next**.



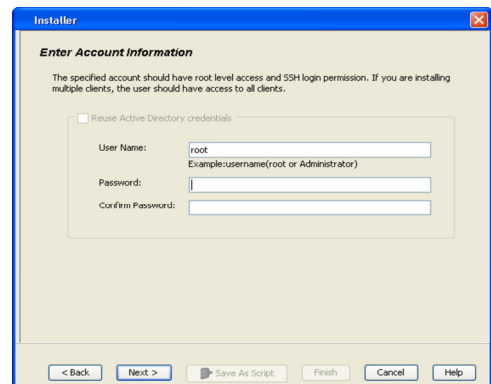
6. Click **Next**.



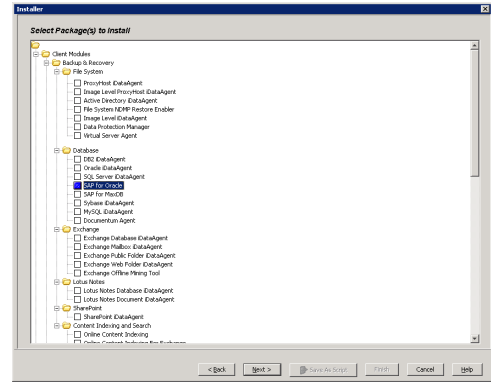
7. Specify **UserName** and **Password** of client computer.  
Click **Next**.



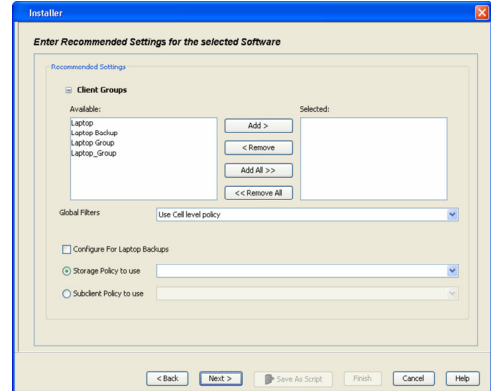
8. Select **SAP For Oracle**.  
Click **Next**.



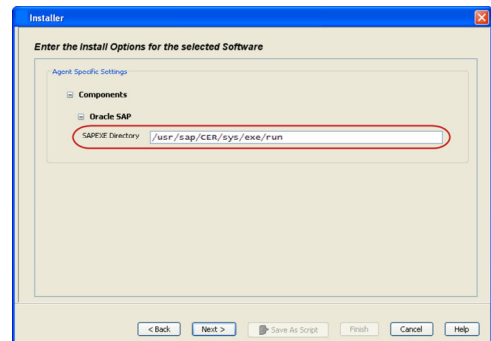
9.
  - Select **Client Group** from **Available** and click **Add**.  
Do not add more than one Client Group.
  - Select a **Storage Policy** from the drop-down list. Click **Next**.



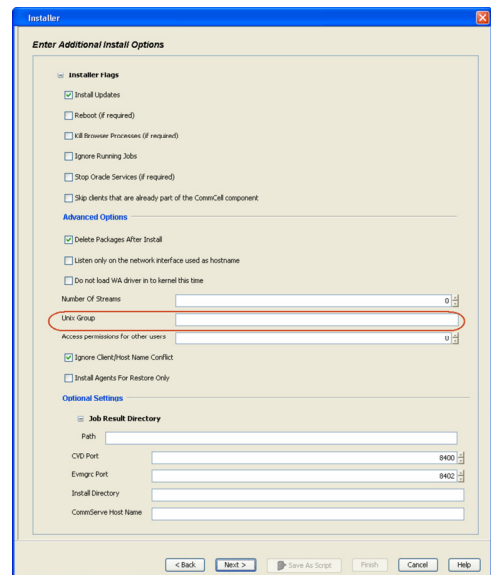
10. Type the path to **SAPEXE Directory**.  
Click **Next**.



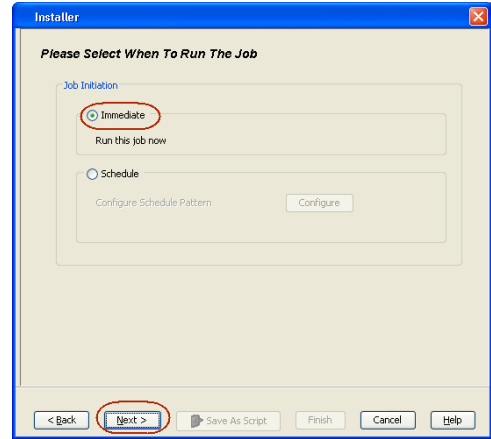
11. Click **Next**.



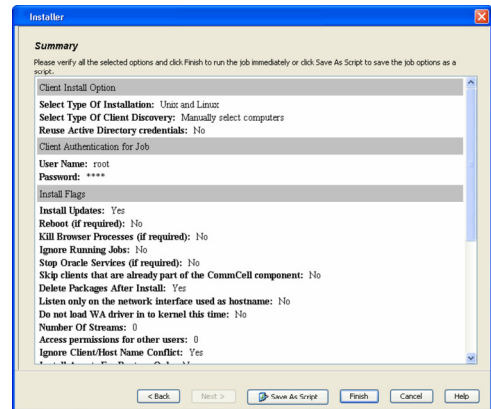
12. Select **Immediate**.



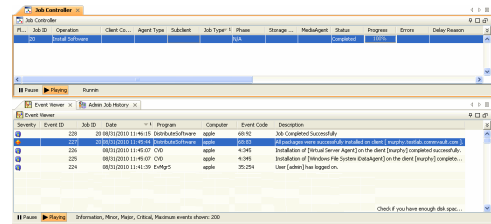
Click **Next**.



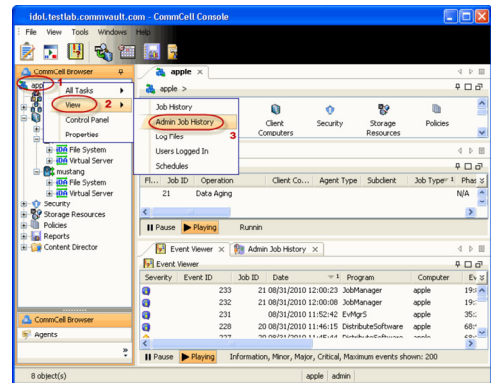
13. Click **Finish**.



14. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



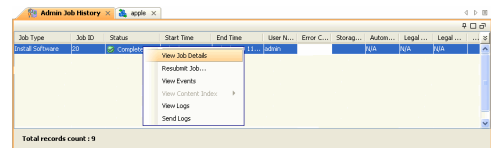
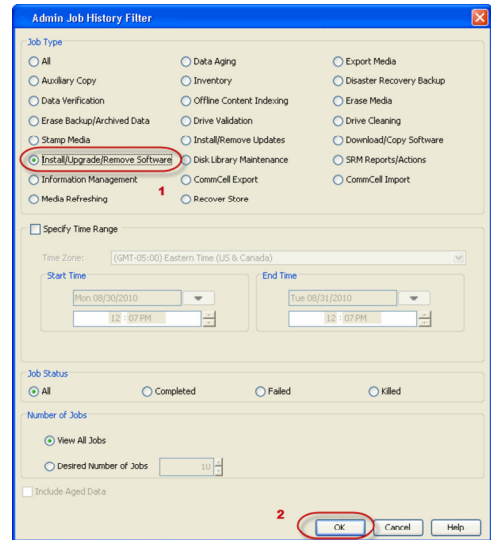
15. Once the job is complete, right-click the **CommServe** computer, click **View** and then click **Admin Job History**.



16. Select **Install/Upgrade/Remove Software**.  
Click **OK**.

17. You can view the following details about the job by right-clicking the job:

- Items that succeeded during the job
- Items that failed during the job
- Details of the job
- Events of the job
- Log files of the job



# Getting Started - SAP for Oracle Configuration

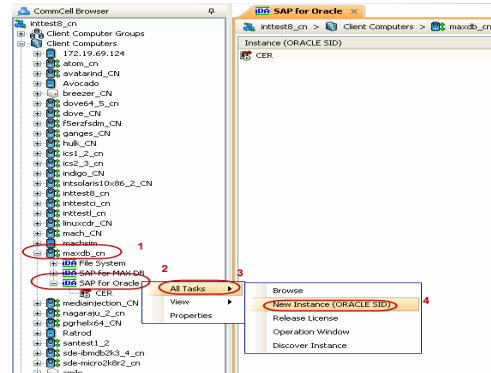


## CONFIGURATION

Once the SAP for Oracle iDataAgent has been installed, configure an Instance to facilitate backups. Each instance references an Oracle database. Also it is recommended to create separate subclients for data and log backups. The following sections provide the necessary steps required to create and configure these components for a first backup of an Oracle database.

### CREATING AN INSTANCE

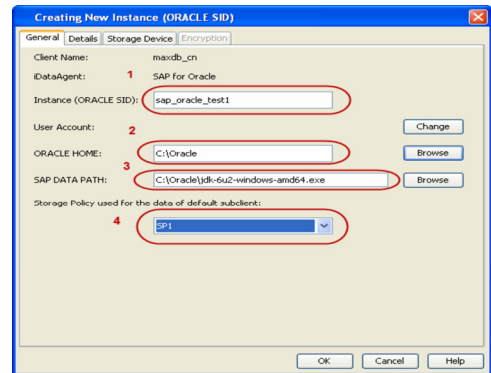
- From the CommCell Browser, navigate to **<Client> | SAP for Oracle**.
  - Right-click **SAP for Oracle | All Tasks** and click **New Instance (ORACLE SID)**.



- Enter the **Instance Name**.
  - Browse** or enter the path to the Oracle application files in **Oracle Home**.
  - Browse** or enter the path to the Oracle data and control files in **SAP DATA PATH**.
  - Select a **Storage Policy** from the drop down list.

If you do not have a Storage Policy created, follow the steps given below to create a Storage Policy.

If you have already created a Storage Policy skip to step 4.



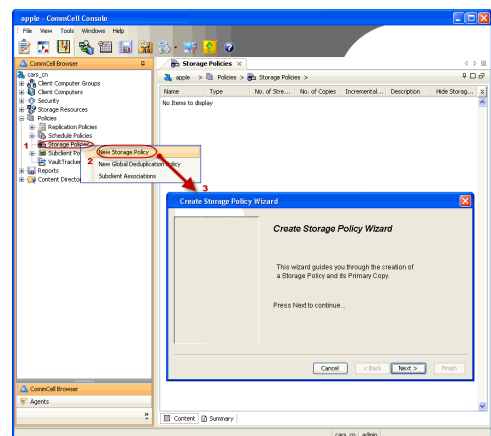
- Create a Storage Policy:
  - From the CommCell Browser, navigate to **Policies**.
  - Right-click the **Storage Policies** and then click **New Storage Policy**.
  - Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
    - Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
    - Enter the name in the **Storage Policy Name** box and click **Next**.
    - From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.

Ensure that you select a library attached to a MediaAgent operating in the current release.

    - From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
    - For the device streams and the retention criteria information, click **Next** to accept default values.
    - Select **Yes** to enable deduplication for the primary copy.
    - From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.

Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.

    - Review the details and click **Finish** to create the Storage Policy.

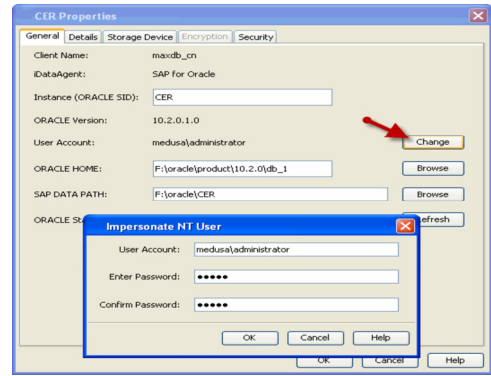


4. For Windows Client:

- Click **Change**.
- Enter the **User Name** and **Password** to access the Oracle application. Re-confirm the password.
- Click **OK**.

Use <client\_name>/<SID\_name>adm, in order to perform backup and restore operations from CommCell Console for the associated instance.

Make sure that the user has administrator privileges to access the Oracle application.

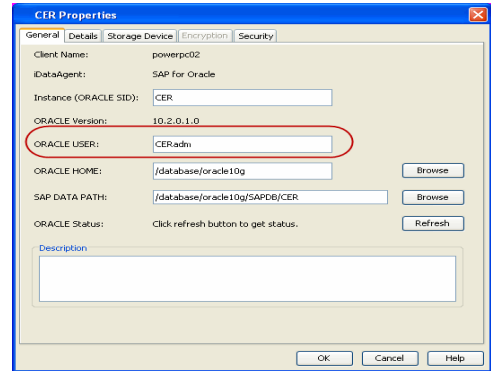


For Unix Client:

- Enter the user name in **ORACLE USER** to access the Oracle application on a Unix client.

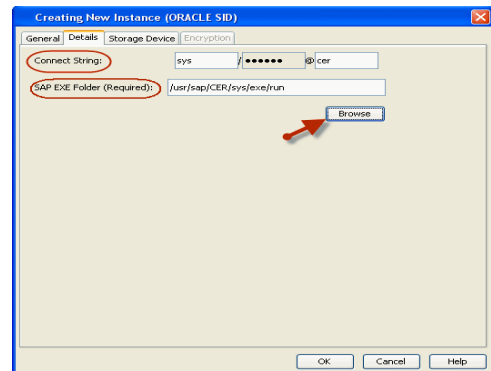
Use <SID\_name>adm, in order to perform backup and restore operations from CommCell Console for the associated instance.

Make sure that the user has administrator privileges to access the Oracle application.



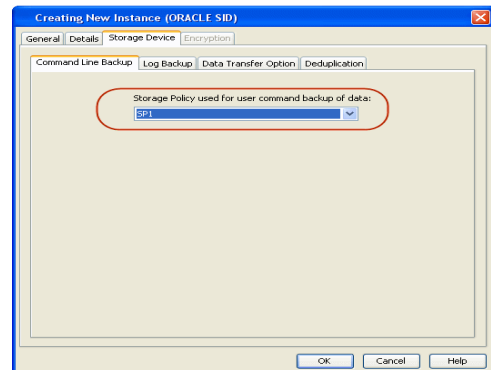
5. Click **Details** tab and add the following information:

- Enter the target database connect string in **Connect String**.
- **Browse** or enter the path to the SAP EXE folder in **SAP EXE Folder (Required)**.



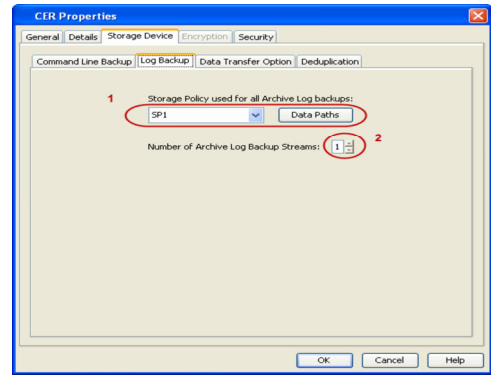
6. Click **Storage Device** tab.

Select a **Storage Policy used for user command backup of data** from the drop down list.



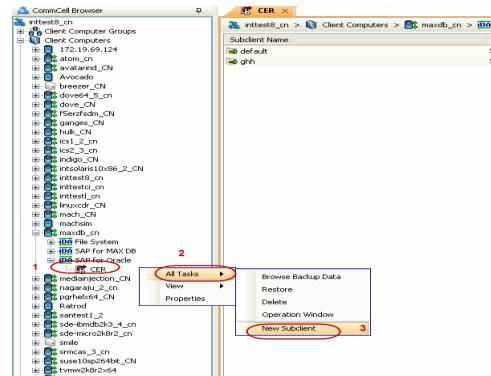
7. Click **Log Backup** tab.

- Select a **Storage Policy used for all Archive Log backups** from the drop down list.
- Click **Ok**.

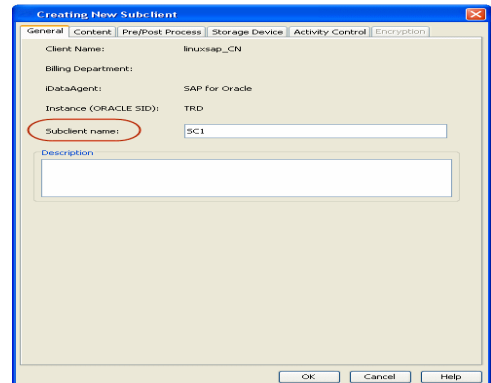


**CREATING SUBCLIENT FOR DATA BACKUP**

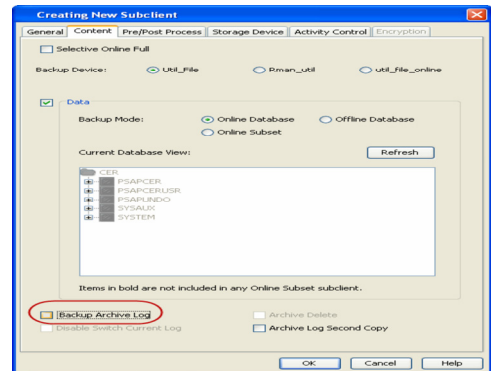
- From the CommCell Browser, navigate to **<Client> | SAP for Oracle | Instance**. Right-click Instance | **All Tasks** and click **New Subclient**.



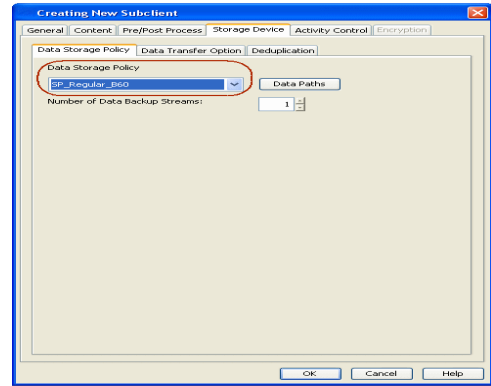
- Enter the **Subclient Name**.



- Click the **Content** tab and clear the check box for **Backup Archive Log**.

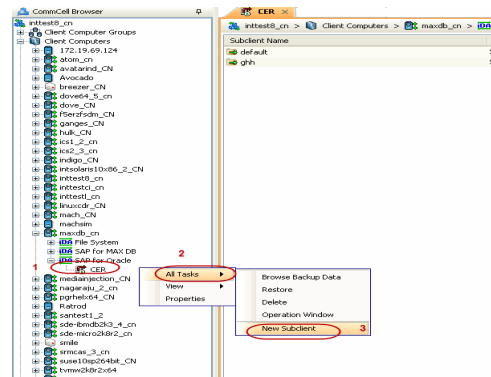


- Click the **Storage Device** tab.
  - Select a **Data Storage Policy** from the drop down list.
  - Click **Ok**.

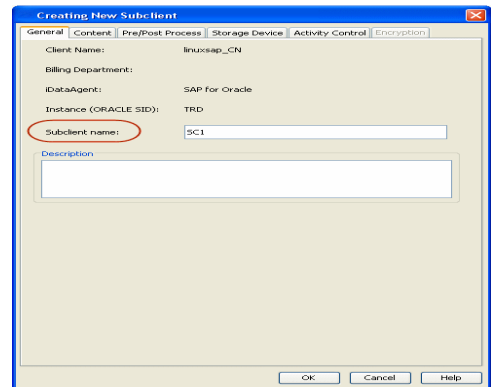


**CREATING SUBCLIENT FOR LOG BACKUP**

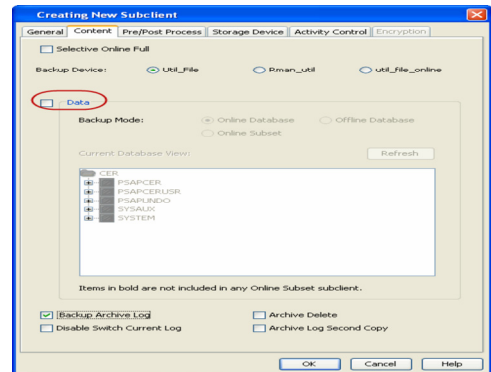
- From the CommCell Browser, navigate to **<Client> | SAP for Oracle | Instance**. Right-click Instance | **All Tasks** and click **New Subclient**.



- Enter the **Subclient Name**.



- Click the **Content** tab and clear the check box for **Data**.

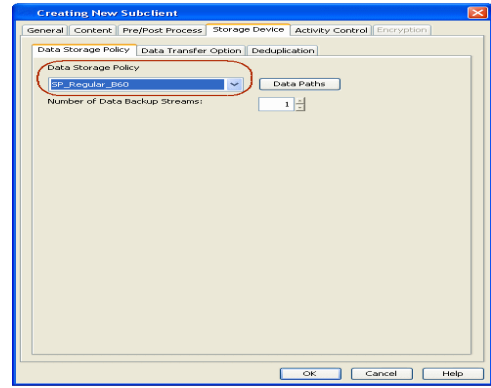


- Click the **Storage Device** tab.
  - Select a **Data Storage Policy** from the drop down list.
  - Click **Ok**.

Make sure that the storage policy selected uses the same



Media Agent used by data and logs.



# Getting Started - SAP for Oracle Backup

After configuring your instance, and subclient, you are ready to perform your first backup.

## PERFORM A BACKUP

### WHAT GETS BACKED UP

The SAP for Oracle iDataAgent backs up the following:

- Oracle database files, which include data files (\*.dbf) and control files (\*.ctl)
- Archived redo logs
- Parameter files (P File/SP File)

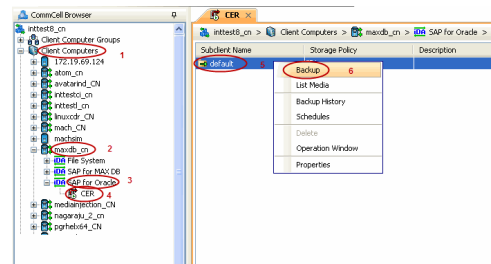
### WHAT DOES NOT GET BACKED UP

The SAP for Oracle iDataAgent does not backup the following:

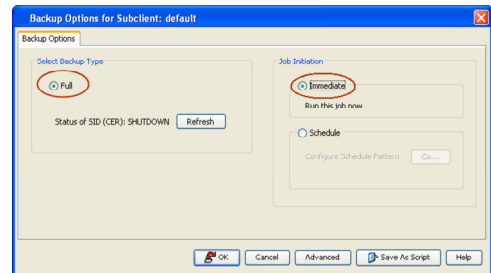
- Oracle application files associated with the Oracle installation

The following section provides step-by-step instructions for running your first full backup:

- From the CommCell Console, navigate to **Client Computers** | **<Client>** | **SAP for Oracle** | **<Instance>**
  - Right-click the **Subclient** and click **Backup**.

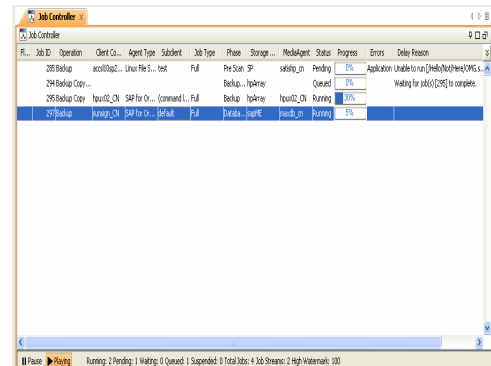


- Select **Full** as backup type and **Immediate** to run the job immediately.
  - Click **OK**.



- You can track the progress of the job from the **Job Controller** window of the CommCell console.

If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

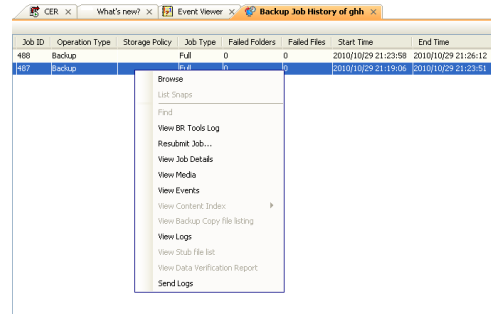
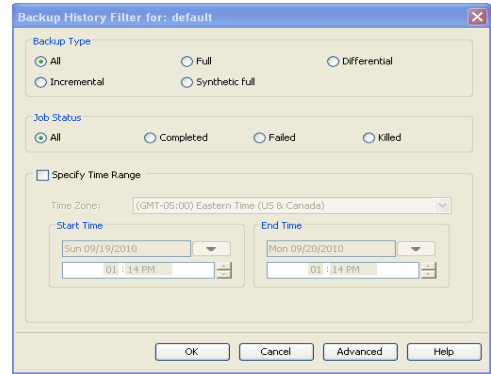
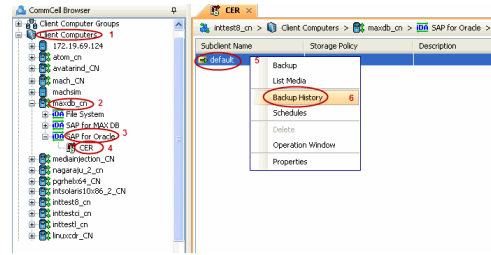


- Once job is complete, view the details of job from the **Backup History**. Right-click the **Subclient** and select **Backup History**.

5. Click **OK**.

6. You can view the following details about the job by right-clicking the job:

- Items that failed during the job
- Items that succeeded during the job
- Details of the job
- Events of the job
- Log files of the job
- Media associated with the job



# Getting Started - SAP for Oracle Restore

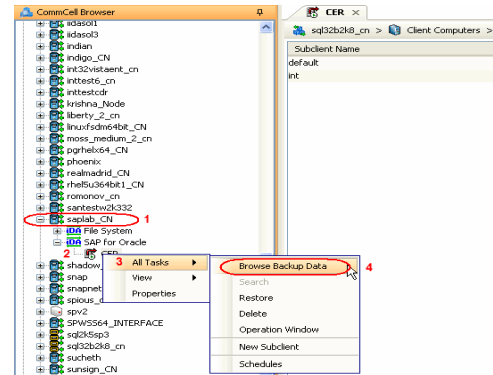


## PERFORM A RESTORE

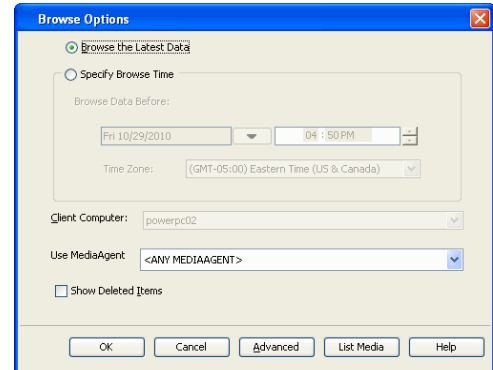
It is recommended that you perform a restore operation immediately after your first full backup to understand the process.

The following section comprehends the steps involved in restoring your entire database.

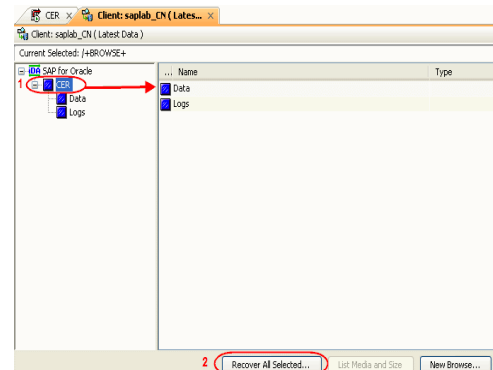
- From the CommCell Console, navigate to **<Client> | SAP for Oracle**.
  - Right-click the instance that contains the data you want to restore and click **All Tasks | Browse Backup Data**.



- Click **OK**.

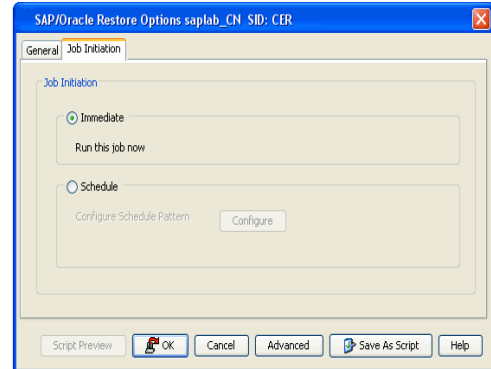
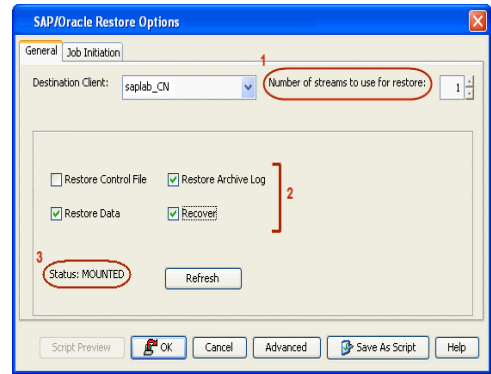


- Select the instance node in the left pane. The data and logs will be automatically selected in the right pane.
  - Click **Recover All Selected**.



- Choose the **Number of streams to use for restore**.
  - Select the following options to restore the database.
    - Restore Archive Log**
    - Restore Data**
    - Recover**
  - Verify that the Status of the database is displayed as **MOUNTED**; if necessary click **Refresh** to get the latest status.

- Click the **Job Initiation** tab.
  - Select **Immediate** to run the job immediately.
  - Click **OK**.

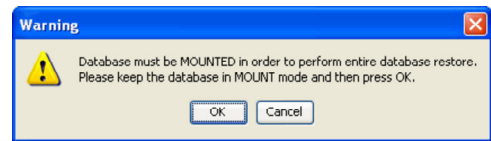


If the database is not mounted, a warning dialog appears to remind you to set the database in MOUNT mode.

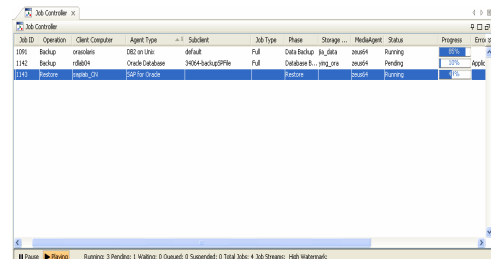
To mount the database, enter the following commands in the machine hosting the database:

```
[root]# export ORACLE_SID=<instance name>
[root]# sqlplus "/ as sysdba"
[root]# shutdown immediate;
[root]# startup mount;
```

Once the database is mounted, click **OK**.

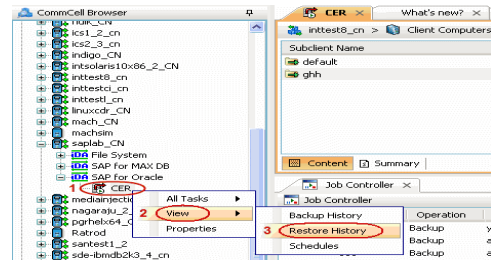


- You can monitor the progress of the restore job in the **Job Controller** or **Event Viewer** window of the CommCell Console.



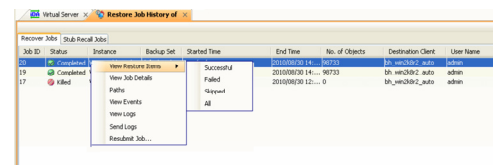
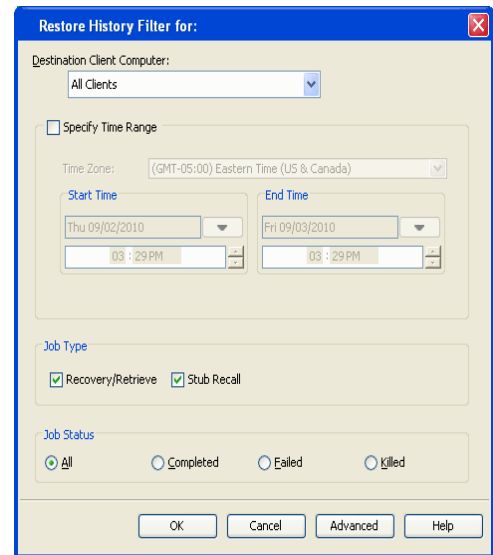
- Once the restore job has completed, right-click the entity (e.g. agent, instance) and click **View | Restore History**.

If the entity chosen is the client computer, click **View | Job History**.



- Click **OK**.

9. You can view the following details about the job by right-clicking the job:
- View Restore Items  
You can view them as **Successful**, **Failed**, **Skipped** or **All**.
  - View Job Details
  - View Events of the restore job.
  - View Log files of the restore job.
10. The database is restored to the directory where it resides.



# Advanced - SAP for Oracle Configuration

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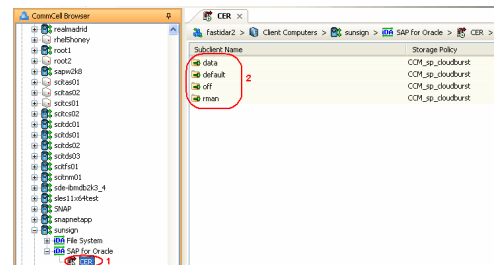
<p><b>Understanding the CommCell Console</b></p> <p><b>Choosing the Backup Interface</b></p> <ul style="list-style-type: none"> <li>RMAN_UTIL</li> <li>UTIL_FILE</li> <li>UTIL_FILE_ONLINE</li> </ul> <p><b>Optimizing Performance</b></p> <p><b>Creating subclient for Offline Backups</b></p> <p><b>Creating Subclient for online Backups</b></p> <ul style="list-style-type: none"> <li>Creating Subclient to backup Online Databases</li> <li>Creating Subclient to Backup Individual DataFiles/Tablespaces</li> </ul> <p><b>Creating Subclient for Selective Online Full Backups</b></p> <p><b>Creating Subclient for Log Backups</b></p> <p><b>Registering the Client with SAP SLD</b></p> <p><b>Modifying an Instance or Subclient</b></p> <p><b>Deleting an Instance or Subclient</b></p> <ul style="list-style-type: none"> <li>Deleting an Instance</li> <li>Deleting a Subclient</li> </ul>	<p><b>Command Line Operations</b></p> <ul style="list-style-type: none"> <li>Log on to the CommServe</li> <li>Configure Instances</li> <li>Configure Subclients</li> <li>List Schedule Policy Association</li> </ul>
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## UNDERSTANDING THE COMMCELL CONSOLE

The SAP for Oracle iDataAgent uses two main components to perform backup and restore operations from the CommCell Console.

**Instance** - defines the SAP for Oracle database to be backed up.

**Subclient** - defines the SAP with Oracle database objects to be backed up.



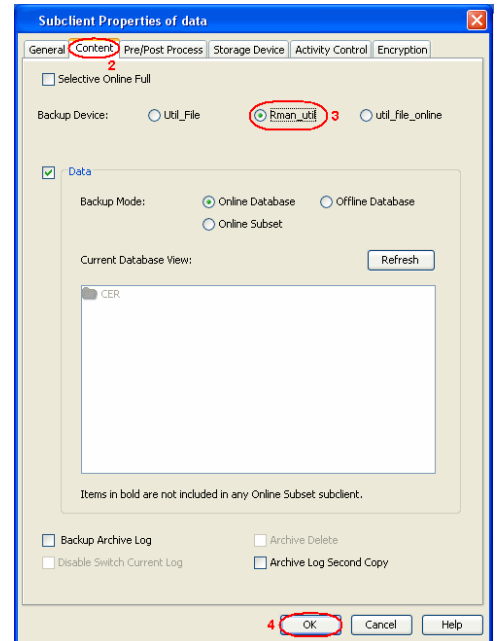
## CHOOSING THE BACKUP INTERFACE

When defining your subclient for various backup operations, you need to choose the SAP interface to be used for the backup. You can use the following SAP backup interfaces for SAP for Oracle iDataAgent:

### RMAN\_UTIL

The Rman\_util interface is used when you need to perform an incremental backup of the online database. When you select this option, you actually allow the Oracle RMAN utility to control the backup operation.

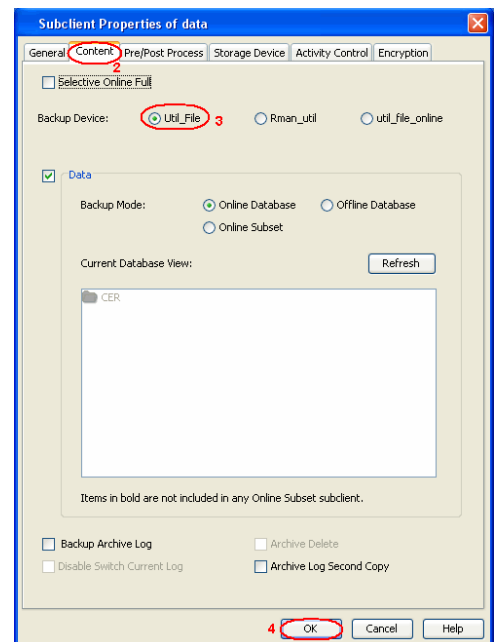
1. From the CommCell Browser, right-click the Subclient and click **Properties**.
2. Click **Content** tab.
3. Select **Rman\_util** to perform incremental backup of online database.
4. Click **OK** to save your settings.



## UTIL\_FILE

The util\_file interface is used when you need to perform a full backup of the SAP for Oracle data files as File System data. When selecting this option for online backup, the Oracle database is locked till the full backup operation is completed.

1. From the CommCell Browser, right-click the Subclient and click **Properties**.
2. Click **Content** tab.
3. Select **util\_file** to perform a full backup of SAP for Oracle data.
4. Click **OK** to save your settings.

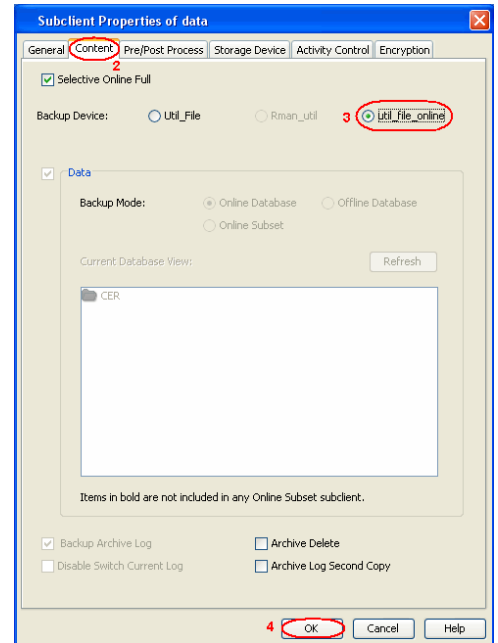


## UTIL\_FILE\_ONLINE

The util\_file\_online interface is similar to the util\_file interface. you can use this interface to perform a full or selective online full backup operations. When selecting this option for online backup, the Oracle database locks each table space that is being backed up and releases it once that table space backup is completed.

1. From the CommCell Browser, right-click the Subclient and click **Properties**.
2. Click **Content** tab.
3. Select **util\_file\_online** to perform a full or selective online backup operations.
4. Click **OK** to save your settings.





## OPTIMIZING PERFORMANCE

In order to recover a database during the event of a failure or data loss, you need to ensure that you always have the latest and consistent copy of the SAP for Oracle database data. To do this, you need to plan and decide on the backups to be performed. It is always recommended that you create separate subclients for each of these backups.

Although you can re-configure the content of the Default Subclient to backup specific objects, we strongly recommend against it because this would disable the capability of the Default Subclient to serve as a catch-all entity for client data, thus increasing the likelihood that some data will not get backed up.

Make sure that the database used for creating the subclient is up and running. This ensures that the system accesses the most recent configuration of the database.

## CREATING SUBCLIENT FOR OFFLINE BACKUPS

During an offline backup, the database is shutdown and is not available for use. Since incremental backups require access to various tablespaces and datafiles, it is always recommended that you perform a full backup of the database when it is offline. The full backup includes all the datafiles, tablespaces, and control file of the SAP for Oracle database. Note that, offline backups do not include the archived log files.

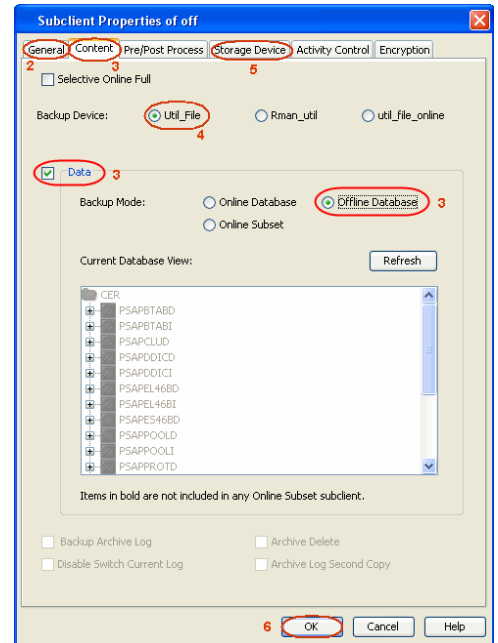
Offline backups can be performed when the database is in offline or online mode. If the database is online, it shuts down the database, performs the backup and then brings up the database back.

In order to backup the Oracle database when it is offline, you need to create a separate user-defined subclient for offline backup.

1. From the CommCell Browser, right-click the Instance and navigate to **All Tasks | New Subclient**.
2. Click **General tab** and type the name (up to 32 characters) of the subclient.
3. Click the **Content** tab and select the following options:
  - **Data** - Specifies that data files will be backed up.
  - **Offline Database** - Establishes the backup as an offline database backup.
4. Select the backup interface for offline backup.

Select **Rman\_util** if you need to perform an incremental backup of the data.

5. Click **Storage Device** tab. Ensure that a Storage Policy is selected.
6. Click **OK** to save the subclient configuration.



## CREATING SUBCLIENT FOR ONLINE BACKUPS

In some environments, it may not be possible to bring down the entire database to perform an offline backup. In such situations, you can choose online backups, where the database will be up and running during the backup.

You can perform either a full backup or incremental backup of the Oracle database when it is online. Since full backups include all the datafiles, tab spaces and logs, it is very time consuming, hence you can plan for a full online backup less frequently (say, on weekly basis). On the other hand, incremental backups include the data and logs that has been changed after the last full backup, they are faster and can be performed more frequently (say, on a daily basis). However, if you require to include the logs for the backups, ensure that the database is in ARCHIVELOG mode.

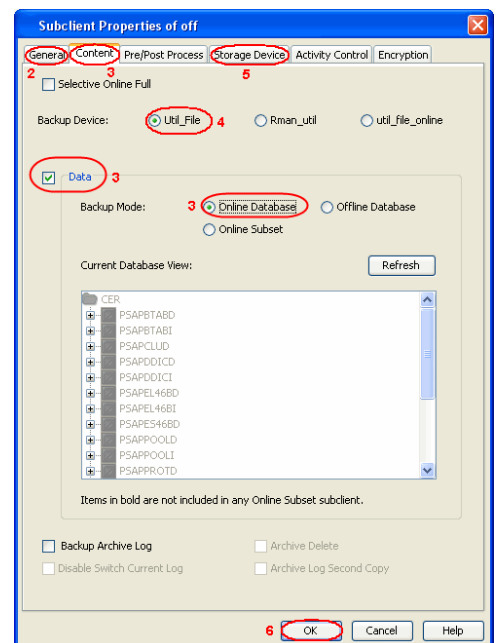
Incremental backups do not require database downtime and hence are extremely useful when you need to perform a point-in-time restore of the Oracle database.

## CREATING SUBCLIENT TO BACKUP ONLINE DATABASES

1. From the CommCell Browser, right-click the Instance. Navigate to **All Tasks | New Subclient**.
2. Click **General** tab and type the name (up to 32 characters) of the subclient.
3. Click the **Content** tab and select the following options:
  - **Data** - Specifies that data files will be backed up.
  - **Online Database** - Establishes the backup an online database backup.
4. Select the backup interface for online backup.

Select **Rman\_util** if you need to perform an incremental backup of the data.

5. Click **Storage Device** tab. Ensure that a Storage Policy is selected.
6. Click **OK** to save the subclient configuration.

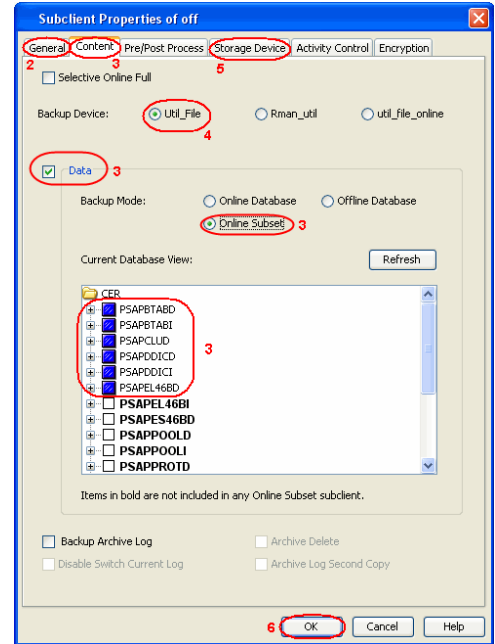


## CREATING SUBCLIENT TO BACKUP INDIVIDUAL DATAFILES/TABLESPACES

You need to create a separate subclient that includes the datafiles for backing up a subset of the Oracle online database, which undergoes changes frequently

and perform a full or incremental backup on that subclient at frequent intervals.

1. From the CommCell Browser, right-click the Instance. Navigate to **All Tasks | New Subclient**.
2. Click the **General** tab and type the name (up to 32 characters) of the subclient.
3. Click the **Content** tab and select the following options:
  - **Data** - Specifies that data files will be backed up.
  - **Online Subset** - Establishes the backup of a subset of database objects. The database tree displays the subsets that are available in the database. Click the objects in the tree to include the subset objects for the subclient.
4. Select the backup interface for the backup of individual datafiles/ Tablespaces.
5. Click **Storage Device** tab. Ensure that a Storage Policy is selected.
6. Click **OK** to save the subclient configuration.

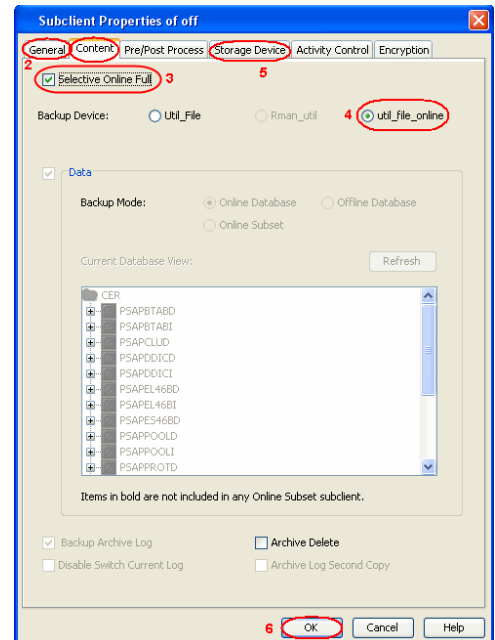


## CREATING SUBCLIENT FOR SELECTIVE ONLINE FULL BACKUPS

You can perform a Selective Online Full backup, wherein the backup data is copied to a selective copy (during an auxiliary copy operation) from which it can be restored.

The advantage of this type of backup is that both data and logs use the same storage policy, which means that they reside together on the same media. They are completely self-contained for restore and long term archiving purposes. Also, the data aging rules for selective online full backups are different from regular full backups, as both data and logs are aged together under the same storage policy.

1. From the CommCell Browser, right-click the Instance. Navigate to **All Tasks | New Subclient**.
2. Click the **General** tab and type the name (up to 32 characters) of the subclient.
3. Click the **Content** tab and select the **Selective Online Full**.
4. Select **util\_file\_online** as SAP interface for online backup.
5. Click **Storage Device** tab. Ensure that a separate Storage Policy is selected for Selective Online Full backups.
6. Click **OK** to save the subclient configuration.

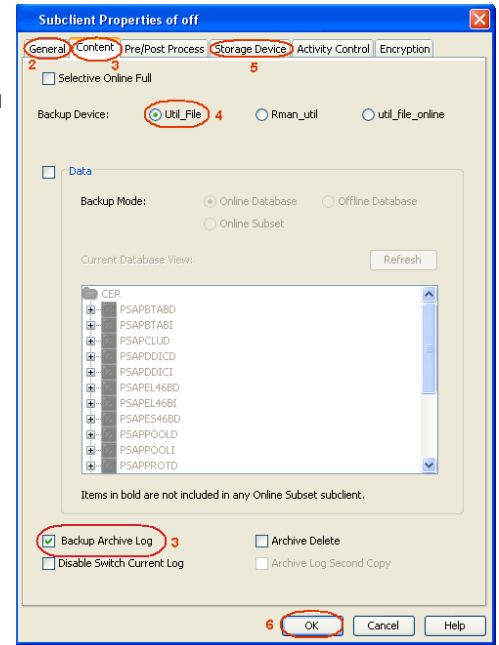


## CREATING SUBCLIENT FOR LOG BACKUPS

Archive logs are required to recover database transactions that have been lost due to an operating system or disk failure. You can apply these archive logs to an online backup in order to recover a database.

Though online full backups can include both data and logs, because of their importance in recovering data, it is recommended that you create separate subclients for backing up archive log files.

1. From the CommCell Browser, right-click the Instance. Navigate to **All Tasks | New Subclient**.
2. Click the **General** tab and type the name (up to 32 characters) of the subclient.
3. Click the **Content** tab and select the **Backup Archive Log** option. The archived redo log files will be backed up when you enable this option. These logs can be applied to the database in order to recover it to a point-in-time.
4. Select **util\_file** or **util\_file\_online** as SAP interfaces:
5. Click **Storage Device** tab. Ensure that a Storage Policy is selected.
6. Click **OK** to save the subclient configuration.



## REGISTERING THE CLIENT WITH SAP SLD

Once installed, you may register the client iDataAgent software in the SAP Software Landscape Directory (SLD) as recommended by SAP.

This is an optional procedure that can be run on any SAP for Oracle client and can be used to register any other client if needed.

1. Create an XML File using the `backint` program.
  - On UNIX the backint program needs to be run as a root user and in the `<iDataAgent>` directory.
  - On Windows, the backint program needs to be run from a command prompt in the base directory as the domain administrator.

This creates an xml file `racer_oracle.xml` in the same directory.

2. Make sure that the Java JRE version 1.5 and above is accessible.

3. Run the adjacent command.

A return code of 200 implies a successful registration of SAP for Oracle client `racer` in the SLD.

```
backint <-f createsldxml> <short_client_name>
<oracle>
```

Example:

```
backint -f createsldxml racer oracle
```

```
# java -version
java version "1.5.0_21"
Java(TM) 2 Runtime Environment,
Standard Edition (build 1.5.0_21-b01)
Java HotSpot(TM)
64-Bit Server VM (build 1.5.0_21-b01, mixed
mode)
java -cp sldreg.jar sldreg <SLD_HOST_NAME>
<PORT_NUMBER> <USER_NAME> <PASSWORD>
<XML_FILE>
```

Example:

```
# java -cp sldreg.jar sldreg 155.56.49.26 80
3rd_party isvconnect08 racer_oracle.xml
```

Retcode:200

## COMMAND LINE OPERATIONS

You can add, modify, or delete several configurable properties for the SAP for Oracle iDataAgent from the command line interface.

Command line configuration enables you to:

- configure the same properties across multiple clients simultaneously.
- reuse the same configurations for additional entities.

The following sections describe the available command line configurations:

### LOG ON TO THE COMMSERVE

To run command line operations you must first login to the CommServe as follows:

- From Command prompt, navigate to <Software\_Installation\_Directory>/Base and run the following command:

```
qlogin -cs <commserve name> -u <user name>
```

- For example, to log on to CommServe 'server1' with username 'user1':

```
qlogin -cs server1 -u user1
```

---

## CONFIGURE INSTANCES

### GET INSTANCE PROPERTIES

1. Download the GetInstance\_Properties\_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af GetInstance_Properties_Template.xml -instanceName xxxxx -clientName xxxxx
```

### CREATE AN INSTANCE

1. Download the CreateInstance\_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af CreateInstance_Template.xml -instanceName xxxxx -clientName xxxxx
```

### MODIFY AN INSTANCE

1. Download the ModifyInstance\_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af ModifyInstance_Template.xml -instanceName xxxxx -clientName xxxxx
```

---

## CONFIGURE SUBCLIENTS

### CREATING SAP ORACLE SELECTIVE ONLINE FULL SUBCLIENT

1. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
qoperation execscript -sn QS_CreateSAPOracleSubclient.sql -si client1 -si instance1 -si sp1 -si AUTO
```

2. Enable the Selective Online Full option for Subclient

```
qoperation execscript -sn SetSubClientProperty.sql -si 'c=client1' -si 'a=Q_SAP_ORADB' -si 'i=instance1' -si 'b=default' -si 's=AUTO' -si 'Oracle Online Selective Full' -si '1' -si '2'
```

### CREATING SAP ORACLE OFFLINE SUBCLIENT

1. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
qoperation execscript -sn QS_CreateSAPOracleSubclient.sql -si client1 -si instance1 -si sp1 -si AUTO
```

2. Enable the offline option for Subclient

```
qoperation execscript -sn SetSubClientProperty.sql -si 'c=client1' -si 'a=Q_SAP_ORADB' -si 'i=instance1' -si 'b=default' -si 's=AUTO' -si 'Oracle Backup Mode' -si '1' -si '2'
```

### CREATING LOG ONLY SUBCLIENT

1. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
qoperation execscript -sn QS_CreateSAPOracleSubclient.sql -si client1 -si instance1 -si sp1 -si AUTO
```

2. Disable the Data option for Subclient

```
qoperation execscript -sn SetSubClientProperty.sql -si 'c=client1' -si 'a=Q_SAP_ORADB' -si 'i=instance1' -si 'b=default' -si 's=AUTO' -si 'Oracle Backup Mode' -si '1' -si '2'
```

3. Disable the Delete Archive Log option

```
qoperation execscript -sn SetSubClientProperty.sql -si 'c=client1' -si 'a=Q_SAP_ORADB' -si 'i=instance1' -si 'b=default' -si 's=AUTO' -si 'Archive Log Deleting' -si '0' -si '2'
```

---

## LIST SCHEDULE POLICY ASSOCIATION

1. Download the sched\_policy\_association\_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software\_Installation\_Directory>/Base folder after substituting the parameter values.

```
operation execute -af sched_policy_association_template.xml -taskName mypolicy
```

PARAMETER	DESCRIPTION OF PARAMETER VALUES
taskName	Name of the Schedule Policy to be associated.

## MODIFYING AN INSTANCE OR SUBCLIENT

Certain properties of Agents, Instances, and Subclients can be modified to accommodate changes to your configuration, data, or desired backup behavior.

It is recommended that that you do not modify the properties of an instance or subclient when a job is in progress for that specific instance or subclient. If a job is in progress, either wait for the job to complete or kill the job from the Job Controller.

The following table describes the properties that can be configured from these levels.

OPTION	DESCRIPTION	RELATED TOPICS
<b>Change the User Account Details</b>	<p>You must have administrator privileges to access the Oracle application and perform backup and restore operations.</p> <p>In the case of backup and restore operations from the CommCell Console, the user credentials to access the Oracle application are provided initially when you create the instance. You can be modify the user credentials from CommCell Console.</p> <p>Always use the following user name to perform backup and restore operations from the CommCell Console for the associated instance:</p> <ul style="list-style-type: none"> <li>On Unix clients, use &lt;SID_name&gt;adm</li> <li>On Windows clients, use &lt;client_name&gt;/&lt;SID_name&gt;adm</li> </ul> <p>On Unix clients:</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b></li> <li>Click <b>Properties</b>.</li> <li>Click <b>General</b> tab and type the user name in the <b>ORACLE USER</b> field.</li> <li>Click <b>OK</b> to save your settings.</li> </ol> <p>On Windows clients:</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>General</b> tab and then click <b>Change</b>.</li> <li>Enter the impersonate user name and password in <b>Impersonate NT User</b> dialog.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Change the Designated Home Directory</b>	<p>You can change the Home Directory from the instance level.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>General</b> tab and type the path in <b>ORACLE HOME</b> field or click <b>Browse</b> to locate the path.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Change the Path to Oracle Files</b>	<p>You can change the path to the Oracle data and control files from the instance level.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>General</b> tab and enter the path to the Oracle files in the <b>SAP Data Path</b> field or click <b>Browse</b> to locate the path.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Change Connect Details</b>	<p>You can view and modify the connect string details for an instance. You might need to change the connect string details in any of the following situations:</p> <ul style="list-style-type: none"> <li>To connect to the Oracle database as a different user.</li> <li>To modify the password for the user.</li> </ul> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>Details</b> tab and enter the target database connect string in the <b>Connect String</b> field.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Change the Path to the SAPEXE Folder</b>	<p>You can view and change the path to the SAP EXE folder from the instance level.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> </ol>	

	<ol style="list-style-type: none"> <li>Click <b>Properties</b>.</li> <li>Click <b>Details</b> tab and type the path to the SAP EXE folder in the <b>SAP EXE Folder (Required)</b> field or click <b>Browse</b> to locate the path.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Change Storage Policies</b>	<p>You can configure storage policies from the instance level or subclient level.</p> <p>You might need to modify the storage policies in any of the following situations:</p> <ul style="list-style-type: none"> <li>To include a different media for the backup operation.</li> <li>To use a storage policy with a different retention criteria.</li> </ul> <p>You can change the storage policies for command line backup and log backup from the instance level.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>Storage Device</b> tab and do any of the following:</li> <li>Click <b>Command Line Backup</b> tab and select from the list of existing storage policies for command line backups.</li> <li>Click <b>Log Backup</b> tab and select from the list of existing storage policies for log backups.</li> <li>Click <b>OK</b> to save your settings.</li> </ol> <p>You can change the storage policies for data backup from the subclient level.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the subclient.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>Storage Device</b> tab.</li> <li>Click <b>Data Storage Policy</b> tab and select a data storage policy to associate with this subclient.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	Refer to Storage Policies.
<b>Rename a Subclient</b>	<p>You can rename an existing subclient.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the subclient.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>General</b> tab and type the new name in the <b>Subclient Name</b> field</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Archive Delete</b>	<p>This option is available only when you select the Backup Archive Log option. When you select this option, the archived redo log files will be deleted once they are backed up. Any archived redo log files that do not match the format indicated by the LOG_ARCHIVE_FORMAT environment variable are not deleted.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the subclient.</li> <li>Click the <b>Content</b> tab and select the <b>Backup Archive Log</b> option.</li> <li>Select <b>Archive Delete</b>.</li> </ol>	
<b>Archive Log Second Copy</b>	<p>When taking log backups, you can also choose to create a second copy of the archive logs and then delete the original archive logs. If your first copy of the logs are missing, you can use this second copy to recover a database.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the subclient.</li> <li>Click the <b>Content</b> tab and select the <b>Archive Log Second Copy</b>.</li> </ol>	
<b>Enable/Disable Log Switch</b>	<p>You can enable/disable the log switch for a SAP for Oracle backup from the subclient level.</p> <p>When performing archive log backups, a log switch is initiated wherein the current redo log file is closed (even if it is not filled up completely) and the next redo log file is used for writing. The closed redo log file is then archived during the log phase. However, you can disable the log switch if required.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the subclient.</li> <li>Click the <b>Content</b> tab and select the <b>Backup Archive Log</b> option.</li> <li>Select the <b>Disable Switch Current Log</b> option to specify that log switch is disabled for current redo log files.</li> <li>Click <b>OK</b> to save your settings.</li> </ol>	
<b>Configure Data Transfer Options</b>	<p>You can efficiently configure the available resources for transferring data secured by data protection operations from the subclient level. This includes the following:</p> <ul style="list-style-type: none"> <li>Enable or disable <b>Data Compression</b> either on the client or the MediaAgent.</li> <li>Configure the transfer of data in the network using the options for <b>Network Bandwidth Throttling</b> and <b>Network Agents</b>.</li> </ul> <p>You can configure the data transfer options.</p> <ol style="list-style-type: none"> <li>From the CommCell Browser, right-click the subclient.</li> </ol>	Refer to Data Compression and Network Bandwidth Throttling.

	<ol style="list-style-type: none"> <li>2. Click <b>Properties</b>.</li> <li>3. Click <b>Storage Device</b>.</li> <li>4. Click <b>Data Transfer Option</b> tab.</li> <li>5. Choose the appropriate software compression option for this subclient.</li> <li>6. Select <b>Throttle Network Bandwidth</b> and set the required bandwidth.</li> <li>7. Click <b>OK</b>.</li> </ol>	
<b>View Data Paths</b>	<p>You can view the data paths associated with the primary storage policy copy of the selected storage policy or incremental storage policy. You can also modify the data paths including their priority from the subclient level.</p> <ol style="list-style-type: none"> <li>1. From the CommCell browser, right-click the subclient.</li> <li>2. Click <b>Properties</b>.</li> <li>3. Click <b>Storage Device</b>.</li> <li>4. Select <b>Storage Policy</b> from the drop-down menu.</li> <li>5. Click <b>Data Paths</b>.</li> </ol>	
<b>Set the number of Streams</b>	<p>You can set the number of streams for log backup from the instance level.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, right-click the SAP for Oracle <b>Instance</b>.</li> <li>2. Click <b>Properties</b>.</li> <li>3. Click <b>Storage Device</b> tab.</li> <li>4. Click <b>Log Backup</b> tab and select <b>Number of Data Backup Streams</b>.</li> <li>5. Click <b>OK</b>.</li> </ol> <p>Similarly, you can set the number of streams for data backup from the subclient level.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, right-click the subclient.</li> <li>2. Click <b>Properties</b>.</li> <li>3. Click <b>Storage Device</b>.</li> <li>4. Click <b>Data Transfer Option</b> tab.</li> <li>5. Select <b>Number of Data Backup Streams</b>.</li> <li>6. Click <b>OK</b>.</li> </ol>	
<b>Configure a Subclient for Pre/Post Processing of Data Protection</b>	<p>You can add, modify or view Pre/Post processes for the subclient. These are batch files or shell scripts that you can run before or after certain job phases.</p> <ol style="list-style-type: none"> <li>1. From the CommCell browser, right-click the subclient.</li> <li>2. Click <b>Properties</b>.</li> <li>3. Click <b>Pre/Post Process</b>.</li> <li>4. Click one of the following phases and type the full path of the process that you want to execute during that phase. Alternatively, click <b>Browse</b> to locate the process (applicable only for paths that do not contain any spaces). <ul style="list-style-type: none"> <li>o <b>PreBackup Process</b></li> <li>o <b>PostBackup Process</b></li> </ul> </li> <li>5. Click <b>OK</b>.</li> <li>6. Select <b>Run Post Scan Process for all attempts</b> to run a post scan process for all attempts .</li> <li>7. Select <b>Run Post Backup Process for all attempts</b> to run a post backup process for all attempts.</li> <li>8. For subclients on Windows platforms, <b>Run As</b> displays <b>Not Selected</b>. If you want to change the account that has permission to run these commands, click <b>Change</b>. <ol style="list-style-type: none"> <li>a. In the <b>User Account</b> dialog box, select <b>Use Local System Account</b>, or select <b>Impersonate User</b> and enter the user name and password. Click <b>OK</b>.</li> <li>b. If you selected Local System Account, click <b>OK</b> to the message advising you that commands using this account have rights to access all data on the client computer.</li> </ol> </li> </ol>	Refer to Pre/Post Processes.
<b>Configure Activity Control</b>	<p>You can enable backup and restore operations from the agent and subclient level. However, you can enable restore operations only from the agent level.</p> <ol style="list-style-type: none"> <li>1. From the CommCell browser, right-click the subclient.</li> <li>2. Click <b>Properties</b>.</li> <li>3. Click <b>Activity Control</b>, select or clear option(s) as desired.</li> <li>4. Click <b>OK</b>.</li> </ol>	Refer to Activity Control.



<b>Configure User Security</b>	<p>You can configure user security from the agent or subclient level.</p> <p>You can perform the following functions:</p> <ul style="list-style-type: none"> <li>Identify the user groups to which this CommCell object is associated.</li> <li>Associate this object with a user group.</li> <li>Disassociate this object from a user group.</li> </ul> <ol style="list-style-type: none"> <li>From the CommCell browser, right-click the subclient.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>Security</b>.</li> <li>Select the appropriate user groups to which you want to associate to the CommCell object from the <b>Available Groups</b> pane, and then move the user group to the <b>Associated Groups</b> pane.</li> <li>Click <b>OK</b>.</li> </ol>	Refer to User Administration and Security.
<b>Enable/Disable Data Encryption</b>	<p>You can enable data encryption from the subclient level. Encryption must be enabled at the client level prior to configuring any instances residing on that client.</p> <ol style="list-style-type: none"> <li>From the CommCell browser, right-click the subclient.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>Encryption</b>.</li> <li>Select the desired encryption.</li> <li>Click <b>OK</b>.</li> </ol>	Refer to Data Encryption.
<b>View Software Version and Installed Updates</b>	<p>The <b>Version</b> tab, at the Agent level displays the software version and post-release service packs and updates installed for the component.</p> <ol style="list-style-type: none"> <li>From the CommCell browser, right-click the agent.</li> <li>Click <b>Properties</b>.</li> <li>Click <b>Version</b>.</li> <li>Click <b>OK</b>.</li> </ol>	
<b>CommCell Configuration Report</b>	<p>The CommCell Configuration Report provides the properties of the CommServe, MediaAgents, clients, agents, subclients, and storage policies within the CommCell based on the selected filter criteria.</p> <ol style="list-style-type: none"> <li>From the CommCell browser, click <b>Reports</b> icon.</li> <li>Select <b>CommCell Configuration</b>.</li> <li>Click <b>Run</b>.</li> </ol>	Refer to CommCell Configuration.

## DELETING AN INSTANCE OR SUBCLIENT

The following sections describe the steps involved in deleting an instance or subclient.

When you delete an instance or backupset, the associated data is logically deleted and you can no longer access the corresponding data from CommCell Console for recovery purposes.

Refer to the troubleshooting article on Recovering Data Associated with Deleted Clients and Storage Policies for information on how to recover data if you accidentally delete an entity.

---

### DELETING AN INSTANCE

Consider the following before deleting an instance:

- When you delete a specific instance all job schedules and job histories that pertain to any of the levels within the deleted instance are deleted.
  - You cannot delete an instance if it is being backed up. Attempts to delete an instance under such conditions cause the deletion to fail. If a backup is in progress, either wait for the backup to complete or kill the backup job using the Job Manager. Once the backup is no longer in progress, you can delete the instance level.
  - You cannot delete an instance if there is only one instance present for an agent. To delete the final instance, you must remove the agent software from the client computer.
- From the CommCell Browser, right-click the instance that you want to delete, click **All Tasks** and then click **Delete**.
  - Click **Yes** to confirm the deletion. (Clicking **No** cancels the deletion and retains the node.)
  - Type the requested phrase in the **Enter Confirmation Text** dialog box and click **OK**. This should delete the instance.

---

### DELETING A SUBCLIENT

Consider the following before deleting a subclient:

- You cannot delete a default subclient.

- Schedules associated with the subclient are also automatically deleted.
1. From the CommCell Browser, navigate to **Client Computers** | **<Client>** | **<Agent>** | **<Backup Set>**.
  2. Right-click the **<subclient>** that you want to delete, and then click **Delete**.
  3. A confirmation message is displayed, asking if you want to delete the subclient.  
Click **No** to cancel the deletion and retain the subclient, or click **Yes** to continue the deletion.

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# Advanced - SAP for Oracle Backup

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## CHOOSING THE BACKUP INTERFACE

When defining your subclient for various backup operations, you need to choose the SAP interface to be used for the backup. You can use the following SAP backup interfaces for SAP for Oracle iDataAgent:

---

### RMAN\_UTIL

The Rman\_util interface (also referred to as the RMAN utility) is used when you need to perform an incremental backup of the online database. When you select this option, you actually allow the Oracle RMAN utility to control the backup operation.

- For SAP for Oracle on Windows, if your backups use the RMAN utility, be sure to modify the SAP database init file (`init<SID>.sap`) by adding the following:

```
RMAN_PARMS="ENV=(CvClientName=<client name>,CvInstanceName=<instance name> "
```

For example:

```
RMAN_PARMS="ENV=(CvClientName=bumblebe,CvInstanceName=Instance001) "
```

- For SAP for Oracle on Unix, if your backups will be using the RMAN utility, be sure to do the following before you run any backups:
  - Ensure that `$ORACLE_HOME/lib` and `$ORACLE_HOME/lib64` are in the `LD_LIBRARY_PATH` environment variable.
  - Modify the SAP database init file (`init<SID>.sap`) under `$ORACLE_HOME/dbs` by adding the following:

```
RMAN_PARMS="SBT_LIBRARY=/<install path>/<Base directory version>/libobk.<xx>,ENV=(CvClientName=<client name>,CvInstanceName=<instance name> "
```

For Example:

```
RMAN_PARMS="SBT_LIBRARY=/opt/calypso/Base64/libobk.so,ENV=(CvClientName=aha,CvInstanceName=Instance001) "
```

---

### UTIL\_FILE

The util\_file interface is used when you need to perform a full backup of the SAP for Oracle data files as File System data. When selecting this option for online backup, the Oracle database is locked till the full backup operation is completed.

---

### UTIL\_FILE\_ONLINE

The util\_file\_online interface is similar to the util\_file interface. you can use this interface to perform a full or selective online full backup operations. When selecting this option for online backup, the Oracle database locks each table space that is being backed up and releases it once that table space backup is completed.

Follow the procedure given below to choose the desired Backup interface.

- From the CommCell Browser, right-click the Subclient and click **Properties**.

## RELATED TOPICS

### Command Line Interface

Provides comprehensive information on running jobs from the command line.

### Scheduling

Provides comprehensive information on scheduling jobs.

### Job Management

Provides comprehensive information on managing jobs.

2. Click **Content tab**.
3. Select the Backup Interface.
4. Click **OK**.

## FULL BACKUP

A full backup contains all the data that comprises a subclient's contents. Though, full backups provide the most comprehensive protection of data, it consumes most amount of time and resources.

1. From the CommCell Console, navigate to **<Client> | SAP for Oracle | <Instance>**
2. Right-click the **Subclient** and click **Backup**.
3. Select **Full** as backup type and **Immediate** to run the job immediately.
4. Click **OK**.
5. You can track the progress of the job from the **Job Controller** window of the CommCell console.
6. Once job is complete, view the details of job from the **Job History**.
7. Right-click the client computer, click **View** and then click **View Job History**.
8. Click **OK**.
9. You can view the following details about the job by right-clicking the job:
  - o Items that failed during the job
  - o Items that succeeded during the job
  - o Details of the job
  - o Events of the job
  - o Log files of the job
  - o Media associated with the job

If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

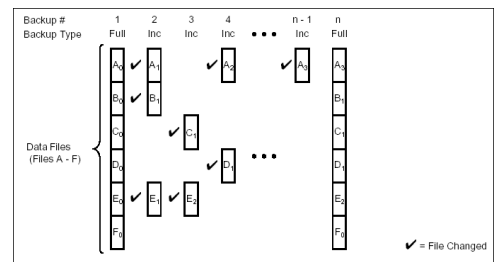
## INCREMENTAL BACKUPS

An incremental backup contains only data that is new or has changed since the last backup, regardless of the type. On average, incremental backups consume far less media and place less of a burden on resources than full backups.

Always ensure that your first backup is a full backup.

The illustration on the right clarifies the nature of full and incremental backups. For simplicity, assume there is a database that contains six data files as represented in the figure.

Backup #1 is a full backup and therefore writes all the data, changed and unchanged, to the backup media. Backups #2 through #n-1 are incrementals and only back up those files that have changed since the time of the last backup, regardless of the type. For example, files A, B, and E changed after the full backup and were therefore backed up in Backup #2. Backup #4 backed up files A and D because both files were modified sometime after Backup #3 occurred. File F did not change; hence, it was not backed up in any of the incremental backups, but it was included in both full backups, which, by definition, back up everything.



For SAP for Oracle iDataAgent, incremental backups are performed using the rman\_util backup interface.

1. From the CommCell Console, navigate to **<Client> | SAP for Oracle | <Instance>**.
2. Right-click the **Subclient** ,and click **Backup**.
3. From the **Backup Options** dialog box, select from the following options:

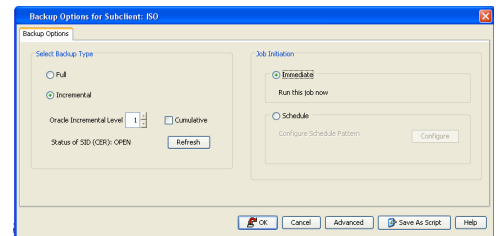
Backup Type:

- o Select **Incremental**.

Backup Schedule:

- o Select **Run Immediately**

4. Click **OK**.
5. You can track the progress of the backup job from the Job Controller window



If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

6. When the backup has completed, the Job Controller displays Completed.

## OFFLINE BACKUPS

Offline backups are performed when the Oracle database is shut down and unavailable for use. Offline backups are always full backups and does not include the archived log files.

Offline backups can be performed when the database is in offline or online mode. If the database is online, it shuts down the database, performs the backup and then brings up the database back.

In order to backup the Oracle database when it is offline, you can create a separate user-defined subclient for offline backup. See [Creating Subclient for Offline Backups](#) for step-by-step instructions.

When performing SAP for Oracle offline backups from the CommCell Console, the database is forced to shutdown by default. However, you can disable this by setting the `sNOOFFLINEFORCE` registry key on the client computer with SAP for Oracle iDataAgent.

## ONLINE BACKUPS

Online backups are performed when the database is online and in ARCHIVELOG mode. Data files and archived log files are included when you back up the database in online mode. You can perform a full or incremental backups when the database is online. These backups do not require database downtime and are extremely useful when you need to perform a point-in-time restore of the Oracle database.

In order to backup the Oracle database when it is online, you can create a separate user-defined subclient for online backup. See [Creating Subclient for online Backups](#) for step-by-step instructions.

## BACKING UP INDIVIDUAL DATAFILES/TABLE SPACES

You can backup a subset of the online database which undergo changes frequently. To backup a subset of the online database, you can create a separate user-defined subclient. See [Creating Subclient to Backup Individual DataFiles/Tablesaces](#) for step-by-step instructions.

## ARCHIVE LOG BACKUPS

Archive log backups are useful when you want to recover database transactions that have been lost due to an operating system or disk failure. You can apply these archive logs to an online backup in order to recover a database.

Full backups generally includes both the data and logs. However, you can also take backups of the archive logs only. In order to backup only the archive logs, you need to create a separate subclient for archive logs. See [Creating Subclient for Log Backups](#) for step-by-step instructions.

By default, the first backup operation on the default subclient will include the entire database (data and archive logs) when the database is online and in ARCHIVELOG mode.

If archive log destination is different than the default `$SAPDATA_HOME/saparch` location, set the `sSAPARCH` registry key to enable the GUI backup to obtain the new SAPARCH location.

## SELECTIVE ONLINE FULL BACKUPS

Selective Online Full backup is a full backup taken when Oracle database is online, and the backup data is copied to a selective copy (during an auxiliary copy operation) from which it can be restored.

The advantage of this type of backup is that both data and logs use the same storage policy, which means that they reside together on the same media, and are completely self-contained for restore and long term archiving purposes. This is especially useful in disaster recovery situations by alleviating the need to locate different offsite media from various jobs to gather the necessary data and logs to recover the database. Also, the data aging rules for selective online full backups are different from regular full backups, as both data and logs are aged together under the same storage policy.

You need to create a separate subclient to perform a selective online full backup of the Oracle database. See [Creating Subclient for Selective Online Full Backups](#) for step-by-step instructions.

When performing selective online full backups, note the following:

- You can run SAP for Oracle Selective Online Full backups from the CommCell Console only using the `util_file` and `util_file_online` utilities.
- A selective online full backup job will wait for other SAP for Oracle backup jobs currently running on the same instance to complete before it begins.
- For this type of backup, both data and archive logs will use the same storage policy as defined for data in the subclient and will ignore the storage policy setting for archive logs (which is defined at the instance level).
- During selective online full backups, if the data streams (defined at the subclient level) is less than the archive log streams (defined at the instance level), then both the data phase and the archive log phase will use the same number of streams defined for the data in the subclient, and will ignore the number of

streams set for the archive logs.

- While the data backup phase of a selective online full backup is running, the only other SAP for Oracle backup jobs that are allowed to run on the same instance are archive log backups. During the log backup phase of a selective online full backup, no other SAP for Oracle backups are allowed to run (neither logs nor data) on the same instance.
- If SAP for Oracle archive log backup jobs are run at the same time as the selective online full backup, they will be forced to use the same storage policy used by the selective online full backup during the time-frame in which the selective online full backup job is running, and will be included in the same Auxiliary Copy operation and aged together.

For more information on special data aging rules for selective online full backups, see [Selective Online Full Backup Retention Rules](#).

- To enable SAP for Oracle command line backups using selective copy from the client, include the `SelectiveOnlineFull` parameter in the `param` file and set the parameter value to 1.
- SAP for Oracle command line backups cannot be run when a selective online full backup job is running in the data backup phase.

## SELECTIVE COPY - FULL BACKUPS

A selective copy allows you to copy backup data selectively from a source copy to this copy, providing for better tape rotation. Since only selective backups can be copied to selective copies, the selective copies cannot be promoted to the primary copy, only synchronous copies can be promoted. Note that the data selection process does not have to be the same for all auxiliary copies.

Selective copy will not only copy Selective Online Full and Offline Full jobs, it will also copy log backup jobs that are linked to selective online full backup jobs.

1. Create a selective copy:
  - From the CommCell Browser, right-click the storage policy for which you wish to create the secondary copy, click **All Tasks** and then click **Create New Copy**.
  - From the **General** tab of the **Copy Properties** dialog box:
    - Enter the copy name in the **Copy Name** box.
    - Select the **Selective Copy** check box. The **Selective Copy** tab is enabled.
    - Select the library, MediaAgent, drive pool and scratch pool from the lists (drive pool and scratch pool are not applicable for disk libraries).
2. Associate a subclient with the storage policy copy:
  - From the CommCell Browser, right-click the instance for which you want to create a new subclient, click **All Tasks** and then click **New Subclient**.
  - Click the **Subclient Properties (General)** tab, type the name (up to 32 characters) of the subclient that you want to create.
  - Click the **Subclient Properties (Content)** tab to define the contents of the subclient.
  - Click the **Subclient Properties (Storage Device)** tab and select a storage policy copy to associate with this subclient from the storage policy list.
  - Click **OK** to save the subclient configuration.
3. Right-click the **Subclient** and click **Backup**.
4. Select **Full** as backup type and **Immediate** to run the job immediately.
5. Click **OK**.

## COMMAND LINE BACKUPS

In addition to using CommCell Console, you can also perform full and incremental backups from the Command Line Interface.

You can perform Command Line backup operations using one of the following methods:

---

### USING QCOMMANDS

You can use `qcommands` to perform backup operations from the command line interface. You can also integrate these `qcommands` into your own scripts or scheduling programs. In addition, you can also generate scripts for specific operations from the CommCell Console using the **Save As Script** option. These scripts can later be executed using the `commands` from the command line interface.

Usage: `backup [-cs commserver] -c client -a iDataAgent -i instance -b backupset -s subclient -t Q_FULL|Q_INC|Q_DIFF|Q_SYNTH [-scid subclientId] [-af argsfile] [-tf tokenfile] [-tk token] [-h]`

Example:

```
bash-3.00# ./qoperation backup -c sunsign -a Q_SAP_ORADB -i CER -s default -t Q_FULL
9251
```

For comprehensive information on command line backups, refer to the [Command Line Interface documentation](#).

---

### USING SAP COMMAND LINE

You can perform backups from the SAP command line using the `BRBACKUP` and `BRARCHIVE` commands.

```
brbackup -t offline/online -d util_file/rman_util/util_file_online -m full/incr
```

**BRBACKUP** command can back up control files and data files within one or more table spaces, and (if necessary) log files. **BRBACKUP** can back up all of these file types with the database either online or offline. Also, **BRBACKUP** saves the profiles and logs relevant to the backup.

Examples:

- Perform a full backup using util\_file interface

```
brbackup -t online -d util_file -m all -u /
```

- Perform a full backup using rman\_util interface

```
brbackup -t online -d rman_util -m FULL -u /
```

- Perform an incremental backups using rman\_util interface

```
brbackup -t online -d rman_util -m INCR -u /
```

The **BRARCHIVE** command is used to backup the archived redo log files.

Examples:

- Perform a log backup using util\_file interface

```
brarchive -sd -c -b -m all -t util_file
```

- Perform a log backup using rman\_util interface

```
brarchive -d rman_util -s
```

- To archive the offline redo logs

```
brarchive -d util_file -s
```

- To create a second copy of the offline redo log files which were already archived

```
brarchive -d util_file -sc
```

- To archive the offline redo logs to two backup devices (tape devices) in parallel

```
brarchive -d util_file -ss
```

- To archive offline redo log files and then delete these files

```
brarchive -d util_file -sd
```

- To create a second copy of the offline redo log files that have already been archived and then delete these files

```
brarchive -d util_file -scd
```

- To archive the offline redo logs to two backup devices (tape devices) in parallel and then delete the files

```
brarchive -d util_file -ssd
```

- To create a second copy of offline redo log files that have already been archived and then archive the newly created offline redo log files

```
brarchive -d util_file -cs
```

- To create a second copy of offline redo log files which were already archived. These are then deleted and archiving of the newly created offline redo log files is begun

```
brarchive -d util_file -c ds
```

- To delete offline redo log files that have been archived once

```
brarchive -d util_file -ds
```

- To delete offline redo log files that have been copied twice

```
brarchive -d util_file -dc
```

Some of the command options commonly used by **BRBACKUP** and **BRARCHIVE** commands are listed below:

Option	Argument	Values
-a	-archive	[<DB_SID>,<log_no> [=<rest_dest>]]
-b	-backup	<log_name> last
-r	-parfile	<parameter_file>
-c	-confirm	force
-d	-device	util_file rman_util
-m	-mode	all full incr
-o	-output	dist time [,time dist]

-t	-type	online offline
----	-------	----------------

## PARAMETER FILE

Before you run backups from the SAP command line, ensure that the appropriate parameter file containing information regarding the instance and the client is in place. Be sure to include at least the `CvInstanceName` parameter name followed by the name of the instance and also the `CvClientName` parameter name followed by the name of the client.

- For SAP for Oracle on Unix include this information in the `init.utl` file under the `$ORACLE_HOME/dbs` directory.
- For SAP for Oracle on Windows, include this information in the `init.utl` file in any location and execute the `BRBACKUP` command with option `-r`.
- For any software version, if your backups are using the SAP utility files, be sure to modify the `init<SID>.utl` file by adding values for the following parameters. Note that some parameters are optional.
  - `CvInstanceName <name of instance>`, which specifies the name of the instance for the iDataAgent (for example, `Instance001`)
  - `CvClientName <name of client>`, which specifies the name of the computer with the installed iDataAgent (for example, `bumblebee`)
  - `numstreams <number of streams>` (optional), which specifies the number of streams. Default value is `1` (for example, `1`)
  - `SelectiveOnlineFull <option>` (optional), which specifies whether you can run a selective online full backup from the client. To enable this capability, set the parameter value to `1`; to disable this capability, set the parameter value to `0`.
  - `snapBackup`, which specifies that the SnapProtect backup is enabled. Default value is `0`.

For example:

```
CvInstanceName
Instance001
CvClientName
bumblebee
numstreams
1
SelectiveOnlineFull
1
```

When performing backups from the command line, note the following:

Multi-stream log backups are supported only from the command line interface.

For comprehensive information on multi streaming, refer to the Streams documentation.

## CONSISTENT ONLINE BACKUPS

In a consistent online backup, the database files and the offline redo log files are backed up together in the same backup volume. This backup type allows you to take logical consistent backups without having to shutdown the database.

The offline redo log files backed up along with the database are completely independent from the BRARCHIVE log backups.

Use the following steps to run a consistent online full backup:

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Include the instance name and client name parameters in the <code>init.utl</code> file.</li> </ol> | <p>For example:</p> <pre>CvInstanceName Instance001 CvClientName client1</pre> |
| <ol style="list-style-type: none"> <li>2. From the SAP command line, type the command to run a consistent online full backup.</li> </ol>     | <pre>brbackup -t online_cons -d util_file -m full</pre>                        |

## BRTOOLS INTERFACE

In addition to SAP command line, you can also use the BRTools user interface to perform backup and restore operations. BRTools is an easy-to-use interface that provides menus to run different types of backup or restore operations. For detailed information on using the BRTools interface, see SAP documentation.

Prior to performing backup operations using BRTools interface, ensure to set the appropriate values in the parameter file.

A sample BRTools backup operation is given below:

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. From the BRTools interface main menu, select 4 to perform a backup operation.</li> </ol> | <pre>BR*Tools main menu\par \par 1 = Instance management\par 2 - Space management\par 3 - Segment management\par 4 - Backup and database copy\par</pre> |
|--|---|



- 5 - Restore and recovery\par  
6 - Check and verification\par  
7 - Database statistics\par  
8 - Additional functions\par  
9 - Exit program\par  
\par  
Standard keys: c - cont, b - back, s - stop, r - refr, h - help\par  
-----\par  
-----\par  
BR0662I Enter your choice:\par
2. From the BRTools choice menu, select 1 to perform a database backup.
- BR0656I Choice menu 9 - please make a selection\par  
-----\par  
-----\par  
Backup and database copy\par  
\par  
1 = Database backup\par  
2 - Archivelog backup\par  
3 - Database copy\par  
4 - Non-database backup\par  
5 - Backup of database disk backup\par  
6 - Verification of database backup\par  
7 - Verification of archivelog backup\par  
8 - Additional functions\par  
9 - Reset program status\par  
\par  
Standard keys: c - cont, b - back, s - stop, r - refr, h - help\par  
-----\par  
-----\par  
\b BR0662I Enter your choice:\b0\par
3. From the BRTools input menu, select the input values, such as device type, backup type etc.  
For example, select 2 to specify the device type.
- BR0657I Input menu 15 - please check/enter input values\par  
-----\par  
-----\par  
BRBACKUP main options for backup and database copy\par  
\par  
1 - BRBACKUP profile (profile) ..... [initCER.sap]\par  
2 - Backup device type (device) ..... [util\_file]\par  
3 # Tape volumes for backup (volume) . []\par  
4 ~ BACKINT/Mount profile (parfile) .. [?/dbs/init@.utl]\par  
5 - Database user/password (user) .... [/>\par  
6 - Backup type (type) ..... [offline\_force]\par  
7 - Disk backup for backup (backup) .. [no]\par  
8 # Delete disk backup (delete) ..... [no]\par  
9 ~ Files for backup (mode) ..... [all]\par  
\par  
Standard keys: c - cont, b - back, s - stop, r - refr, h - help\par  
-----\par  
-----\par  
BR0662I Enter your choice:\par
4. Specify the value for the device type.  
For example, util\_file
- BR0280I BRTOOLS time stamp: 2010-02-23 17.58.47\par  
BR0681I Enter string value for  
"device" (tape|tape\_auto|tape\_box|pipe|pipe\_auto|pipe\_box|disk|stage|  
util\_file|util\_file\_online|rman\_util|rman\_disk|rman\_stage)  
[util\_file]:\par
5. From the BRBackup main options menu, select 4 to provide the parameter file.
- BRBACKUP main options for backup and database copy\par  
\par  
1 - BRBACKUP profile (profile) ..... [initCER.sap]\par  
2 - Backup device type (device) ..... [util\_file]\par  
3 # Tape volumes for backup (volume) . []\par  
4 ~ BACKINT/Mount profile (parfile) .. [?/dbs/init@.utl]\par  
5 - Database user/password (user) .... [/>\par  
6 - Backup type (type) ..... [offline\_force]\par  
7 - Disk backup for backup (backup) .. [no]\par  
8 # Delete disk backup (delete) ..... [no]\par  
9 ~ Files for backup (mode) ..... [all]\par  
\par
6. Enter the path to the parameter file.  
Example;  
/dbs/initCER.utl
- BR0280I BRTOOLS time stamp: 2010-02-23 17.59.26\par  
BR0681I Enter string value for "parfile" [?/dbs/init@.utl]:\par
7. Go to step 5. Select the backup options as required.  
Repeat this process, till you have entered all the required parameters for the backup operation.  
Once all the options are selected, enter c to initiate the backup operation.
8. The summary of the options selected, will be displayed.  
Enter c to continue the operation.
- BR0291I BRBACKUP will be started with options '-p initCER.sap -d  
util\_file -r ?/dbs/initCER.utl -t online -m all -k no -l E'\par  
\par  
BR0280I BRTOOLS time stamp: 2010-02-23 18.03.38\par  
BR0670I Enter 'c[ont]' to continue, 'b[ack]' to go back, 's[top]' to

abort:\par

**BACKINT INTERFACE**

BACKINT is another interface program that internally uses the SAP BRTools to communicate with the SAP Oracle Database and perform backup and restore operations. It also allows you to inquire about backup requests and executes them.

```
backint -u <user_id> [-f <function>] [-t <type>] [-p <par_file>] [-i <in_file>] [-o <out_file>] [-c]
```

-u	Specifies the BACKINT user ID. Normally, this will be the database instance name (ORACLE_SID)	None
-f	Specifies the operation (backup, restore, or inquire)	backup
-t	Specifies the backup type: file or file_online	file
-p	Specifies the backup utility parameter file containing the parameters that determine the backup procedure specific to the backup utility.  The SAP BRtools specify the location of this utility parameter file in their own parameter file (parameter util_par_file), but they do not evaluate its contents.	none
-i	Specifies the input file (text file) that defines the files and directories to be backed up.	By default, the data is read from the standard input.
-o	Specifies the output text file that will contain the processing messages and the results of the operation.	By default, the messages are displayed on the standard output.
-c	unattended mode (does not involve user interaction)	attended mode

The BACKINT interface takes the backup requests defined in the input file and returns a backup ID (BID) for each file that is backed up. Also, it provides details on the files that were successfully backed up and failed to be backed up.

Example:

```
backint -u CER -f backup -t file -p /oracle/CER/dbs/initCER.utl -i dummy -o dummy.out
```

The output file looks like below:

```
Program: backint
Parameters: Client node: RC1
Function: backup
Input File: dummy
Output File: dummy.out
Profile: /oracle/CER/dbs/initC11.utl
Parallel sessions: 1 BKI0008I: Number of bytes to save: 0.012 MB.
Backup started ... #SAVED SAP__9409020458 /oracle/CER/sapdata1/user11_1/user11.data1
BKI0022I: Bytes saved so far: 0.012 MB (100.0%).
```

**INQUIRE A BACKUP REQUEST**

The BACKINT interface program inquires about the backup requests based on the user ID, backup ID, or the file name.

For example, if you set the tag #NULL in front of the file name in the input file, the inquire operation lists out all the backup jobs that contains the specific file name.

Example;

```
#NULL /oracle/CER/sapdata1/user11_1/user11.data1
```

The output file looks like below:

```
Program: backint
Parameters: Client node:
RC1 Function: backup
Input File: dummy
Output File: dummy.out
Profile: /oracle/CER/dbs/initCER.utl
Parallel sessions: 1
```

```
#BACKUP SAP__9409020458 /oracle/CER/sapdata1/userli_1/userli.data1
#BACKUP SAP__9409020450 /oracle/CER/sapdata1/userli_1/userli.data1
```

## SCHEDULING A BACKUP

**1**

- From the CommCell Console, navigate to the **Client Computers | <Client> | SAP for Oracle | <Instance>**
- Right-click the **Subclient**, and then click **Backup**.

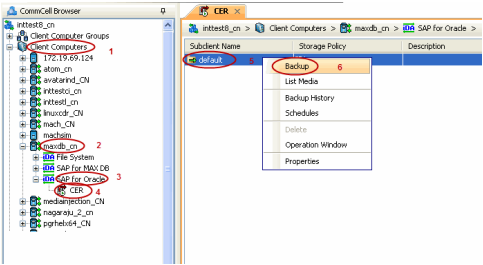
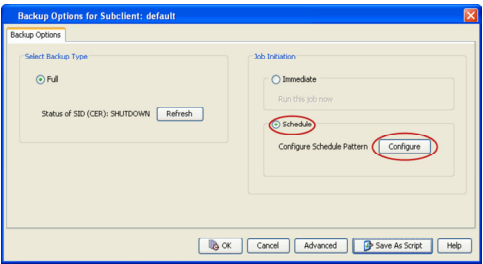
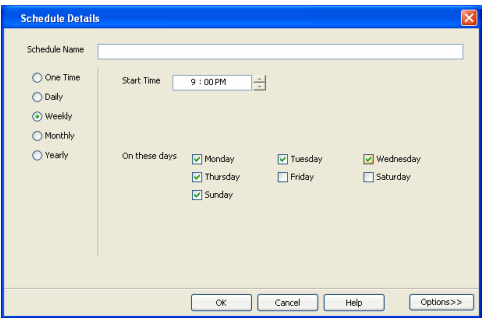
**2**

- Click **Schedule** to schedule the backup for a specific time.
- Click **Configure** to set the schedule for the backup job. The Schedule Details dialog displays.

**3**

Select the appropriate scheduling options. For example:

- Click **Weekly**
- Check the days you want the run the backup job
- Change the Start Time to 9:00 PM
- Click **OK** to close the Schedule Details dialog
- Click **OK** to close the Backup Options dialog
- The backup job will execute as per the schedule

## MANAGING JOBS

Once you initiate the backup operation, a backup job is generated in the Job Controller. Jobs can be managed in a number of ways. The following sections provide information on the different job management options available:

### RESTARTING JOBS

Jobs that fail to complete successfully are automatically restarted based on the job restartability configuration set in the Control Panel. Keep in mind that changes made to this configuration will affect all jobs in the entire CommCell.

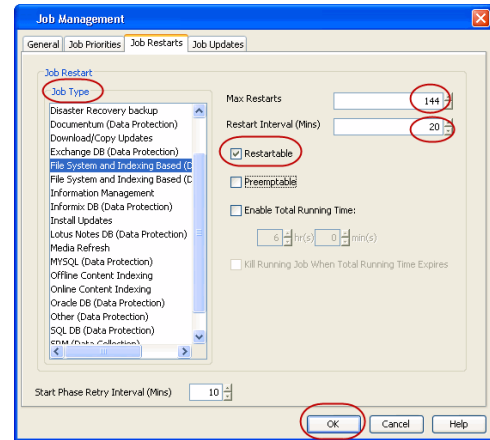
To Configure the job restartability for a specific job, you can modify the retry settings for the job. This will override the setting in the Control Panel. It is also possible to override the default CommServe configuration for individual jobs by configuring retry settings when initiating the job. This configuration, however, will apply only to the specific job.

Backup jobs for this Agent are resumed from the point-of-failure.

### CONFIGURE JOB RESTARTABILITY AT THE COMMSERVE LEVEL

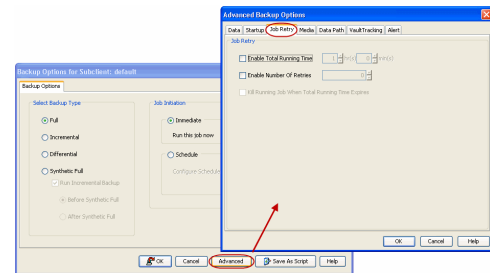
- From the CommCell Browser, click **Control Panel** icon.
- Select **Job Management**.
- Click **Job Restarts** tab and select a **Job Type**.
  - Select **Restartable** to make the job restartable.
  - Change the value for **Max Restarts** to change the maximum number of times the Job Manager will try to restart a job.
  - Change the value for **Restart Interval (Mins)** to change the time interval between attempts for the Job Manager to restart the job.

- Click **OK**.



**CONFIGURE JOB RESTARTABILITY FOR AN INDIVIDUAL JOB**

- From the CommCell Console, navigate to **<Client> | SAP for Oracle | <Instance>**
- Right-click the **Subclient** and select **Backup**
- Click **Advanced**.
- In the **Advanced Backup Options** dialog box, click the **Job Retry** tab.
- Select **Enable Total Running Time** and specify the maximum elapsed time before a job can be restarted or killed.  
Select **Kill Running Jobs When Total Running Time Expires** to kill the job after reaching the maximum elapsed time.
- Select **Enable Number Of Retries** and specify the number of retries.
- Click **OK**.



**CONTROLLING JOBS**

The following controls are available for running jobs in the Job Controller window:

<b>SUSPEND</b>	Temporarily stops a job. A suspended job is not terminated; it can be restarted at a later time.
<b>RESUME</b>	Resumes a job and returns the status to Waiting, Pending, Queued, or Running. The status depends on the availability of resources, the state of the Operation Windows, or the Activity Control setting.
<b>KILL</b>	Terminates a job.

**SUSPENDING A JOB**

- From the Job Controller of the CommCell Console, right-click the job and select **Suspend**.
- The job status may change to **Suspend Pending** for a few moments while the operation completes. The job status then changes to **Suspended**.

**RESUMING A JOB**

- From the Job Controller of the CommCell Console, right-click the job and select **Resume**.
- As the Job Manager attempts to restart the job, the job status changes to **Waiting, Pending, or Running**.

**KILLING A JOB**

- From the Job Controller of the CommCell Console, right-click the job and select **Kill**.
- Click **Yes** when the confirmation prompt appears if you are sure you want to kill the job. The job status may change to **Kill Pending** for a few moments while the operation completes. Once completed, the job status will change to **Killed** and it will be removed from the Job Controller window after five minutes.

**JOB STATUS**

In the case of SAP for Oracle iDataAgent, the job status is displayed depending on the BRTOOLS error codes.

BRTOOLS ERROR CODE	MESSAGE	JOB STATUS
0	Successful	Completed
1	Warnings – all files were processed (for example, backed up or restored)	Completed With Warning

2	Canceled during the initialization phase by a user or other signal	Completed With One or More Errors
3	Errors occurred during the initialization phase, processing was not started	Completed With One or More Errors
4	Canceled by a user or other signal during processing	Completed With One or More Errors
5	Started, but not completed because errors occurred during processing	Completed With One or More Errors
6	Internal termination	Completed With One or More Errors

## ADDITIONAL OPTIONS

Several additional options are available to further refine your backup operations. The following table describes these options, as well as the steps for configuring them.

Be sure to read the overview material referenced for each feature prior to using them.

OPTION	DESCRIPTION	RELATED TOPICS
<b>Data</b>	<p>You can select transaction logging options for a backup job.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP For Oracle   &lt; instance name &gt;</b>. The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Data</b>.</li> <li>6. Select the desired Catalog option for transaction logging.</li> <li>7. Click <b>OK</b>.</li> </ol>	
<b>Startup Options</b>	<p>The Startup options facilitate the startup behavior of the backup job.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP for Oracle   &lt; instance name &gt;  </b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. Right-click the subclient,</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Startup</b>. <ul style="list-style-type: none"> <li>o Select <b>Use Default Priority</b> option to use default priority for the job.</li> <li>o Select <b>Change priority</b> option to change the priority for a job, between 0 (highest priority) and 999 (lowest priority).</li> </ul> </li> <li>6. Select <b>Start up in Suspended State</b> option to add a level of manual control.</li> <li>7. Click <b>OK</b>.</li> </ol>	Refer to Job Priority and Priority Precedence for more information.
<b>Job Retry Options</b>	<p>Job Retry options enable you to configure the retry behavior of the backup jobs.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP For Oracle   &lt; instance name &gt;</b>. The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Job Retry Options</b>.</li> <li>6. Select <b>Enable Total Running Time</b>.</li> <li>7. Select <b>Enable Number of Retries</b> option to select number of times the Job Manager will attempt to restart the job.</li> <li>8. Select <b>Kill Running Jobs When Total Running Time Expires</b> option to kill the job when the specified Total Running Time has elapsed.</li> <li>9. Click <b>OK</b>.</li> </ol>	Refer to the Job Management documentation for a comprehensive overview prior to using these features
<b>Media Options</b>	<p>You can start the backup operation in a new media.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP For Oracle   &lt; instance name &gt;</b>. The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> </ol>	Refer to Creating an Exportable Media Set and Start New Media for more information.

	<ol style="list-style-type: none"> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Media</b>.</li> <li>6. Select <b>Start New Media</b> to start archive operation on a new media.</li> <li>7. Select <b>Mark Media Full on Success</b> to mark this media full after the completion of the backup operation.</li> <li>8. Select <b>Infinite under Extend Job Retention</b> to retain this job indefinitely.</li> <li>9. Select <b>Number of Days</b> to specify the number of days after which this job will be pruned.</li> <li>10. Select <b>Storage Policy Default</b> to apply the retention rules of the associated storage policy.</li> <li>11. Click <b>OK</b>.</li> </ol>	
<p><b>Allow other Schedules to use Media Set</b></p>	<p>This options allows jobs that are part of a schedule policy or schedule and using a specific storage policy to start a new media and also prevent other jobs from writing to the set of media. This option is available only when Start New Media and Mark Media Full options are enabled.</p> <ol style="list-style-type: none"> <li>1. <b>From the CommCell Browser, click Client Computers   SAP For Oracle   &lt; instance name &gt;</b>. The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Media</b>.</li> <li>6. Select <b>Allow other Schedules to use the Media Set</b>.</li> <li>7. Click <b>OK</b>.</li> </ol>	
<p><b>Data Path Options</b></p>	<p>Data Protection operations use a specific data path (Library, MediaAgent, Drive Pool, and Drive) to perform the backup operations as configured in the CommCell. By default, the system automatically identifies the data path for the backup operations.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP For Oracle   &lt; instance name &gt;</b>. The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Data Path</b>.</li> <li>6. Select <b>Use MediaAgent</b> and <b>Use Library</b> or <b>Use Drive Pool</b> and <b>Use Drive</b> from the respective drop-down combo boxes.</li> <li>7. Click <b>OK</b>.</li> </ol>	<p>Refer to Change Data Path for more information.</p>
<p><b>Vault Tracker</b></p>	<p>The VaultTracker feature provides the facility to manage media that are removed from a library and stored in offsite locations.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP For Oracle   &lt; instance name &gt;</b>. The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>VaultTracking</b>.</li> <li>6. Select the desired option.</li> <li>7. Click <b>OK</b>.</li> </ol>	<p>Refer to the following documentation for a comprehensive overview prior to using this feature:</p> <ul style="list-style-type: none"> <li>• VaultTracker if a standard Commserve licence is available.</li> <li>• ValutTracker Enterprise if the VaultTracker Enterprise license is available.</li> </ul>
<p><b>Alerts</b></p>	<p>You can configure alerts for a specific backup job.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP For Oracle   &lt; instance name &gt;</b>.The default and other subclients (if available) are displayed on the right-hand window pane.</li> <li>2. Right-click the subclient.</li> <li>3. Click <b>Backup</b>.</li> <li>4. Click <b>Advanced</b>.</li> <li>5. Click <b>Add Alert</b> and it opens Add Alert Wizard window.</li> <li>6. From the Add Alert Wizard window, select the Threshold and Notification Criteria.</li> <li>7. Click <b>Next</b>.</li> </ol>	<p>Refer to Alerts for more information.</p>

8. Select the **Notification Types** and Click **Next**.
9. Select the **Users and User Groups** and Click **Next**.
10. Click **Finish**.

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# Advanced - SAP for Oracle Restore

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## CHOOSING RESTORE TYPES

When restoring SAP for Oracle data, it is important to consider the backup type that was originally performed.

The following table illustrates the types of restores available for each backup type:

BACKUP TYPE	RESTORE LEVEL	NOTES
Offline Backup	Restore Entire Database Recover Database	Since the database is offline and is consistent, there is no need for logs.
Online Backup	Restore Entire Database Restore Individual Data files/Table spaces Restore Archive Logs Restore Control File Point-In-Time Restores	Control file restore can happen only when the database is in NOMOUNT mode.
Selective Online Full Backup	Restore Entire Database Restore Individual Data files/Table spaces Restore Archive Logs Restore Control File Point-In-Time Restores	Control file restore can happen only when the database is in NOMOUNT mode.
Archive Log backup	Restore Archive Logs	

The restore operations automatically identifies and uses the same SAP Backup Interface that was used for the backup.

## RELATED TOPICS

### Capabilities and Required Actions

Provides comprehensive information on licensing.

### Command Line Interface

Provides comprehensive information on running jobs from the command line.



## CHOOSING THE RESTORE DESTINATION

By default, the SAP for Oracle iDataAgent restores data to the client computer from which it originated; this is referred to as an in-place restore. You can also restore the data to another client computer in the CommCell. Keep in mind the following considerations when performing such restores:

- The destination client must reside in the same CommCell as the client whose data was backed up.
- Note that when you perform restores other than in-place restores, the restored data assumes the rights (i.e., permissions) of the parent directory.

The following section enumerates the types of restore destinations that are supported by the SAP iDataAgent.

### IN-PLACE RESTORE

When restoring data, the SAP for Oracle iDataAgent provides the facility to restore the data to the same path/destination on the client computer from which the data originated; this is referred to as an in-place restore.

1. From the CommCell Console, perform a **Browse and Restore** operation.
2. When browsing the data, select data that was initially backed up and click **Recover All Selected**.
3. Click **OK**.
4. Select the **Destination Client** that was the original computer from which the data originated.
5. Depending on the data selected to restore, choose one of more of the options (e.g., **Restore Archive Log**).
6. Click **OK**.

### OUT-OF-PLACE RESTORE

All restore levels provide the facility to restore data to a different directory on the client computer from which the data originated; this is referred to as an out-of-place restore to a different path/destination. You can also restore data to a different client computer in the CommCell using the same path/destination. This can include restoring either individual data files or tablespaces, or the entire database to another computer.

Keep in mind the following considerations when performing out-of-place restores:

- The destination client must reside in the same CommCell as the client whose data was backed up.
- Note that when you perform an out-of-place restore, the restored data assumes the rights (i.e., permissions) of the parent directory.

1. From the CommCell Console, perform a **Browse and Restore** operation.
2. When browsing the data, select data that was initially backed up and click **Recover All Selected**.
3. Click **OK**.
4. Select the **Destination Client** that is a different computer from which the data originated.
5. Depending on the data selected to restore, choose one of more of the options (e.g., **Restore Archive Log**).
6. Click **OK**.

## RESTORING TO A DIFFERENT CLIENT (CROSS MACHINE RESTORE)

In cases when the original client computer is damaged, you need to restore the SAP for Oracle database to a different host. This is called a cross-machine restore. Whenever you perform such a restore, ensure that the destination machine has sufficient disk space to accommodate the restored database.

Prior to performing a cross-machine restore, do the following:

- Ensure that the SAP application is installed in the destination client and an empty instance is created in the same directory structure as that in the source client.

- Include the source client name in the `initCER.utl` file. For example,

```
srcCrossClient
<source client display name in CommCell Console>
```

- Copy the `initCER.sap` and `initCER.ora` files from the source client to the destination client. You can either manually copy these files from the source client, or run the following commands to restore these files to the destination client.

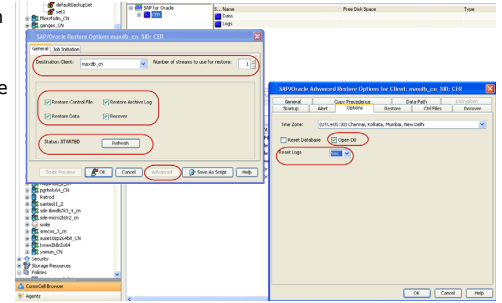
```
brrestore -d util_file -b2 becmmcsy.anf -m /oracle_setup/dbs/init<SID>.ora
brrestore -d util_file -b2 becmmcsy.anf -m /oracle_setup/dbs/init<SID>.sap
```

- Ensure that the following information is the same on both the source and destination clients:
  - ORACLE\_SID name
  - /oracle/GRP/sapbackup/cntrlGRP.dbf path

- SAPDATA\_HOME environment variable

## CROSS MACHINE RESTORE FROM COMMCELL CONSOLE

1. From the CommCell Browser, right-click the SAP instance on the source client, select **All Tasks** then click **Restore**.
2. From the **General** tab, select the name of the client computer with the database you want to restore in the **Destination Client** from the list.
3. Choose the **Number of streams to use for restore**.
4. Select the following options to restore and recover the database.
  - **Restore Data**
  - **Restore Archive Logs**
  - **Control File**
  - **Recover**
5. Verify that the Status of the database is displayed as **STARTED**; if necessary click on the **Refresh** button to refresh the status.
6. Click **Advanced**.
7. From the Advanced Restore Options (Options) tab, select the following:
  - Set the **Reset Logs** to **Yes**.
  - Select **Open DB**.



## CROSS MACHINE RESTORE USING UTIL\_FILE INTERFACE FROM COMMAND LINE

Use the following procedure to recover the latest backup which used the util\_file interface to a different client computer from the SAP command line.

1. Locate the detail file name and the summary file name of the data and log backups to be restored on the source computer.
2. Restore the summary and detail files associated with the full backup.
 

```
brrestore -d util_file -b2 \#NULL -
m /home/oracle/product/10g/SAPDB/CER/sapbackup/backCER.log, /home/oracle/product/10g/SAPDB/CER/sapbackup/bebwkurt.anf
```
3. Restore the control file.
 

```
brrestore -d util_file -b last -m 0
```
4. Restore the data files
 

```
brrestore -d util_file -b last -m all -u /
```
5. Restore the summary and detail files of the logs.
 

```
brrestore -d util_file -b2 \#NULL -
m /home/oracle/product/10g/SAPDB/CER/saparch/archCER.log, /home/oracle/product/10g/SAPDB/CER/saparch/aebwlqlg.sve
```
6. Restore the archive Logs
 

```
brrestore -a <From ARCHIVE LOG# - To ARCHIVE LOG#>
```
4. Recover the database until recover time using control file.
 

```
Sql> recover database until time <YYYY-MM-DD hh.mm.ss> using backup controlfile until cancel;
```
5. Open DB with RESET LOGS option
 

```
sql>alter database open resetlogs
```

## CROSS MACHINE RESTORE USING RMAN\_UTIL INTERFACE FROM COMMAND LINE

Use the following procedure to recover the latest backup which used the rman\_file interface to a different client computer from the SAP command line.

1. Locate the detail file name and the summary file name of the data and log backups to be restored on the source computer.
2. Restore the summary and detail files associated with the full backup.
 

```
brrestore -d util_file -b2 \#NULL -
m /home/oracle/product/10g/SAPDB/CER/sapbackup/backCER.log, /home/oracle/product/10g/SAPDB/CER/sapbackup/bebwkurt.anf
```
3. Restore the summary and detail files of the logs.
 

```
brrestore -d util_file -b2 \#NULL -
```

```
m /home/oracle/product/10g/SAPDB/CER/saparch/archCER.log,/home/oracle/product/10g/SAPDB/CER/saparch/aebwlqlg.sve
```

#### 4. Restore the control file.

```
brrestore -d rman_util -b bebynain.anr -m 0 -c force -u / for data restores.
```

```
brrestore -d util_file -b2 SAP_1095_406 -m /home/oracle/product/10g/SAPDB/CER/sapreorg/cntrlCER.dbf -u / for log restores.
```

#### 5. Set the database in MOUNT mode.

#### 6. Restore the data files.

```
brrestore -d rman_util -b bebynain.anr -m all -c force -u /
```

#### 7. Restore the archive logs.

```
brrestore -d rman_util -a 5 -c force -u /
```

#### 8. Recover the database until recover time using control file.

```
Sql> recover database until time <YYYY-MM-DD hh.mm.ss> using backup controlfile until cancel;
```

#### 5. Open DB with RESET LOGS option

```
sql>alter database open resetlogs
```

## CROSS CLIENT RESTORE TO A DIFFERENT SID NAME USING BRRESTORE FROM COMMAND LINE

Use the following steps to restore to a different SID name using BRRESTORE from Command Line:

1. Configure `initTRD.utl` file for cross client restore to a different SID name. Configure the `srcCrossClient` in the `initCER.utl` and define the destination client, source client name and the source SID.

#### Example:

```
D:\oracle\product\10.2.0\db_1\database>more initTRD.utl.txt
numstreams
```

```
4
```

```
CvInstanceName
```

```
Instance001
```

```
CvClientName
```

```
sde-sap1
```

```
srcCrossClient
```

```
sde-sap2
```

```
srccrossdbname
```

```
CER
```

2. Copy or restore the `initCER.sap` on to the destination client. It is recommended to copy the file `initCER.sap` from the source client. However, it can also be restored.

#### Example:

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\product\10.2.0\db_1\database\initCER.sap=
=D:\oracle\product\10.2.0\db_1\database -r d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyldv.rsf 2011-12-14
08.41.45
BR0484I BRRESTORE log file:
D:\oracle\TRD\sapbackup\rehkyldv.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 08.41.45
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyldv
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\product\10.2.0\db_1\database\initCER.sap=
D:\oracle\product\10.2.0\db_1\database
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 08.41.45
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel
BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 08.41.49
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 08.41.49
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyldv.lst -t file -p
d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.
```

```
----- Output of restore -----
-----
```

```
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

```
----- Parameter Specified -----
-----
```

```
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>
```

```
----- backint Command Line -----
-----
```

```
backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkylvd.lst -t file -p
d:\param.txt ]
```

```
CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-
sap1.prodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1>
CMDLINE Job
Restore has been requested
```

```
SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14424 Token=<14424:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19929, AcommCellId=2 AgroupNumber=23
archfilename=D:\oracle\product\10.2.0\db_1
\database\initCER.sap copy=36 BID=13310 reqBID=13310
afileFlags=4d
```

```
BR0280I BRRESTORE time stamp: 2011-12-14 08.42.27
#FILE.... D:\oracle\product\10.2.0\db_1\database\initCER.sap
D:\oracle\product\10.2.0\db_1\database\initCER.sap
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=12616
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server
```

```
BR0280I BRRESTORE time stamp: 2011-12-14 08.42.27
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully
```

```
BR0406I End of file restore: rehkylvd.rsf 2011-12-14 08.42.27
BR0280I BRRESTORE time stamp: 2011-12-14 08.42.27
BR0402I BRRESTORE completed successfully
```

#### Example:

```
D:\oracle\product\10.2.0\db_1\database>move initCER.sap
initTRD.sap
1 file(s) moved
```

#### Example:

```
backup_root_dir = D:\oracle\CER\sapbackup
stage_root_dir = D:\oracle\CER\sapbackup
compress_cmd = "D:\usr\sap\CER\sys\exe\run\mkzip -c $ > $"
uncompress_cmd = "D:\usr\sap\CER\sys\exe\run\uncompress -c $
> $"
compress_dir = D:\oracle\CER\sapreorg
```

3. Rename the file `init<OLD_SID>.sap` to `init<NEW_SID>.sap`.

4. Edit the parameters in `init<SID>.sap` to customize it for cross client restore:

```
archive_copy_dir = D:\oracle\CER\sapbackup
archive_stage_dir = D:\oracle\CER\sapbackup
```

Change the above parameters with NEW\_SID name appropriately as below.

```
backup_root_dir = D:\oracle\trd\sapbackup
stage_root_dir = D:\oracle\trd\sapbackup
compress_cmd = "D:\usr\sap\TRD\sys\exe\run\mkzip -c $ > $"
uncompress_cmd = "D:\usr\sap\TRD\sys\exe\run\uncompress -c $
> $"
compress_dir = D:\oracle\trd\sapreorg
archive_copy_dir = D:\oracle\trd\sapbackup
archive_stage_dir = D:\oracle\trd\sapbackup
```

5. Copy or restore the `init<OLD_SID>.ora` on to the destination client. It is recommended to copy the `initCER.ora` from the source onto the destination computer. However, it can also be restored.

**Example:**

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\product\10.2.0\db_1\database\initCER.ora=
=D:\oracle\product\10.2.0\db_1\database -r d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyntp.rsf 2011-12-14
09.03.37
BR0484I BRRESTORE log file:
D:\oracle\TRD\sapbackup\rehkyntp.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 09.03.37
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyntp
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:

D:\oracle\product\10.2.0\db_1\database\initCER.ora=
D:\oracle\product\10.2.0\db_1\database
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.03.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel
BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 09.03.40
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.03.40
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore

-i D:\oracle\TRD\sapbackup\rehkyntp.lst -t file -p
d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.

----- Output of restore -----
-----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>

----- Parameter Specified -----
-----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>
destdbname=<TRD>

----- backint Command Line -----
-----
backintCmd=[backint -u TRD -f restore

-i D:\oracle\TRD\sapbackup\rehkyntp.lst -t file -p
d:\param.txt ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
```

```

Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-
sap1.idcprodcert.loc]

clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1>
CMDLINE Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14426 Token=<14426:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19928, AcommCellId=2 AgroupNumber=23
archfilename=

D:\oracle\product\10.2.0\db_1\database\initCER.ora copy=36
BID=13310 reqBID=13310 afileFlags=4d

BR0280I BRRESTORE time stamp: 2011-12-14 09.04.04
#FILE..... D:\oracle\product\10.2.0\db_1\database\initCER.ora
D:\oracle\product\10.2.0\db_1\database\initCER.ora
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=4696
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.04.05
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyntp.rsf 2011-12-14 09.04.05
BR0280I BRRESTORE time stamp: 2011-12-14 09.04.05
BR0402I BRRESTORE completed successfully

```

6. Rename initCER.ora to initTRD.ora.

**Example:**

```

D:\oracle\product\10.2.0\db_1\database>move initCER.ora
initTRD.ora
1 file(s) moved

```

7. Edit the init<NEW\_SID>.ora file and replace the parameters with a new directory Structure:

**Example:**

```

control_files = (D:\oracle\trd\sapdata1\cntrl\ctrlCER.ctl,
D:\oracle\trd\sapdata2\cntrl\ctrlCER.ctl,
D:\oracle\trd\saparch\cntrl\ctrlCER.ctl)
background_dump_dest = D:\oracle\trd\saptrace\background
user_dump_dest = D:\oracle\trd\saptrace\usertrace
log_archive_dest = D:\oracle\trd\saparch

```

8. Create an SPFILE from the PFILE.

**Example:**

```

D:\oracle\product\10.2.0\db_1\database>sqlplus / as sysdba

SQL*Plus: Release 10.2.0.4.0 - Production on Wed Dec 14
09:21:51 2011

Copyright (c) 1982, 2007, Oracle. All Rights Reserved.

Connected to an idle instance.

SQL> startup nomount;
ORACLE instance started.

Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
SQL> create spfile from pfile;

File created.

SQL>

```

9. Copy or restore the <OLD\_SID>.log file.

**Example:**

```

D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\sapbackup\backCER.log==D:\oracle\TRD\sapbackup
-r d:\param.txt

```

```

BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyqtz.rsf 2011-12-14
09.37.35
BR0484I BRRESTORE log file:
D:\oracle\TRD\sapbackup\rehkyqtz.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 09.37.35
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyqtz
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\CER\sapbackup\backCER.log=D:\oracle\TRD\sapbackup
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.37.35
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel
BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 09.37.37
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.37.37
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyqtz.lst -t file -p
d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.

----- Output of restore -----
-----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>

----- Parameter Specified -----
-----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>

----- backint Command Line -----
-----
backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyqtz.lst -t file -p
d:\param.txt ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-
sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1>
CMDLINE Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14429 Token=<14429:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19914, AcommCellId=2 AgroupNumber=22
archfilename=D:\oracle\CER\sapbackup\backCER.log copy=35
BID=13310 reqBID=13310 afileFlags=0d

BR0280I BRRESTORE time stamp: 2011-12-14 09.38.00
#FILE..... D:\oracle\CER\sapbackup\backCER.log

```

10. Rename the back<OLD\_SID>.log to back<NEW\_SID>.log file.

11. Copy or restore the arch<OLD\_SID>.log. It is recommended to copy the Log Summary File from the source computer. However, it can also be restored.

```
D:\oracle\TRD\sapbackup\backCER.log
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=2912
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.38.01
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyqtz.rsrf 2011-12-14 09.38.01
BR0280I BRRESTORE time stamp: 2011-12-14 09.38.01
BR0402I BRRESTORE completed successfully
```

**Example:**

```
D:\oracle\TRD\sapbackup>move backCER.log backTRD.log
1 file(s) moved.
```

**Example:**

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\saparch\archCER.log==D:\oracle\TRD\saparch -r
d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyscr.rsrf 2011-12-14
09.52.37
BR0484I BRRESTORE log file:
D:\oracle\TRD\sapbackup\rehkyscr.rsrf

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.37
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyscr
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\CER\saparch\archCER.log=D:\oracle\TRD\saparch
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel
BRRESTORE:

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel
BRRESTORE:
cc
BR0280I BRRESTORE time stamp: 2011-12-14 09.52.49
BR0258W Wrong reply: 'cc'
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel
BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 09.52.53
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.53
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyscr.lst -t file -p
d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.
```

```
----- Output of restore -----
-----
```

```
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

```
----- Parameter Specified -----
-----
```

```
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srcrcrossclient=<sde-sap2>

srcrcrossdbname=<CER>

destdbname=<TRD>
```

```
----- backint Command Line -----
-----
```



```

backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyscr.lst -t file -p
d:\param.txt ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-
sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1>
CMDLINE Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14432 Token=<14432:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19932, AcommCellId=2 AgroupNumber=23
archfilename=D:\oracle\CER\saparch\archCER.log copy=36
BID=13310 reqBID=13310 afileFlags=14d

BR0280I BRRESTORE time stamp: 2011-12-14 09.53.15
#FILE..... D:\oracle\CER\saparch\archCER.log
D:\oracle\TRD\saparch\archCER.log
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=11644
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.53.16
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyscr.rsf 2011-12-14 09.53.16
BR0280I BRRESTORE time stamp: 2011-12-14 09.53.16
BR0403I BRRESTORE completed successfully with warnings.

```

12. Rename arch<OLD\_SID>.log to arch<NEW\_SID>.log

Example:

```

D:\oracle\TRD\saparch>move archCER.log archTRD.log
1 file(s) moved.

```

13. You can copy or identify and restore the detail files needed for for cross client restore to a different SID name. It is recommended to copy the detail files from the sapbackup and the saparch directory onto the destination computer.

14. Identify the corresponding detail file in \$SAPDATA\_HOME/sapbackup directory from Source computer and restore it.

Example:

```

D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\sapbackup\behkctrv.anf==D:\oracle\TRD\sapbackup
-r D:\param.txt

```

15. Identify the corresponding detail file in \$SAPDATA\_HOME/saparch directory from Source computer and restore it.

```

brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\saparch\aehekctzc.sve==D:\oracle\TRD\saparch -r
D:\param.txt

```

16. Restore the Control File using BRRESTORE.

```

brrestore -d util_file -b last -m 0 -r D:\param.txt

```

17. Restore the database files using BRRESTORE.

```

brrestore -d util_file -m all -b behkctrv.anf -r D:\param.txt

```

18. Restore the logs using BRRESTORE.

```

brrestore -d util_file -a 65-75==D:\oracle\TRD\saparch -r
D:\param.txt

```

19. Set the database in MOUNT mode and copy the backup control file to trace on the destination computer.

Perform the below on target machine.

```

SQL> startup mount;
ORACLE instance started.

```

```

Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
Database mounted.
SQL> alter database backup controlfile to
'D:\oracle\TRD\sapbackup\CNTRLTRD.NEW';

```

```

Database altered.

```

19. For an online backup, create a control file using the following SQL script for restoring the online backup:

```
SQL> alter database backup controlfile to trace as
'D:\oracle\TRD\sapbackup\control.ora';
```

Database altered.

SQL>

Example:

Below case is Cross Client Restore from Online Backup:

Now Shutdown DB.

```
Goto SPFILE and Edit parameter "db_name" from <OLD_SID> to
<NEW_SID>
```

Then make DB NOMOUNT.

Open trace file ('D:\oracle\TRD\sapbackup\control.ora') that created from above syntax.

Change the SQL query from REUSE to SET, OLD\_SID to NEW\_SID & NORESETLOGS to RESETLOGS.

Edit the Path from Old DIR Structure to New DIR structure.

Now the Query should look like below:

```
STARTUP NOMOUNT
CREATE CONTROLFILE SET DATABASE "TRD" RESETLOGS ARCHIVELOG
MAXLOGFILES 32
MAXLOGMEMBERS 2
MAXDATAFILES 254
MAXINSTANCES 16
MAXLOGHISTORY 1752
LOGFILE
GROUP 1 (
'D:\ORACLE\TRD\ORIGLOGA\LOG1_M1.DBF',
'D:\ORACLE\TRD\MIRRLOGA\LOG1_M2.DBF'
) SIZE 10M,
GROUP 2 (
'D:\ORACLE\TRD\ORIGLOGB\LOG2_M1.DBF',
'D:\ORACLE\TRD\MIRRLOGB\LOG2_M2.DBF'
) SIZE 10M,
GROUP 3 (
'D:\ORACLE\TRD\ORIGLOGA\LOG3_M1.DBF',
'D:\ORACLE\TRD\MIRRLOGA\LOG3_M2.DBF'
) SIZE 10M,
GROUP 4 (
'D:\ORACLE\TRD\ORIGLOGB\LOG4_M1.DBF',
'D:\ORACLE\TRD\MIRRLOGB\LOG4_M2.DBF'
) SIZE 10M
-- STANDBY LOGFILE
DATAFILE
'D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSTEM.DATA1',
'D:\ORACLE\TRD\SAPDATA1\UNDO_1\UNDO.DATA1',
'D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSAUX.DBF',
'D:\ORACLE\TRD\SAPDATA2\CER_1\CER.DATA1',
'D:\ORACLE\TRD\SAPDATA3\CERUSR_1\CERUSR.DATA1'
CHARACTER SET US7ASCII
;
```

20. Run the SQL query to create a control file.

```
SQL> shut immediate;
```

Database closed.

Database dismounted.

ORACLE instance shut down.

SQL>

```
SQL> STARTUP NOMOUNT
```

ORACLE instance started.

Total System Global Area 138412032 bytes

Fixed Size 2063992 bytes

Variable Size 125829512 bytes

Database Buffers 8388608 bytes

Redo Buffers 2129920 bytes

```
SQL> CREATE CONTROLFILE SET DATABASE "TRD" RESETLOGS
ARCHIVELOG
2 MAXLOGFILES 32
3 MAXLOGMEMBERS 2
4 MAXDATAFILES 254
5 MAXINSTANCES 16
6 MAXLOGHISTORY 1752
7 LOGFILE
8 GROUP 1 (
9 'D:\ORACLE\TRD\ORIGLOGA\LOG1_M1.DBF',
10 'D:\ORACLE\TRD\MIRRLOGA\LOG1_M2.DBF'
11 ) SIZE 10M,
12 GROUP 2 (
13 'D:\ORACLE\TRD\ORIGLOGB\LOG2_M1.DBF',
14 'D:\ORACLE\TRD\MIRRLOGB\LOG2_M2.DBF'
15 ) SIZE 10M,
16 GROUP 3 (
```

```

17 'D:\ORACLE\TRD\ORIGLOGA\LOG3_M1.DBF',
18 'D:\ORACLE\TRD\MIRRLOGA\LOG3_M2.DBF'
19 ) SIZE 10M,
20 GROUP 4 (
21 'D:\ORACLE\TRD\ORIGLOGB\LOG4_M1.DBF',
22 'D:\ORACLE\TRD\MIRRLOGB\LOG4_M2.DBF'
23 ) SIZE 10M
24 -- STANDBY LOGFILE
25 DATAFILE
26 'D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSTEM.DATA1',
27 'D:\ORACLE\TRD\SAPDATA1\UNDO_1\UNDO.DATA1',
28 'D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSAUX.DBF',
29 'D:\ORACLE\TRD\SAPDATA2\CER_1\CER.DATA1',
30 'D:\ORACLE\TRD\SAPDATA3\CERUSR_1\CERUSR.DATA1'
31 CHARACTER SET US7ASCII
32 ;

```

Control file created.

21. Manually, run the SQL query to Recover DB, Open DB and add the temporary tablespace.

```

SQL>
SQL>
SQL> RECOVER DATABASE USING BACKUP CONTROLFILE UNTIL CANCEL;
ORA-00279: change 397349 generated at 12/09/2011 22:45:58
needed for thread 1
ORA-00289: suggestion :
D:\ORACLE\TRD\SAPARCH\ARC00074_0769082544.001
ORA-00280: change 397349 for thread 1 is in sequence #74

```

```

Specify log: {<RET>=suggested | filename | AUTO | CANCEL}
AUTO
ORA-00279: change 397401 generated at 12/09/2011 22:47:55
needed for thread 1
ORA-00289: suggestion :
D:\ORACLE\TRD\SAPARCH\ARC00075_0769082544.001
ORA-00280: change 397401 for thread 1 is in sequence #75
ORA-00278: log file
'D:\ORACLE\TRD\SAPARCH\ARC00074_0769082544.001' no longer
needed for this recovery

```

```

ORA-00279: change 397431 generated at 12/09/2011 22:49:04
needed for thread 1
ORA-00289: suggestion :
D:\ORACLE\TRD\SAPARCH\ARC00076_0769082544.001
ORA-00280: change 397431 for thread 1 is in sequence #76

```

```

Specify log: {<RET>=suggested | filename | AUTO | CANCEL}
AUTO
ORA-00308: cannot open archived log
'D:\ORACLE\TRD\SAPARCH\ARC00076_0769082544.001'
ORA-27041: unable to open file
OSD-04002: unable to open file
O/S-Error: (OS 2) The system cannot find the file specified.

```

```

ORA-00308: cannot open archived log
'D:\ORACLE\TRD\SAPARCH\ARC00076_0769082544.001'
ORA-27041: unable to open file
OSD-04002: unable to open file
O/S-Error: (OS 2) The system cannot find the file specified.

```

```
SQL> alter database open resetlogs;
```

Database altered.

```
SQL> ALTER TABLESPACE PSAPTEMP ADD TEMPFILE
'D:\ORACLE\TRD\SAPDATA1\TEMP_1\TEMP.DATA1' REUSE;
```

Tablespace altered.

```
SQL>
```

## CROSS CLIENT RESTORE TO A DIFFERENT SID NAME USING BRRECOVER FROM COMMAND LINE

Prior to performing a cross-client restore to a different SID name using BRRECOVER, do the following:

- Use BR\*Tools 7.00 and above to perform a cross-client restore to a different SID name using BRRECOVER. If you are using BR\*Tools below the 7.00 versions, then use BRRESTORE to perform a cross-client restore to a different SID name.
- You need to create a top level directory structure for the destination Database. This will allow you to configure the environment variables like Oracle\_SID and other pertinent variables (based on the SAP Note: 0001003028).

Use the following steps to restore to a different SID name using BRRECOVER from Command Line:

1. Configure `initTRD.utl` file for cross client restore to a different SID name. Configure the `srcCrossClient` in the `initCER.utl` and define the destination client, source client name and the source SID.

**Example:**

```
D:\oracle\product\10.2.0\db_1\database>more initTRD.utl.txt
numstreams
4
CvInstanceName
Instance001
CvClientName
sde-sap1
srcCrossClient
sde-sap2
srccrossdbname
CER
```

2. Copy or restore the `initCER.sap` on to the destination client. It is recommended to copy the file `initCER.sap` from the source client. However, it can also be restored.

**Example:**

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\product\10.2.0\db_1\database\initCER.sap=
=D:\oracle\product\10.2.0\db_1\database -r d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyld.rsf 2011-12-14 08.41.45
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkyld.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 08.41.45
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyld
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\product\10.2.0\db_1\database\initCER.sap=

D:\oracle\product\10.2.0\db_1\database
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 08.41.45
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 08.41.49
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 08.41.49
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyld.lst -t file -p d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.
```

```
----- Output of restore -----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

```
----- Parameter Specified -----
--
```

```
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srcrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>
```

```
----- backint Command Line -----
----
```

```
backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkyld.lst -t file -p d:\param.txt ]
```

```
CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
```

```

Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-sap1.prodcert.loc]
clientId=219

AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1> CMDLINE
Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14424 Token=<14424:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19929, AcommCellId=2 AgroupNumber=23
archfilename=D:\oracle\product\10.2.0\db_1\database\initCER.sap
copy=36

BID=13310 reqBID=13310 afileFlags=4d

BR0280I BRRESTORE time stamp: 2011-12-14 08.42.27
#FILE..... D:\oracle\product\10.2.0\db_1\database\initCER.sap
D:\oracle\product\10.2.0\db_1\database\initCER.sap
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=12616
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 08.42.27
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyldv.rsf 2011-12-14 08.42.27
BR0280I BRRESTORE time stamp: 2011-12-14 08.42.27
BR0402I BRRESTORE completed successfully

```

3. Rename the file `init<OLD_SID>.sap` to `init<NEW_SID>.sap`.

**Example:**

```
D:\oracle\product\10.2.0\db_1\database>move initCER.sap initTRD.sap
1 file(s) moved
```

4. Edit the parameters in `init<SID>.sap` to customize it for cross client restore:

**Example:**

```

backup_root_dir = D:\oracle\CER\sapbackup
stage_root_dir = D:\oracle\CER\sapbackup
compress_cmd = "D:\usr\sap\CER\sys\exe\run\mkzip -c $ > $"
uncompress_cmd = "D:\usr\sap\CER\sys\exe\run\uncompress -c $ > $"
compress_dir = D:\oracle\CER\sapreorg
archive_copy_dir = D:\oracle\CER\sapbackup
archive_stage_dir = D:\oracle\CER\sapbackup

```

Change the above parameters with `NEW_SID` name appropriately as below.

```

backup_root_dir = D:\oracle\trd\sapbackup
stage_root_dir = D:\oracle\trd\sapbackup
compress_cmd = "D:\usr\sap\TRD\sys\exe\run\mkzip -c $ > $"
uncompress_cmd = "D:\usr\sap\TRD\sys\exe\run\uncompress -c $ > $"
compress_dir = D:\oracle\trd\sapreorg
archive_copy_dir = D:\oracle\trd\sapbackup
archive_stage_dir = D:\oracle\trd\sapbackup

```

5. Copy or restore the `init<OLD_SID>.ora` on to the destination client. It is recommended to copy the `initCER.ora` from the source onto the destination computer. However, it can also be restored.

**Example:**

```

D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\product\10.2.0\db_1\database\initCER.ora=
=D:\oracle\product\10.2.0\db_1\database -r d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyntp.rsf 2011-12-14 09.03.37
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkyntp.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 09.03.37
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyntp
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:

D:\oracle\product\10.2.0\db_1\database\initCER.ora=
D:\oracle\product\10.2.0\db_1\database
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.03.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:

```

```

C
BR0280I BRRESTORE time stamp: 2011-12-14 09.03.40
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.03.40
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore

  -i D:\oracle\TRD\sapbackup\rehkyntp.lst -t file -p d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.

----- Output of restore -----

BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>

----- Parameter Specified -----
--

CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>

----- backint Command Line -----
----

backintCmd=[backint -u TRD -f restore
-i D:\oracle\TRD\sapbackup\rehkyntp.lst -t file -p d:\param.txt ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-sap1.idcprodcert.loc]
clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1> CMDLINE
Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14426 Token=<14426:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19928, AcommCellId=2 AgroupNumber=23 archfilename=
D:\oracle\product\10.2.0\db_1\database\initCER.ora copy=36
BID=13310 reqBID=13310 afileFlags=4d

BR0280I BRRESTORE time stamp: 2011-12-14 09.04.04
#FILE..... D:\oracle\product\10.2.0\db_1\database\initCER.ora
D:\oracle\product\10.2.0\db_1\database\initCER.ora
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=4696
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.04.05
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyntp.rsf 2011-12-14 09.04.05
BR0280I BRRESTORE time stamp: 2011-12-14 09.04.05
BR0402I BRRESTORE completed successfully

```

**Example:**

```
D:\oracle\product\10.2.0\db_1\database>move initCER.ora initTRD.ora
```

**6. Rename initCER.ora to initTRD.ora.**

```
1 file(s) moved
```

7. Edit the `init<NEW_SID>.ora` file and replace the parameters with a new directory Structure:

**Example:**

```
control_files = (D:\oracle\trd\sapdata1\cntrl\ctrlCER.ctl,
D:\oracle\trd\sapdata2\cntrl\ctrlCER.ctl,
D:\oracle\trd\saparch\cntrl\ctrlCER.ctl)
background_dump_dest = D:\oracle\trd\saptrace\background
user_dump_dest = D:\oracle\trd\saptrace\usertrace
log_archive_dest = D:\oracle\trd\saparch
```

8. Create an SPFILE from the PFILE.

**Example:**

```
D:\oracle\product\10.2.0\db_1\database>sqlplus / as sysdba
SQL*Plus: Release 10.2.0.4.0 - Production on Wed Dec 14 09:21:51 2011
Copyright (c) 1982, 2007, Oracle. All Rights Reserved.

Connected to an idle instance.

SQL> startup nomount;
ORACLE instance started.

Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
SQL> create spfile from pfile;

File created.
```

```
SQL>
```

9. Copy or restore the `<OLD_SID>.log` file.

**Example:**

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\sapbackup\backCER.log=D:\oracle\TRD\sapbackup -r
d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyqtz.rsrf 2011-12-14 09.37.35
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkyqtz.rsrf

BR0280I BRRESTORE time stamp: 2011-12-14 09.37.35
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyqtz
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\CER\sapbackup\backCER.log=D:\oracle\TRD\sapbackup
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.37.35
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 09.37.37
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.37.37
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i

D:\oracle\TRD\sapbackup\.rehkyqtz.lst -t file -p d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.
```

```
----- Output of restore -----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

```
----- Parameter Specified -----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>
```

```
----- backint Command Line -----
backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\.rehkyqtz.lst -t file -p d:\param.txt ]
```

```

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-sap1.idcprodcert.loc]

clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1> CMDLINE
Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14429 Token=<14429:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19914, AcommCellId=2 AgroupNumber=22

archfilename=D:\oracle\CER\sapbackup\backCER.log copy=35
BID=13310 reqBID=13310 afileFlags=0d

BR0280I BRRESTORE time stamp: 2011-12-14 09.38.00
#FILE..... D:\oracle\CER\sapbackup\backCER.log
D:\oracle\TRD\sapbackup\backCER.log
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=2912
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.38.01
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyltz.rsf 2011-12-14 09.38.01
BR0280I BRRESTORE time stamp: 2011-12-14 09.38.01
BR0402I BRRESTORE completed successfully

```

10. Rename the back<OLD\_SID>.log to back<NEW\_SID>.log file.

**Example:**

```
D:\oracle\TRD\sapbackup>move backCER.log backTRD.log
1 file(s) moved.
```

11. Copy or restore the arch<OLD\_SID>.log. It is recommended to copy the Log Summary File from the source computer. However, it can also be restored.

**Example:**

```

D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\saparch\archCER.log=D:\oracle\TRD\saparch -r
d:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkyscr.rsf 2011-12-14 09.52.37
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkyscr.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.37
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkyscr
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\CER\saparch\archCER.log=D:\oracle\TRD\saparch
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.37
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
cc
BR0280I BRRESTORE time stamp: 2011-12-14 09.52.49
BR0258W Wrong reply: 'cc'
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 09.52.53
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.52.53
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i

D:\oracle\TRD\sapbackup\rehkyscr.lst -t file -p d:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.

```

----- Output of restore -----



```
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

```
----- Parameter Specified -----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>

----- backint Command Line -----
backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\.rehkyscr.lst -t file -p d:\param.txt ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-sap1.idcprodcert.loc]

clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1> CMDLINE
Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14432 Token=<14432:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19932, AcommCellId=2 AgroupNumber=23

archfilename=D:\oracle\CER\saparch\archCER.log copy=36 BID=13310

reqBID=13310 afileFlags=14d

BR0280I BRRESTORE time stamp: 2011-12-14 09.53.15
#FILE..... D:\oracle\CER\saparch\archCER.log
D:\oracle\TRD\saparch\archCER.log
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=11644
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.53.16
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkyscr.rsf 2011-12-14 09.53.16
BR0280I BRRESTORE time stamp: 2011-12-14 09.53.16
BR0403I BRRESTORE completed successfully with warnings.
```

12. Rename arch<OLD\_SID>.log to arch<NEW\_SID>.log

Example:

```
D:\oracle\TRD\saparch>move archCER.log archTRD.log
1 file(s) moved.
```

13. Identify the corresponding detail file in \$SAPDATA\_HOME/sapbackup directory from Source computer and restore it.

You can copy or identify and restore the detail files needed for cross client restore to a different SID name. It is recommended to copy the detail files from the sapbackup and the saparch directory onto the destination computer.

Example:

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\sapbackup\behkctrv.anf==D:\oracle\TRD\sapbackup -r
D:\param.txt
```

14. Identify the corresponding detail file in \$SAPDATA\_HOME/saparch directory from Source computer and restore it.

```
brrestore -d util_file -b2 \#NULL -m
```

```
D:\oracle\CER\saparch\aehtctzc.sve==D:\oracle\TRD\saparch -r
D:\param.txt
```

```
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkysrd.rsf 2011-12-14 09.58.53
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkysrd.rsf

BR0280I BRRESTORE time stamp: 2011-12-14 09.58.53
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkysrd
```

```

BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\CER\sapbackup\behkctrv.anf=D:\oracle\TRD\sapbackup
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file

BR0280I BRRESTORE time stamp: 2011-12-14 09.58.53
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-14 09.58.55
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 09.58.55
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkysrd.lst -t file -p D:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.

----- Output of restore -----

BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>

----- Parameter Specified -----
--

CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>

----- backint Command Line -----
---

backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehkysrd.lst -t file -p D:\param.txt ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER] client=[sde-sap1.idcprodcert.loc]

clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1> CMDLINE
Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14434 Token=<14434:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19913, AcommCellId=2 AgroupNumber=22

archfilename=D:\oracle\CER\sapbackup\behkctrv.anf copy=35 BID=13310
reqBID=13310 afileFlags=0d

BR0280I BRRESTORE time stamp: 2011-12-14 09.59.18
#FILE..... D:\oracle\CER\sapbackup\behkctrv.anf
D:\oracle\TRD\sapbackup\behkctrv.anf
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=10940
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 09.59.19
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkysrd.rsf 2011-12-14 09.59.19
BR0280I BRRESTORE time stamp: 2011-12-14 09.59.19
BR0402I BRRESTORE completed successfully

Identify the corresponding Detail file in $$SAPDATA_HOME/saparch DIR

```

from Source machine and restore it.  
In the example below aehkctzc.sve is the source  
detail file pertaining to the log backups

```
brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\saparch\ahkctzc.sve==D:\oracle\TRD\saparch -r
D:\param.txt
```

```
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkytcm.rsf 2011-12-14 10.03.48
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkytcm.rsf
```

BR0101I Parameters

Name Value

```
oracle_sid TRD
oracle_home D:\oracle\product\10.2.0\db_1
oracle_profile D:\oracle\product\10.2.0\db_1\database\initTRD.ora
sapdata_home D:\oracle\TRD
sap_profile D:\oracle\product\10.2.0\db_1\database\initTRD.sap
recov_interval 30
restore_mode D:\oracle\CER\saparch\ahkctzc.sve==D:\oracle\TRD\saparch
backup_dev_type util_file
util_par_file D:\param.txt
system_info Administrator SDE-SAP1 Windows 6.1 Build 7601 Service Pack
1 AMD64
oracle_info CER 10.2.0.4.0
make_info NTAMD64 OCI_10201_SHARE Feb 25 2010
command_line brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\saparch\ahkctzc.sve==D:\oracle\TRD\saparch -r
D:\param.txt
```

BR0280I BRRESTORE time stamp: 2011-12-14 10.03.48

BR0407I Restore of database: TRD

BR0408I BRRESTORE action ID: rehkytcm

BR0409I BRRESTORE function ID: rsf

BR0415I File for restore using backup utility ID \#NULL:  
D:\oracle\CER\saparch\ahkctzc.sve==D:\oracle\TRD\saparch

BR0416I 1 file found to restore, size 0.000 MB

BR0421I Restore device type: util\_file

BR0280I BRRESTORE time stamp: 2011-12-14 10.03.48

BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:

BR0280I BRRESTORE time stamp: 2011-12-14 10.03.52

BR0257I Your reply: 'c'

BR0259I Program execution will be continued...

BR0280I BRRESTORE time stamp: 2011-12-14 10.03.52

BR0229I Calling backup utility with function 'restore'...

BR0278I Command output of 'backint -u TRD -f restore -i

D:\oracle\TRD\sapbackup\rehkytcm.lst -t file -p D:\param.txt':

Setting the Number of streams desired=<1> for 1 File restore.

```
----- Output of restore -----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

```
----- Parameter Specified -----
```

CvInstanceName=<Instance001>

CvClientName=<sde-sap1>

numstreams=<1>

srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>

```
----- backint Command Line -----
```

backintCmd=[backint -u TRD -f restore -i

D:\oracle\TRD\sapbackup\rehkytcm.lst

-t file -p D:\param.txt ]

CommServeHostName=satishp

CommClientHostName=sde-sap1.idcprodcert.loc

Galaxy CommCellID=2

Galaxy ClientID=219

Src Cross Client=<sde-sap2>

getInstanceId for InstanceName=[CER] client=[sde-sap1.idcprodcert.loc]

clientId=219 AppType=61 Failed

Instance=[CER] - May not have been configured.

Galaxy SrcCrossClientID=218

Galaxy CrossClientInstanceID=559

Galaxy CrossClientAppType=61

Galaxy CrossClientAppID=2283

```
Number of streams desired=<1> Number of files to restore=<1> CMDLINE
Job
Restore has been requested
```

```
SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14438 Token=<14438:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19931, AcommCellId=2 AgroupNumber=23
```

```
archfilename=D:\oracle\CER\saparch\aehtktzc.sve copy=36
```

```
BID=13310 reqBID=13310 afileFlags=14d
```

```
BR0280I BRRESTORE time stamp: 2011-12-14 10.04.17
#FILE..... D:\oracle\CER\saparch\aehtktzc.sve
```

```
D:\oracle\TRD\saparch\aehtktzc.sve
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=8258
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server
```

```
BR0280I BRRESTORE time stamp: 2011-12-14 10.04.17
```

```
BR0374I 1 of 1 file restored by backup utility
```

```
BR0230I Backup utility called successfully
```

```
BR0406I End of file restore: rehkytcm.rsf 2011-12-14 10.04.17
```

```
BR0280I BRRESTORE time stamp: 2011-12-14 10.04.17
```

```
BR0402I BRRESTORE completed successfully
```

```
brrecover -f TRD -t dbpit -n last -c force -r D:\param.txt
```

```
BR0701I BRRECOVER 7.20 (1)
```

```
BR0705I Start of database recovery: vehkytgp.dpt 2011-12-14 10.05.35
```

```
BR0484I BRRECOVER log file: D:\oracle\TRD\sapbackup\vehkytgp.dpt
```

```
BR0101I Parameters
```

```
Name Value
```

```
oracle_sid TRD
```

```
oracle_home D:\oracle\product\10.2.0\db_1
```

```
oracle_profile D:\oracle\product\10.2.0\db_1\database\initTRD.ora
```

```
sapdata_home D:\oracle\TRD
```

```
sap_profile D:\oracle\product\10.2.0\db_1\database\initTRD.sap
```

```
recov_type dbpit
```

```
recov_copy_dir D:\oracle\TRD\sapbackup
```

```
recov_interval 30
```

```
scroll_lines 20
```

```
backup_dev_type tape
```

```
system_info Administrator SDE-SAP1 Windows 6.1 Build 7601 Service Pack 1
```

```
AMD64
```

```
oracle_info CER 10.2.0.4.0
```

```
make_info NTAMD64 OCI_10201_SHARE Feb 25 2010
```

```
command_line brrecover -f TRD -t dbpit -n last -c force -r D:\param.txt
```

```
BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35
```

```
BR0707I Recovery of database: TRD
```

```
BR0708I BRRECOVER action ID: vehkytgp
```

```
BR0709I BRRECOVER function ID: dpt
```

```
BR0710I Recovery type: dbpit
```

```
BR0134I Unattended mode with 'force' active - no operator confirmation allowed
```

```
BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35
```

```
BR0655I Control menu 103 # please decide how to proceed
```

```
-----
Database point-in-time recovery main menu
```

```
1 = Set point-in-time for recovery
```

```
2 * Select database backup or flashback
```

```
3 * Check the status of database files
```

```
4 * Restore control files
```

```
5 * Restore data files
```

```
6 * Restore split incremental control files
```

```
7 * Restore and apply incremental backup
```

```
8 * Restore and apply archivelog files
```

```
9 * Restore archivelog files and flashback
```

```
10 * Open database and post-processing
```

```
11 * Exit program
```

```
12 - Reset program status
```

```
Standard keys: c - cont, b - back, s - stop, r - refr, h - help
```

15. For an online backup, restore the data and logs, create a control file and recover and Open the database using BRRECOVER.

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '1'

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35  
 BR0657I Input menu 104 # please enter/check input values

-----  
 Options for point-in-time recovery of database CER

1 # Database instance of archivelog thread (instance) . []  
 2 ~ Last archivelog sequence to apply (last\_seq) ..... [99999999]  
 3 ~ Last system change number to apply (last\_scn) ..... []  
 4 ~ End point-in-time for recovery (end\_pit) ..... []

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35  
 BR0655I Control menu 103 # please decide how to proceed

-----  
 Database point-in-time recovery main menu

1 + Set point-in-time for recovery  
 2 = Select database backup or flashback  
 3 \* Check the status of database files  
 4 \* Restore control files  
 5 \* Restore data files  
 6 \* Restore split incremental control files  
 7 \* Restore and apply incremental backup  
 8 \* Restore and apply archivelog files  
 9 \* Restore archivelog files and flashback  
 10 \* Open database and post-processing  
 11 \* Exit program  
 12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '2'

BR0699I Reading log file D:\oracle\TRD\sapbackup\backTRD.log ...

BR0350I Backup utility will be inquired for backup confirmation

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.35

BR0229I Calling backup utility with function 'inquire'...

BR0278I Command output of 'backint -u TRD -f inquire -i

D:\oracle\TRD\sapbackup\vehkytgp.lst -t file -p D:\param.txt -c':

----- Output of inquire -----

BI\_BACKUP=<PARTIAL>  
 BI\_CALLER=<BRRECOVER>  
 BI\_REQUEST=<NEW>

----- Parameter Specified -----

CvInstanceName=<Instance001>  
 CvClientName=<sde-sap1>  
 numstreams=<4>  
 srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<TRD>

----- backint Command Line -----

backintCmd=[backint -u TRD -f inquire -i

D:\oracle\TRD\sapbackup\vehkytgp.lst -t file -p D:\param.txt -c ]

CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Inquire has been requested

Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.37  
 BR1520I 6 file backups confirmed by backup utility  
 BR0230I Backup utility called successfully

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.37  
 BR0659I List menu 105 # please select one or more entries

-----  
 Database backups / flashback for database point-in-time recovery

Pos. Log/FBack Start time Type/SCN Mode Device Rc UVol1/Stat.

1 = behkctrv.anf 2011-12-09 22.45.55 online all util\_file 9 <confirmed>  
 2 - behjosei.anf 2011-12-07 02.07.44 online all util\_file 0 .....  
 3 - behjkmqh.aff 2011-12-06 05.33.35 offl\_force all util\_file 0 .....  
 4 - behjhzai.anf 2011-12-05 17.14.20 online all util\_fonl 0 .....  
 5 - behjhyte.anf 2011-12-05 17.11.14 online all util\_file 0 .....

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.05.37  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '1'

BR0699I Reading log file D:\oracle\TRD\sapbackup\behkctrv.anf ...

BR0454W Values of oracle\_sid are different: current 'TRD', backup behkctrv.anf  
 'CER'  
 BR0455W Value 'TRD' of oracle\_sid will be used for restore  
 BR0454W Values of sapdata\_home are different: current 'D:\oracle\TRD', backup  
 behkctrv.anf 'D:\oracle\CER'  
 BR0455W Value 'D:\oracle\TRD' of sapdata\_home will be used for restore  
 BR0460W Termination message not found in

D:\oracle\TRD\sapbackup\behkctrv.anf - log file incomplete (this is OK if the log file  
 was restored)

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.37  
 BR0668I Warnings or errors occurred - you can continue to ignore them or go back  
 to repeat the last action  
 BR0126I Unattended mode active - continuing processing with default reply 'cont'

BR0772I Checking the availability of archive log files for database instance TRD ...

BR0699I Reading log file D:\oracle\TRD\saparch\archTRD.log for device type  
 'disk'...

BR0699I Reading log file D:\oracle\TRD\saparch\archTRD.log for device type  
 'tape/backint/rman'...

BR0699I Reading log file D:\oracle\TRD\saparch\archTRD.log for device type  
 'stage'...

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.37  
 BR0655I Control menu 103 # please decide how to proceed

-----  
 Database point-in-time recovery main menu

1 + Set point-in-time for recovery  
 2 + Select database backup or flashback  
 3 = Check the status of database files  
 4 \* Restore control files  
 5 \* Restore data files  
 6 # Restore split incremental control files  
 7 # Restore and apply incremental backup  
 8 \* Restore and apply archive log files  
 9 # Restore archive log files and flashback

10 \* Open database and post-processing  
 11 \* Exit program  
 12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.05.37  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '3'

BR0753W Control file 'D:\oracle\TRD\sapdata1\cntrl\ctrlCER.ctl' not found  
 BR0753W Control file 'D:\oracle\TRD\sapdata2\cntrl\ctrlCER.ctl' not found  
 BR0753W Control file 'D:\oracle\TRD\saparch\cntrl\ctrlCER.ctl' not found

BR0617I Database instance TRD is started  
 BR0064I Database instance TRD will be shut down now in mode 'IMMEDIATE'

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.38  
 BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.42  
 BR0308I Shutdown of database instance TRD successful

BR0751W Database instance TRD cannot be mounted due to missing control files

BR0755I Checking the status of database files for instance TRD...

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.42  
 BR0655I Control menu 103 # please decide how to proceed

-----  
 Database point-in-time recovery main menu

1 + Set point-in-time for recovery  
 2 + Select database backup or flashback  
 3 + Check the status of database files  
 4 = Restore control files  
 5 \* Restore data files  
 6 # Restore split incremental control files  
 7 # Restore and apply incremental backup  
 8 \* Restore and apply archivelog files  
 9 # Restore archivelog files and flashback  
 10 \* Open database and post-processing  
 11 \* Exit program  
 12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.05.42  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '4'

BR0613I Database instance TRD is shut down

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.43  
 BR0657I Input menu 111 # please enter/check input values

-----  
 BRRESTORE main options for restore of database files

1 - BRRESTORE profile (profile) ..... [initTRD.sap]  
 2 - BRBACKUP backup run (backup) ..... [behkctrv.anf]  
 3 - Fill-up previous restores (fillup) . [no]  
 4 - Restore device type (device) ..... [util\_file]  
 5 - BACKINT/Mount profile (parfile) .... [D:\param.txt]  
 6 # Database user/password (user) ..... [system/\*\*\*\*\*]  
 7 - Files for restore (mode) ..... [0]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.05.43  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.05.43  
 BR0657I Input menu 112 # please enter/check input values

-----  
 Additional BRRESTORE options for restore of database files

1 - Confirmation mode (confirm) ..... [force]  
 2 - Query mode (query) ..... [no]  
 3 # Compression mode (compress) ..... [no]  
 4 # Parallel execution (execute) ..... [0]  
 5 - Additional output (output) ..... [no]

```

6 - Message language (language) ..... [E]
7 - BRRESTORE command line (command) . [-p initTRD.sap -b behkctrv.anf -d
util_file -r

D:\param.txt -m 0 -c force -l E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-14 10.05.43
BR0134I Unattended mode with 'force' active - continuing processing with default
reply 'cont'

BR0291I BRRESTORE will be started with options '-p initTRD.sap -b behkctrv.anf -d
util_file -r

D:\param.txt -m 0 -c force -l E'

=====

BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehkytgx.rsb 2011-12-14 10.05.43
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkytgx.rsb

BR0454W Values of oracle_sid are different: current 'TRD', backup behkctrv.anf
'CER'
BR0455W Value 'TRD' of oracle_sid will be used for restore
BR0454W Values of sapdata_home are different: current
'D:\oracle\TRD', backup behkctrv.anf 'D:\oracle\CER'
BR0455W Value 'D:\oracle\TRD' of sapdata_home will be used for restore
BR0460W Termination message not found in
D:\oracle\TRD\sapbackup\behkctrv.anf

- log file incomplete (this is OK if the log file was restored)

BR0427I Files from the old sapdata_home D:\oracle\CER
will be restored into the new sapdata_home D:\oracle\TRD

BR0280I BRRESTORE time stamp: 2011-12-14 10.05.43
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehkytgx
BR0409I BRRESTORE function ID: rsb
BR0449I Restore mode: partial
BR0411I Database files for restore:
D:\oracle\CER\sapbackup\CNTRLCER.DBF=D:\oracle\TRD\sapbackup
D:\oracle\CER\sapdata1\cntrl\ctrlCER.ctl
D:\oracle\CER\sapdata2\cntrl\ctrlCER.ctl
D:\oracle\CER\saparch\cntrl\ctrlCER.ctl
BR0419I Files will be restored from backup: behkctrv.anf 2011-12-09 22.45.55
BR0416I 1 file found to restore, size 10.766 MB
BR0421I Restore device type: util_file
BR0134I Unattended mode with 'force' active - no operator confirmation allowed

BR0280I BRRESTORE time stamp: 2011-12-14 10.05.43
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u CER -f restore -i

D:\oracle\TRD\sapbackup\rehkytgx.lst -t file -p D:\param.txt -c':
Setting the Number of streams desired=<1> for 1 File restore.

----- Output of restore -----

BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>

----- Parameter Specified -----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<CER>
----- backint Command Line -----
backintCmd=[backint -u CER -f restore -i

D:\oracle\TRD\sapbackup\rehkytgx.lst -t file -p D:\param.txt -c ]

CommServeHostName=satishp

```



```

CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER]

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1> Number of files to restore=<1> CMDLINE Job
Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14440 Token=<14440:2:1>
Success in init with JM
Attaching CommServer Session
AfileNumber=19908, AcommCellId=2 AgroupNumber=22

archfilename=D:\oracle\CER\sapbackup\CNTRLCER.DBF copy=35
BID=13310 reqBID=13310 afileFlags=0d

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.12
#FILE..... D:\oracle\CER\sapbackup\CNTRLCER.DBF

D:\oracle\TRD\sapbackup\CNTRLCER.DBF
#RESTORED. 1021752_13310
Successful restore; 1 File(s); total transferred bytes=11288746
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.13
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully

BR0351I Restoring D:\ORACLE\TRD\SAPDATA1\CNTRL\ctrlCER.ctl
BR0355I from D:\oracle\TRD\sapbackup\CNTRLCER.DBF ...

BR0351I Restoring D:\ORACLE\TRD\SAPDATA2\CNTRL\ctrlCER.ctl
BR0355I from D:\oracle\TRD\sapbackup\CNTRLCER.DBF ...

BR0351I Restoring D:\ORACLE\TRD\SAPARCH\CNTRL\ctrlCER.ctl
BR0355I from D:\oracle\TRD\sapbackup\CNTRLCER.DBF ...

BR0406I End of file restore: rehkytgx.rsb 2011-12-14 10.06.13
BR0280I BRRESTORE time stamp: 2011-12-14 10.06.13
BR0403I BRRESTORE completed successfully with warnings
=====
BR0292I Execution of BRRESTORE finished with return code 1

BR0280I BRRECOVER time stamp: 2011-12-14 10.06.13
BR0668I Warnings or errors occurred - you can continue to ignore them or
go back to repeat the last action
BR0126I Unattended mode active - continuing processing with default reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.06.13
BR0655I Control menu 103 # please decide how to proceed
-----
Database point-in-time recovery main menu
1 + Set point-in-time for recovery
2 + Select database backup or flashback
3 + Check the status of database files
4 + Restore control files
5 = Restore data files
6 # Restore split incremental control files
7 # Restore and apply incremental backup
8 * Restore and apply archivelog files
9 # Restore archivelog files and flashback
10 * Open database and post-processing
11 * Exit program
12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-14 10.06.13
BR0134I Unattended mode with 'force' active - continuing processing with default
reply '5'

BR0613I Database instance TRD is shut down
BR0750I Database instance TRD will be mounted now

```

BR0280I BRRECOVER time stamp: 2011-12-14 10.06.14  
BR0330I Starting and mounting database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.06.22  
BR0331I Start and mount of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-14 10.06.22  
BR0657I Input menu 111 # please enter/check input values

-----  
BRRESTORE main options for restore of database files

1 - BRRESTORE profile (profile) ..... [initTRD.sap]  
2 - BRBACKUP backup run (backup) ..... [behkctrv.anf]  
3 - Fill-up previous restores (fillup) . [no]  
4 - Restore device type (device) ..... [util\_file]  
5 - BACKINT/Mount profile (parfile) .... [D:\param.txt]  
6 # Database user/password (user) ..... [system/\*\*\*\*\*]  
7 - Files for restore (mode) ..... [all]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
BR0280I BRRECOVER time stamp: 2011-12-14 10.06.22  
BR0134I Unattended mode with 'force' active - continuing processing with default  
reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.06.22  
BR0657I Input menu 112 # please enter/check input values

-----  
Additional BRRESTORE options for restore of database files

1 - Confirmation mode (confirm) ..... [force]  
2 - Query mode (query) ..... [no]  
3 # Compression mode (compress) ..... [no]  
4 # Parallel execution (execute) ..... [0]  
5 - Additional output (output) ..... [no]  
6 - Message language (language) ..... [E]  
7 - BRRESTORE command line (command) . [-p initTRD.sap -b behkctrv.anf -d  
util\_file -r

D:\param.txt -m all -c force -l E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
BR0280I BRRECOVER time stamp: 2011-12-14 10.06.22  
BR0134I Unattended mode with 'force' active - continuing processing with default  
reply 'cont'

BR0291I BRRESTORE will be started with options '-p initTRD.sap -b behkctrv.anf -d  
util\_file -r

D:\param.txt -m all -c force -l E'

=====

BR0401I BRRESTORE 7.20 (1)

BR0405I Start of file restore: rehkytik.rsb 2011-12-14 10.06.22

BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkytik.rsb

BR0454W Values of oracle\_sid are different: current 'TRD', backup behkctrv.anf  
'CER'

BR0455W Value 'TRD' of oracle\_sid will be used for restore

BR0454W Values of sapdata\_home are different: current

'D:\oracle\TRD', backup behkctrv.anf 'D:\oracle\CER'

BR0455W Value 'D:\oracle\TRD' of sapdata\_home will be used for restore

BR0460W Termination message not found in

D:\oracle\TRD\sapbackup\behkctrv.anf

- log file incomplete (this is OK if the log file was restored)

BR0427I Files from the old sapdata\_home D:\oracle\CER will be restored

into the new sapdata\_home D:\oracle\TRD

BR0370I Directory D:\ORACLE\TRD\SAPDATA2\CER\_1 created

BR0370I Directory D:\ORACLE\TRD\SAPDATA3\CERUSR\_1 created

BR0456I Probably the database must be recovered due to restore from online  
backup

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.22

BR0407I Restore of database: TRD

BR0408I BRRESTORE action ID: rehkytik

BR0409I BRRESTORE function ID: rsb

BR0449I Restore mode: ALL

BR0419I Files will be restored from backup: behkctrv.anf 2011-12-09 22.45.55

BR0416I 5 files found to restore, total size 660.039 MB  
 BR0421I Restore device type: util\_file  
 BR0134I Unattended mode with 'force' active - no operator confirmation allowed

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.22  
 BR0229I Calling backup utility with function 'restore'...  
 BR0278I Command output of 'backint -u CER -f restore -i

D:\oracle\TRD\sapbackup\rehkytik.lst -t file -p D:\param.txt -c':

----- Output of restore -----

BI\_BACKUP=<FULL>  
 BI\_CALLER=<BRRESTORE>  
 BI\_REQUEST=<NEW>

----- Parameter Specified -----

CvInstanceName=<Instance001>  
 CvClientName=<sde-sap1>  
 numstreams=<4>  
 srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<CER>

----- backint Command Line -----

backintCmd=[backint -u CER -f restore -i

D:\oracle\TRD\sapbackup\rehkytik.lst -t file -p D:\param.txt -c ]

CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.

Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283

Total number of Collect Files Generated=<3>  
 Setting the Number of streams desired=<3> to the

total number of collect files generated.

Number of streams desired=<3> Number of files to restore=<3> CMDLINE Job  
 Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]  
 Success in getting Job id=14441 Token=<14441:2:1>  
 Success in init with JM

CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc

Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>

getInstanceId for InstanceName=[CER]

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.

Galaxy SrcCrossClientID=218  
 Galaxy CommCellID=2  
 Galaxy ClientID=219

Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.

Galaxy SrcCrossClientID=218  
 Galaxy CommCellID=2  
 Galaxy ClientID=219

Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.

Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61

Galaxy CrossClientAppID=2283  
Restore has been requested

Success in init with JM  
Galaxy SrcCrossClientID=218  
Attaching CommServer Session  
Galaxy CrossClientInstanceID=559  
Galaxy CrossClientAppType=61  
Galaxy CrossClientAppID=2283  
Restore has been requested

Success in init with JM  
Attaching CommServer Session  
Restoring from MediaId=<22\_MagVolId\_9086>  
Galaxy CrossClientInstanceID=559  
Galaxy CrossClientAppType=61  
Galaxy CrossClientAppID=2283  
Restore has been requested

Success in init with JM  
Attaching CommServer Session  
Restoring from MediaId=<22\_MagVolId\_9088>  
Restoring from MediaId=<22\_MagVolId\_9087>  
RESTORED backupId=<1021752\_13310>

nextFile=<D:\ORACLE\CER\SAPDATA2\CER\_1\CER.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.48  
#FILE..... D:\ORACLE\TRD\SAPDATA2\CER\_1\CER.DATA1  
#RESTORED. 1021752\_13310  
RESTORED backupId=<1021752\_13310>

nextFile=<D:\ORACLE\CER\SAPDATA3\CERUSR\_1\CERUSR.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.50  
#FILE..... D:\ORACLE\TRD\SAPDATA3\CERUSR\_1\CERUSR.DATA1  
#RESTORED. 1021752\_13310  
RESTORED backupId=<1021752\_13310>

nextFile=<D:\ORACLE\CER\SAPDATA1\UNDO\_1\UNDO.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-14 10.06.56  
#FILE..... D:\ORACLE\TRD\SAPDATA1\UNDO\_1\UNDO.DATA1  
#RESTORED. 1021752\_13310  
Sending file=<#EOF> to the Child=<3912>  
Successful restore; 1 File(s); total transferred bytes=104865966  
RESTORED backupId=<1021752\_13310>

nextFile=<D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSAUX.DBF>

BR0280I BRRESTORE time stamp: 2011-12-14 10.07.12  
#FILE..... D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSAUX.DBF  
#RESTORED. 1021752\_13310  
Sending file=<#EOF> to the Child=<1920>  
Successful restore; 2 File(s); total transferred bytes=115360098  
RESTORED backupId=<1021752\_13310>

nextFile=<D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-14 10.11.16  
#FILE..... D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1  
#RESTORED. 1021752\_13310  
Sending file=<#EOF> to the Child=<4536>  
Successful restore; 2 File(s); total transferred bytes=471875934  
Success in sending JMSUCCESS to server  
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 10.11.26  
BR0374I 5 of 5 files restored by backup utility  
BR0230I Backup utility called successfully

BR0406I End of file restore: rehkytik.rsb 2011-12-14 10.11.26  
BR0280I BRRESTORE time stamp: 2011-12-14 10.11.26  
BR0403I BRRESTORE completed successfully with warnings

=====  
BR0292I Execution of BRRESTORE finished with return code 1

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.26  
BR0668I Warnings or errors occurred - you can continue to  
ignore them or go back to repeat the last action  
BR0126I Unattended mode active - continuing processing with default reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.26

BR0655I Control menu 103 # please decide how to proceed

-----  
Database point-in-time recovery main menu

1 + Set point-in-time for recovery  
2 + Select database backup or flashback  
3 + Check the status of database files  
4 + Restore control files  
5 + Restore data files  
6 # Restore split incremental control files  
7 # Restore and apply incremental backup  
8 = Restore and apply archivelog files  
9 # Restore archivelog files and flashback  
10 \* Open database and post-processing  
11 \* Exit program  
12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
BR0280I BRRECOVER time stamp: 2011-12-14 10.11.26  
BR0134I Unattended mode with 'force' active - continuing processing with default  
reply '8'

BR0614I Database instance TRD is mounted

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.28  
BR0370I Directory D:\oracle\TRD\sapbackup\vehkytgp created

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.28  
BR1402I Dummy online redolog file  
'D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo' created  
BR1403I Dummy online redolog file  
'D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo' dropped

BR0351I Restoring D:\ORACLE\TRD\ORIGLOGA\LOG1\_M1.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGA\LOG1\_M2.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\ORIGLOGB\LOG2\_M1.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGB\LOG2\_M2.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\ORIGLOGA\LOG3\_M1.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGA\LOG3\_M2.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\ORIGLOGB\LOG4\_M1.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGB\LOG4\_M2.DBF  
BR0355I from D:\oracle\TRD\sapbackup\vehkytgp\dummy.redo ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.29  
BR1096I Database file 'D:\ORACLE\CER\SAPDATA2\CER\_1\CER.DATA1' renamed  
successfully to 'D:\ORACLE\TRD\SAPDATA2\CER\_1\CER.DATA1'  
BR1096I Database file 'D:\ORACLE\CER\SAPDATA3\CERUSR\_1\CERUSR.DATA1'  
renamed successfully to 'D:\ORACLE\TRD\SAPDATA3\CERUSR\_1\CERUSR.DATA1'  
BR0793I Temporary database file D:\ORACLE\CER\SAPDATA1\TEMP\_1  
\TEMP.DATA1 has been dropped  
BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\UNDO\_1\UNDO.DATA1'  
renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\UNDO\_1\UNDO.DATA1'  
BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSAUX.DBF'  
renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSAUX.DBF'  
BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1'  
renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1'  
BR1096I Database file 'D:\ORACLE\CER\ORIGLOGA\LOG1\_M1.DBF' renamed  
successfully to 'D:\ORACLE\TRD\ORIGLOGA\LOG1\_M1.DBF'  
BR1096I Database file 'D:\ORACLE\CER\MIRRLOGA\LOG1\_M2.DBF' renamed  
successfully to 'D:\ORACLE\TRD\MIRRLOGA\LOG1\_M2.DBF'  
BR1096I Database file 'D:\ORACLE\CER\ORIGLOGB\LOG2\_M1.DBF' renamed  
successfully to 'D:\ORACLE\TRD\ORIGLOGB\LOG2\_M1.DBF'  
BR1096I Database file 'D:\ORACLE\CER\MIRRLOGB\LOG2\_M2.DBF' renamed  
successfully to 'D:\ORACLE\TRD\MIRRLOGB\LOG2\_M2.DBF'  
BR1096I Database file 'D:\ORACLE\CER\ORIGLOGA\LOG3\_M1.DBF' renamed  
successfully to 'D:\ORACLE\TRD\ORIGLOGA\LOG3\_M1.DBF'  
BR1096I Database file 'D:\ORACLE\CER\MIRRLOGA\LOG3\_M2.DBF' renamed

successfully to 'D:\ORACLE\TRD\MIRRLOGA\LOG3\_M2.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\ORIGLOGB\LOG4\_M1.DBF' renamed  
 successfully to 'D:\ORACLE\TRD\ORIGLOGB\LOG4\_M1.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\MIRRLOGB\LOG4\_M2.DBF' renamed  
 successfully to 'D:\ORACLE\TRD\MIRRLOGB\LOG4\_M2.DBF'

BR0614I Database instance TRD is mounted  
 BR0750I Database instance TRD will be remounted now in mode 'IMMEDIATE'

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.32  
 BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.36  
 BR0308I Shutdown of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.36  
 BR0330I Starting and mounting database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.44  
 BR0331I Start and mount of database instance TRD successful

BR0776I First redolog file sequence to apply for database instance TRD: 74

BR0699I Reading log file D:\oracle\TRD\saparch\archTRD.log for device type  
 'disk'...

BR0699I Reading log file D:\oracle\TRD\saparch\archTRD.log for device type  
 'tape/backint/rman'...

BR0699I Reading log file D:\oracle\TRD\saparch\archTRD.log for device type  
 'stage'...

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.47  
 BR0660I List display 113 # no selection possible

-----  
 Archivelog files to apply of database instance TRD

Pos. Sequence Status Apply From Disk Tape Util Rman Stage

1 - 74 redo\_back yes util .... yes ....  
 2 - 75 in\_back yes util .... yes ....

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.11.47  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.47  
 BR0657I Input menu 117 # please enter/check input values

-----  
 Applying archivelog files of database instance TRD

1 - First sequence number (first\_seq) .. [74]  
 2 - Last sequence number (last\_seq) .... [75]  
 3 - Use backup control file (back\_ctl) . [yes]  
 4 ~ Parallel recovery (degree) ..... []

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.11.47  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.48  
 BR0657I Input menu 115 # please enter/check input values

-----  
 BRRESTORE main options for restore of archivelog files

1 - BRRESTORE main profile (profile) .... [initTRD.sap]  
 2 # Profile for cpio (prof\_cpio) ..... [initTRD.sap]  
 3 # Profile for dd (prof\_dd) ..... []  
 4 # Profile for rman (prof\_rman) ..... []  
 5 # Profile for rman\_dd (prof\_rman\_dd) ... []  
 6 # Profile for rman\_set (prof\_rman\_set) . []  
 7 # Profile for brtools (prof\_brtools) ... []  
 8 ~ BACKINT/Mount profile (parfile) ..... [D:\param.txt]  
 9 # Database user/password (user) ..... [system/\*\*\*\*\*]  
 10 - Destination directory (dest\_dir) ..... [D:\oracle\TRD\saparch]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.48  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-14 10.11.48  
 BR0657I Input menu 116 # please enter/check input values

-----  
 Additional BRRESTORE options for restore of archive log files

1 - Confirmation mode (confirm) . [force]  
 2 - Additional output (output) .. [no]  
 3 - Message language (language) . [E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.11.48  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0291I BRRESTORE will be started with options '-p initTRD.sap -a 74-  
 75=D:\oracle\TRD\saparch -d util\_file -r D:\param.txt -k no -c force -l E'

=====  
 BR0401I BRRESTORE 7.20 (1)  
 BR0405I Start of file restore: rehkytuy.rsa 2011-12-14 10.11.48  
 BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehkytuy.rsa

BR0414I Offline redolog files for restore of database instance TRD:  
 D:\oracle\TRD\saparch:  
 74,75

BR0280I BRRESTORE time stamp: 2011-12-14 10.11.49  
 BR0407I Restore of database: TRD  
 BR0408I BRRESTORE action ID: rehkytuy  
 BR0409I BRRESTORE function ID: rsa  
 BR0419I Files will be restored from backup: aehkctzc.sve 2011-12-09 22.49.04  
 BR0416I 2 files found to restore, total size 2.202 MB  
 BR0421I Restore device type: util\_file  
 BR0134I Unattended mode with 'force' active - no operator confirmation allowed

BR0280I BRRESTORE time stamp: 2011-12-14 10.11.49  
 BR0229I Calling backup utility with function 'restore'...  
 BR0278I Command output of 'backint -u CER -f restore -i  
 D:\oracle\TRD\sapbackup\rehkytuy.lst -t file -p D:\param.txt -c':

----- Output of restore -----  
 BI\_BACKUP=<ARCHIVE>  
 BI\_CALLER=<BRRESTORE>  
 BI\_REQUEST=<NEW>

----- Parameter Specified -----  
 CvInstanceName=<Instance001>  
 CvClientName=<sde-sap1>  
 numstreams=<4>  
 srccrossclient=<sde-sap2>  
  
 srccrossdbname=<CER>  
  
 destdbname=<CER>

----- backint Command Line -----  
 backintCmd=[backint -u CER -f restore -i D:\oracle\TRD\sapbackup\rehkytuy.lst -t  
 file -p D:\param.txt -c ]

CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER] client=[sde-sap1.idcprodcert.loc]  
 clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2284  
 Total number of Collect Files Generated=<2>  
 Setting the Number of streams desired=<2> to the total number of collect files  
 generated.  
 Number of streams desired=<2> Number of files to restore=<2> CMDLINE Job  
 Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]  
 Success in getting Job id=14442 Token=<14442:2:1>  
 Success in init with JM  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2284  
 Restore has been requested

Success in init with JM  
 Attaching CommServer Session  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2284  
 Restore has been requested

Success in init with JM  
 Attaching CommServer Session  
 Restoring from MediaId=<23\_MagVolId\_9091>  
 Restoring from MediaId=<23\_MagVolId\_9090>  
 RESTORED backupId=<1021752\_13310>  
 nextFile=<D:\oracle\cer\saparch\ARC00074\_0769082544.001>

BR0280I BRRESTORE time stamp: 2011-12-14 10.12.08  
 #ARCHIVE.. D:\oracle\cer\saparch\ARC00074\_0769082544.001  
 D:\oracle\TRD\saparch\ARC00074\_0769082544.001  
 #RESTORED. 1021752\_13310  
 Sending file=<#EOF> to the Child=<1788>  
 Successful restore; 1 File(s); total transferred bytes=2302131  
 RESTORED backupId=<1021752\_13310>  
 nextFile=<D:\oracle\cer\saparch\ARC00075\_0769082544.001>

BR0280I BRRESTORE time stamp: 2011-12-14 10.12.16  
 #ARCHIVE.. D:\oracle\cer\saparch\ARC00075\_0769082544.001  
 D:\oracle\TRD\saparch\ARC00075\_0769082544.001  
 #RESTORED. 1021752\_13310  
 Sending file=<#EOF> to the Child=<4248>  
 Successful restore; 1 File(s); total transferred bytes=7347  
 Success in sending JMSUCCESS to server  
 Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-14 10.12.26  
 BR0374I 2 of 2 files restored by backup utility  
 BR0230I Backup utility called successfully

BR0406I End of file restore: rehkytuy.rsa 2011-12-14 10.12.26  
 BR0280I BRRESTORE time stamp: 2011-12-14 10.12.26  
 BR0402I BRRESTORE completed successfully

=====

BR0292I Execution of BRRESTORE finished with return code 0

BR0783I Archivelog files with sequence number 74-75 of database instance TRD  
 will be applied now

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.27  
 BR0336I Applying offline redolog file  
 D:\oracle\TRD\saparch\ARC00074\_0769082544.001 ...  
 BR0336I Applying offline redolog file  
 D:\oracle\TRD\saparch\ARC00075\_0769082544.001 ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.37  
 BR0337I Offline redolog file D:\oracle\TRD\saparch\ARC00074\_0769082544.001  
 applied successfully



BR0280I BRRECOVER time stamp: 2011-12-14 10.12.37  
 BR0337I Offline redolog file D:\oracle\TRD\saparch\ARC00075\_0769082544.001  
 applied successfully

BR0800I Restored archivelog file can be deleted now -  
 not deleting them can lead to space shortage in archive directory

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.38  
 BR0675I This is a recommended action - do you want to execute it now?  
 BR0126I Unattended mode active - continuing processing with default reply 'yes'

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.38  
 BR0015I Offline redolog file D:\oracle\TRD\saparch\ARC00075\_0769082544.001  
 deleted

BR0800I Restored archivelog file can be deleted now -  
 not deleting them can lead to space shortage in archive directory

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.38  
 BR0675I This is a recommended action - do you want to execute it now?  
 BR0126I Unattended mode active - continuing processing with default reply 'yes'

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.38  
 BR0784I Media recovery completed

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.38  
 BR0655I Control menu 103 # please decide how to proceed

-----  
 Database point-in-time recovery main menu

1 + Set point-in-time for recovery  
 2 + Select database backup or flashback  
 3 + Check the status of database files  
 4 + Restore control files  
 5 + Restore data files  
 6 # Restore split incremental control files  
 7 # Restore and apply incremental backup  
 8 + Restore and apply archivelog files  
 9 # Restore archivelog files and flashback  
 10 = Open database and post-processing  
 11 \* Exit program  
 12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.12.38  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '10'

BR0614I Database instance TRD is mounted  
 BR0064I Database instance TRD will be shut down now in mode 'IMMEDIATE'

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.40  
 BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.45  
 BR0308I Shutdown of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.45  
 BR0657I Input menu 135 # please enter/check input values

-----  
 Options for opening database instance TRD

1 ~ Reset logs option (reset\_logs) .. [resetlogs]  
 2 \* Open database command (command) . [alter database open resetlogs]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-14 10.12.45  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply 'cont'

BR0786I Database instance TRD will be opened now in mode 'resetlogs'  
 BR0787W No more archivelog files can be applied after database has been opened

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.45  
 BR0675I This is a recommended action - do you want to execute it now?  
 BR0126I Unattended mode active - continuing processing with default reply 'yes'

BR0280I BRRECOVER time stamp: 2011-12-14 10.12.45  
 BR0304I Starting and opening database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.01  
BR0305I Start and open of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.03  
BR0789I Temporary database file D:\ORACLE\TRD\SAPDATA1\TEMP\_1\TEMP.DATA1 has been recreated

BR0118I Tablespaces and data files

Tablespace Status File Status Id. Size Creation time Creation scn Device Type Link

```
PSAPCER ONLINE D:\ORACLE\TRD\SAPDATA2\CER_1\CER.DATA1
ONLINE 4 52428800 2011-12-05 10.33.15 176706 3 FILE NOLINK
PSAPCERUSR ONLINE D:\ORACLE\TRD\SAPDATA3\CERUSR_1\CERUSR.DATA1
ONLINE 5 10485760 2011-12-05 10.33.15 176736 3 FILE NOLINK
PSAPTEMP ONLINE# D:\ORACLE\TRD\SAPDATA1\TEMP_1\TEMP.DATA1
ONLINE -1 104865792 2011-12-14 10.13.03 397522 3 FILE NOLINK
PSAPUNDO ONLINE D:\ORACLE\TRD\SAPDATA1\UNDO_1\UNDO.DATA1
ONLINE 2 104857600 2011-12-05 10.02.42 8337 3 FILE NOLINK
SYSAUX ONLINE D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSAUX.DBF
ONLINE 3 104857600 2011-12-05 10.02.45 8460 3 FILE NOLINK
SYSTEM ONLINE D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSTEM.DATA1
SYSTEM 1 419430400 2011-12-05 10.02.36 7 3 FILE NOLINK
```

BR0119I Redolog files

File Status Group Thread Sequence Size First time First scn Device Type Link

```
D:\ORACLE\TRD\ORIGLOGA\LOG1_M1.DBF INUSE 1 1 1 10485760
2011-12-14 10.12.52 397432 3 FILE NOLINK
D:\ORACLE\TRD\MIRRLOGA\LOG1_M2.DBF INUSE 1 1 1 10485760
2011-12-14 10.12.52 397432 3 FILE NOLINK
D:\ORACLE\TRD\ORIGLOGB\LOG2_M1.DBF INUSE 2 1 0 10485760
0000-00-00 00.00.00 0 3 FILE NOLINK
D:\ORACLE\TRD\MIRRLOGB\LOG2_M2.DBF INUSE 2 1 0 10485760
0000-00-00 00.00.00 0 3 FILE NOLINK
D:\ORACLE\TRD\ORIGLOGA\LOG3_M1.DBF INUSE 3 1 0 10485760
0000-00-00 00.00.00 0 3 FILE NOLINK
D:\ORACLE\TRD\MIRRLOGA\LOG3_M2.DBF INUSE 3 1 0 10485760
0000-00-00 00.00.00 0 3 FILE NOLINK
D:\ORACLE\TRD\ORIGLOGB\LOG4_M1.DBF INUSE 4 1 0 10485760
0000-00-00 00.00.00 0 3 FILE NOLINK
D:\ORACLE\TRD\MIRRLOGB\LOG4_M2.DBF INUSE 4 1 0 10485760
0000-00-00 00.00.00 0 3 FILE NOLINK
```

BR0120I Control files

File Size Reset time Reset scn Device Type Link

```
D:\ORACLE\TRD\SAPDATA1\CNTRL\CTRLCER.CTL 11288576
2011-12-14 10.12.52 397432 3 FILE NOLINK
D:\ORACLE\TRD\SAPDATA2\CNTRL\CTRLCER.CTL 11288576
2011-12-14 10.12.52 397432 3 FILE NOLINK
D:\ORACLE\TRD\SAPARCH\CNTRL\CTRLCER.CTL 11288576
2011-12-14 10.12.52 397432 3 FILE NOLINK
```

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.04  
BR0319I Control file copy created:  
D:\oracle\TRD\sapbackup\vehkytgp\CNTRLTRD.NEW 11288576

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.04  
BR0595I Selecting indexes/partitions with NOLOGGING  
created during or after the selected backup behkctrv.anf 2011-12-09 22.45.55 ...  
BR0285I This function can take several seconds/minutes - be patient...

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.05  
BR0596I No indexes found with NOLOGGING created during or  
after the selected backup behkctrv.anf 2011-12-09 22.45.55

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.05  
BR1959I No index partitions found with NOLOGGING created during or  
after the selected backup behkctrv.anf 2011-12-09 22.45.55

BR1404I New control files can be created now

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.05  
BR0675I This is a recommended action - do you want to execute it now?  
BR0126I Unattended mode active - continuing processing with default reply 'yes'

BR1404I New control files will be created now using SQL script  
D:\oracle\TRD\sapbackup\vehkytgp\control.sql  
BR0064I Database instance TRD will be shut down now

```

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.05
BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.23
BR0308I Shutdown of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.23
BR1273I SQLPLUS will be started for execution of SQL script
D:\oracle\TRD\sapbackup\vehkytgp\control.sql

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.23
BR0278I Command output of 'D:\oracle\product\10.2.0\db_1\BIN\sqlplus /nolog <
D:\oracle\TRD\sapbackup\vehkytgp.spi':

SQL*Plus: Release 10.2.0.4.0 - Production on Wed Dec 14 10:13:23 2011
Copyright (c) 1982, 2007, Oracle. All Rights Reserved.
SQL> SQL> Connected to an idle instance.
SQL>
SQL> ORACLE instance started.
Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
System altered.
File created.
ORA-01507: database not mounted
ORACLE instance shut down.
ORACLE instance started.
Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
Control file created.
Database altered.
Tablespace altered.
SQL> Disconnected from Oracle Database 10g Enterprise Edition Release
10.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.40
BR1274I Execution of SQL script D:\oracle\TRD\sapbackup\vehkytgp\control.sql
completed

BR1275I SQLPLUS executed SQL script
D:\oracle\TRD\sapbackup\vehkytgp\control.sql successfully
BR1405I New control files created successfully

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.40
BR0716I Database point-in-time recovery completed

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.40
BR0655I Control menu 103 # please decide how to proceed
-----
Database point-in-time recovery main menu

1 + Set point-in-time for recovery
2 + Select database backup or flashback
3 + Check the status of database files
4 + Restore control files
5 + Restore data files
6 # Restore split incremental control files
7 # Restore and apply incremental backup
8 + Restore and apply archivelog files
9 # Restore archivelog files and flashback
10 + Open database and post-processing
11 = Exit program
12 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-14 10.13.40
BR0134I Unattended mode with 'force' active - continuing processing with default
reply '11'

BR0797I Number of restored/recovered database files: 6/5
BR0798I Number of restored/applied incremental files: 0/0
BR0799I Number of restored/applied archivelog files: 2/2

BR0706I End of database recovery: vehkytgp.dpt 2011-12-14 10.13.40

```

16. For Offline backup, copy the corresponding ".aff" file from source computer sapbackup directory or restore it using BRRECOVER

```

BR0280I BRRECOVER time stamp: 2011-12-14 10.13.42
BR0703I BRRECOVER completed successfully with warnings
brrecover -f TRD -t reset -c force -r D:\param.txt

BR0701I BRRECOVER 7.20 (1)
BR0705I Start of database recovery: vehlbzto.drs 2011-12-15 01.57.36
BR0484I BRRECOVER log file: D:\oracle\TRD\sapbackup\vehlbzto.drs

BR0101I Parameters

Name Value

oracle_sid TRD
oracle_home D:\oracle\product\10.2.0\db_1
oracle_profile D:\oracle\product\10.2.0\db_1\database\initTRD.ora
sapdata_home D:\oracle\TRD
sap_profile D:\oracle\product\10.2.0\db_1\database\initTRD.sap
recov_type reset
recov_copy_dir D:\oracle\TRD\sapbackup
recov_interval 30
scroll_lines 20
backup_dev_type tape
system_info Administrator SDE-SAP1 Windows 6.1 Build 7601
Service Pack 1 AMD64
oracle_info TRD 10.2.0.4.0
make_info NTAMD64 OCI_10201_SHARE Feb 25 2010
command_line brrecover -f TRD -t reset -c force -r D:\param.txt

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.36
BR0707I Recovery of database: TRD
BR0708I BRRECOVER action ID: vehlbzto
BR0709I BRRECOVER function ID: drs
BR0710I Recovery type: reset
BR0134I Unattended mode with 'force' active - no operator confirmation allowed

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.36
BR0655I Control menu 109 # please decide how to proceed
-----
Whole database reset main menu

1 = Select database backup or restore point
2 * Check the status of database files
3 * Restore control files and redolog files
4 * Restore data files
5 * Restore and apply incremental backup
6 * Apply archivelog files
7 * Restore archivelog files and flashback
8 * Open database and post-processing
9 * Exit program
10 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-15 01.57.36
BR0134I Unattended mode with 'force' active
- continuing processing with default reply '1'

BR0699I Reading log file D:\oracle\TRD\sapbackup\backTRD.log ...

BR0350I Backup utility will be inquired for backup confirmation

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.36
BR0229I Calling backup utility with function 'inquire'...
BR0278I Command output of 'backint -u TRD -f inquire -i
D:\oracle\TRD\sapbackup\vehlbzto.lst -t file -p D:\param.txt -c':

----- Output of inquire -----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRECOVER>
BI_REQUEST=<NEW>

----- Parameter Specified -----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<4>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

```

destdbname=<TRD>

----- backint Command Line -----  
 backintCmd=[backint -u TRD -f inquire -i  
 D:\oracle\TRD\sapbackup\vehlbzto.lst -t file -p D:\param.txt -c ]

CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Inquire has been requested

Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.38  
 BR1520I 6 file backups confirmed by backup utility  
 BR0230I Backup utility called successfully

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.38  
 BR0658I List menu 110 # please select one entry

-----  
 Consistent database backups / restore points for whole database reset

Pos. Log/RPoint Start time Type/SCN Mode Device Rc UVol1/Stat.

1 = behjkmqh.aff 2011-12-06 05.33.35 offl\_force all util\_file 0 <confirmed>

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-15 01.57.38  
 BR0134I Unattended mode with 'force' active  
 - continuing processing with default reply '1'

BR0699I Reading log file D:\oracle\TRD\sapbackup\behjkmqh.aff ...

BR0454W Values of oracle\_sid are different: current 'TRD',  
 backup behjkmqh.aff 'CER'  
 BR0455W Value 'TRD' of oracle\_sid will be used for restore  
 BR0454W Values of sapdata\_home are different: current  
 'D:\oracle\TRD', backup behjkmqh.aff 'D:\oracle\CER'  
 BR0455W Value 'D:\oracle\TRD' of sapdata\_home will be used for restore  
 BR0460W Termination message not found in  
 D:\oracle\TRD\sapbackup\behjkmqh.aff  
 - log file incomplete (this is OK if the log file was restored)

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.38  
 BR0668I Warnings or errors occurred  
 - you can continue to ignore them or go back to repeat the last action  
 BR0126I Unattended mode active - continuing processing with default reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.38  
 BR0655I Control menu 109 # please decide how to proceed

-----  
 Whole database reset main menu

1 + Select database backup or restore point  
 2 = Check the status of database files  
 3 \* Restore control files and redolog files  
 4 \* Restore data files  
 5 # Restore and apply incremental backup  
 6 # Apply archivelog files  
 7 # Restore archivelog files and flashback  
 8 \* Open database and post-processing  
 9 \* Exit program  
 10 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-15 01.57.38  
 BR0134I Unattended mode with 'force' active - continuing processing with default  
 reply '2'

BR0753W Control file 'D:\oracle\TRD\sapdata1\cntrl\ctrlCER.ctl' not found  
 BR0753W Control file 'D:\oracle\TRD\sapdata2\cntrl\ctrlCER.ctl' not found

```

BR0753W Control file 'D:\oracle\TRD\saparch\cntrl\ctrlCER.ctl' not found
BR0613I Database instance TRD is shut down

BR0751W Database instance TRD cannot be mounted due to missing control files
BR0755I Checking the status of database files for instance TRD...

BR0428W File D:\ORACLE\TRD\SAPDATA2\CER_1\CER.DATA1 will be overwritten
BR0428W File D:\ORACLE\TRD\SAPDATA3\CERUSR_1\CERUSR.DATA1 will be
overwritten
BR0428W File D:\ORACLE\TRD\SAPDATA1\TEMP_1\TEMP.DATA1 will be overwritten
BR0428W File D:\ORACLE\TRD\SAPDATA1\UNDO_1\UNDO.DATA1 will be
overwritten
BR0428W File D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSAUX.DBF will be
overwritten
BR0428W File D:\ORACLE\TRD\SAPDATA1\SYSTEM_1\SYSTEM.DATA1 will be
overwritten

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.39
BR0668I Warnings or errors occurred - you can continue to ignore them or
go back to repeat the last action
BR0126I Unattended mode active - continuing processing with default reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.39
BR0655I Control menu 109 # please decide how to proceed
-----
Whole database reset main menu

1 + Select database backup or restore point
2 + Check the status of database files
3 = Restore control files and redolog files
4 * Restore data files
5 # Restore and apply incremental backup
6 # Apply archivelog files
7 # Restore archivelog files and flashback
8 * Open database and post-processing
9 * Exit program
10 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-15 01.57.39
BR0134I Unattended mode with 'force' active
- continuing processing with default reply '3'

BR0613I Database instance TRD is shut down

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.40
BR0657I Input menu 111 # please enter/check input values
-----
BRRESTORE main options for restore of database files

1 - BRRESTORE profile (profile) ..... [initTRD.sap]
2 - BRBACKUP backup run (backup) ..... [behjkmqh.aff]
3 - Fill-up previous restores (fillup) . [no]
4 - Restore device type (device) ..... [util_file]
5 - BACKINT/Mount profile (parfile) .... [D:\param.txt]
6 # Database user/password (user) ..... [system/*****]
7 - Files for restore (mode) ..... [0,00]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-15 01.57.40
BR0134I Unattended mode with 'force' active
- continuing processing with default reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-15 01.57.40
BR0657I Input menu 112 # please enter/check input values
-----
Additional BRRESTORE options for restore of database files

1 - Confirmation mode (confirm) ..... [force]
2 - Query mode (query) ..... [no]
3 # Compression mode (compress) ..... [no]
4 # Parallel execution (execute) ..... [0]
5 - Additional output (output) ..... [no]
6 - Message language (language) ..... [E]
7 - BRRESTORE command line (command) . [-p
initTRD.sap -b behjkmqh.aff -d util_file -r D:\param.txt -m 0,00 -c force -l E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

```

```

-----
BR0280I BRRECOVER time stamp: 2011-12-15 01.57.40
BR0134I Unattended mode with 'force' active
- continuing processing with default reply 'cont'

BR0291I BRRESTORE will be started with options
'-p initTRD.sap -b behjkmqh.aff -d util_file -r D:\param.txt -m 0,00 -c force -l E'
=====

BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehlbzts.rsb 2011-12-15 01.57.40
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehlbzts.rsb

BR0454W Values of oracle_sid are different:
current 'TRD', backup behjkmqh.aff 'CER'
BR0455W Value 'TRD' of oracle_sid will be used for restore
BR0454W Values of sapdata_home are different: current
'D:\oracle\TRD', backup behjkmqh.aff 'D:\oracle\CER'
BR0455W Value 'D:\oracle\TRD' of sapdata_home will be used for restore
BR0460W Termination message not found in
D:\oracle\TRD\sapbackup\behjkmqh.aff
- log file incomplete (this is OK if the log file was restored)

BR0427I Files from the old sapdata_home
D:\oracle\CER will be restored into the new sapdata_home D:\oracle\TRD

BR0280I BRRESTORE time stamp: 2011-12-15 01.57.40
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehlbzts
BR0409I BRRESTORE function ID: rsb
BR0449I Restore mode: partial
BR0411I Database files for restore:
D:\ORACLE\CER\ORIGLOGA\LOG1_M1.DBF
D:\ORACLE\CER\MIRRLOGA\LOG1_M2.DBF
D:\ORACLE\CER\ORIGLOGB\LOG2_M1.DBF
D:\ORACLE\CER\MIRRLOGB\LOG2_M2.DBF
D:\ORACLE\CER\ORIGLOGA\LOG3_M1.DBF
D:\ORACLE\CER\MIRRLOGA\LOG3_M2.DBF
D:\ORACLE\CER\ORIGLOGB\LOG4_M1.DBF
D:\ORACLE\CER\MIRRLOGB\LOG4_M2.DBF
D:\oracle\CER\sapdata1\cntrl\ctrlCER.ctl
D:\oracle\CER\sapdata2\cntrl\ctrlCER.ctl
D:\oracle\CER\saparch\cntrl\ctrlCER.ctl
BR0419I Files will be restored from backup:
behjkmqh.aff 2011-12-06 05.33.35
BR0416I 5 files found to restore, total size 50.768 MB
BR0421I Restore device type: util_file
BR0134I Unattended mode with 'force' active
- no operator confirmation allowed

BR0280I BRRESTORE time stamp: 2011-12-15 01.57.40
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u CER -f restore -i
D:\oracle\TRD\sapbackup\rehlbzts.lst -t file -p D:\param.txt -c':

----- Output of restore -----
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>

----- Parameter Specified -----
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<4>
srccrossclient=<sde-sap2>

srccrossdbname=<CER>

destdbname=<CER>

----- backint Command Line -----
backintCmd=[backint -u CER -f restore -i
D:\oracle\TRD\sapbackup\rehlbzts.lst -t file -p D:\param.txt -c ]

CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER]

```

```

client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Total number of Collect Files Generated=<2>
Setting the Number of streams desired=<2>
to the total number of collect files generated.
Number of streams desired=<2> Number of files to restore=<2> CMDLINE Job
Restore has been requested

```

```

SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14518 Token=<14518:2:1>
Success in init with JM
CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER]
client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Restore has been requested

```

```

Success in init with JM
Attaching CommServer Session
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER]
client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Restore has been requested

```

```

Success in init with JM
Attaching CommServer Session
Restoring from MediaId=<22_MagVolId_9030>
Restoring from MediaId=<22_MagVolId_9032>
RESTORED backupId=<1021752_12884>
nextFile=<D:\ORACLE\CER\ORIGLOGB\LOG4_M1.DBF>

```

```

BR0280I BRRESTORE time stamp: 2011-12-15 01.57.56
#FILE..... D:\ORACLE\TRD\ORIGLOGB\LOG4_M1.DBF
#RESTORED. 1021752_12884
Sending file=<#EOF> to the Child=<4316>
Successful restore; 1 File(s); total transferred bytes=10486440
RESTORED backupId=<1021752_12884>
nextFile=<D:\ORACLE\CER\ORIGLOGA\LOG1_M1.DBF>

```

```

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.06
#FILE..... D:\ORACLE\TRD\ORIGLOGA\LOG1_M1.DBF
#RESTORED. 1021752_12884
RESTORED backupId=<1021752_12884>
nextFile=<D:\ORACLE\CER\ORIGLOGB\LOG2_M1.DBF>

```

```

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.10
#FILE..... D:\ORACLE\TRD\ORIGLOGB\LOG2_M1.DBF
#RESTORED. 1021752_12884
RESTORED backupId=<1021752_12884>
nextFile=<D:\ORACLE\CER\ORIGLOGA\LOG3_M1.DBF>

```

```

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.15
#FILE..... D:\ORACLE\TRD\ORIGLOGA\LOG3_M1.DBF
#RESTORED. 1021752_12884
RESTORED backupId=<1021752_12884>
nextFile=<D:\oracle\CER\sapdata1\cntrl\ctrlCER.ctl>

```

```

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.20
#FILE..... D:\ORACLE\TRD\SAPDATA1\CNTRL\ctrlCER.ctl
#RESTORED. 1021752_12884
Sending file=<#EOF> to the Child=<2336>

```



Successful restore; 4 File(s);  
total transferred bytes=42748070  
Success in sending JMSUCCESS to server  
Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.30  
BR0374I 5 of 5 files restored by backup utility  
BR0230I Backup utility called successfully

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGA\LOG1\_M2.DBF  
BR0355I from D:\ORACLE\TRD\ORIGLOGA\LOG1\_M1.DBF ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGB\LOG2\_M2.DBF  
BR0355I from D:\ORACLE\TRD\ORIGLOGB\LOG2\_M1.DBF ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGA\LOG3\_M2.DBF  
BR0355I from D:\ORACLE\TRD\ORIGLOGA\LOG3\_M1.DBF ...

BR0351I Restoring D:\ORACLE\TRD\MIRRLOGB\LOG4\_M2.DBF  
BR0355I from D:\ORACLE\TRD\ORIGLOGB\LOG4\_M1.DBF ...

BR0351I Restoring D:\ORACLE\TRD\SAPDATA2\CNTRL\ctrlCER.ctl  
BR0355I from D:\ORACLE\TRD\SAPDATA1\CNTRL\ctrlCER.ctl ...

BR0351I Restoring D:\ORACLE\TRD\SAPARCH\CNTRL\ctrlCER.ctl  
BR0355I from D:\ORACLE\TRD\SAPDATA1\CNTRL\ctrlCER.ctl ...

BR0406I End of file restore: rehlbzts.rsb 2011-12-15 01.58.30  
BR0280I BRRESTORE time stamp: 2011-12-15 01.58.30  
BR0403I BRRESTORE completed successfully with warnings

=====  
BR0292I Execution of BRRESTORE finished with return code 1

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.30  
BR0668I Warnings or errors occurred  
- you can continue to ignore them or go back to repeat the last action  
BR0126I Unattended mode active  
- continuing processing with default reply 'cont'

BR0613I Database instance TRD is shut down  
BR0618I Database instance TRD will be started now

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.31  
BR0619I Starting database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.34  
BR0620I Start of database instance TRD successful

BR1031I Database parameter db\_name altered successfully from 'TRD' to 'CER'

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.34  
BR0655I Control menu 109 # please decide how to proceed

-----  
Whole database reset main menu

1 + Select database backup or restore point  
2 + Check the status of database files  
3 + Restore control files and redolog files  
4 = Restore data files  
5 # Restore and apply incremental backup  
6 # Apply archivelog files  
7 # Restore archivelog files and flashback  
8 \* Open database and post-processing  
9 \* Exit program  
10 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
BR0280I BRRECOVER time stamp: 2011-12-15 01.58.35  
BR0134I Unattended mode with 'force' active  
- continuing processing with default reply '4'

BR0617I Database instance TRD is started  
BR0750I Database instance TRD will be mounted now

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.36  
BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.41  
BR0308I Shutdown of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.41  
BR0330I Starting and mounting database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.48  
BR0331I Start and mount of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.48  
BR0657I Input menu 111 # please enter/check input values

-----  
BRRESTORE main options for restore of database files

1 - BRRESTORE profile (profile) ..... [initTRD.sap]  
2 - BRBACKUP backup run (backup) ..... [behjkmqh.aff]  
3 - Fill-up previous restores (fillup) . [no]  
4 - Restore device type (device) ..... [util\_file]  
5 - BACKINT/Mount profile (parfile) .... [D:\param.txt]  
6 # Database user/password (user) ..... [system/\*\*\*\*\*]  
7 - Files for restore (mode) ..... [all]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
BR0280I BRRECOVER time stamp: 2011-12-15 01.58.48  
BR0134I Unattended mode with 'force' active  
- continuing processing with default reply 'cont'

BR0280I BRRECOVER time stamp: 2011-12-15 01.58.48  
BR0657I Input menu 112 # please enter/check input values

-----  
Additional BRRESTORE options for restore of database files

1 - Confirmation mode (confirm) ..... [force]  
2 - Query mode (query) ..... [no]  
3 # Compression mode (compress) ..... [no]  
4 # Parallel execution (execute) ..... [0]  
5 - Additional output (output) ..... [no]  
6 - Message language (language) ..... [E]  
7 - BRRESTORE command line (command) . [-p  
initTRD.sap -b behjkmqh.aff -d util\_file -r D:\param.txt -m all -c force -l E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
BR0280I BRRECOVER time stamp: 2011-12-15 01.58.48  
BR0134I Unattended mode with 'force' active  
- continuing processing with default reply 'cont'

BR0291I BRRESTORE will be started with options  
'-p initTRD.sap -b behjkmqh.aff -d util\_file -r D:\param.txt -m all -c force -l E'

=====

BR0401I BRRESTORE 7.20 (1)  
BR0405I Start of file restore: rehlbzwi.rsrb 2011-12-15 01.58.48  
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehlbzwi.rsrb

BR0454W Values of oracle\_sid are different: current 'TRD',  
backup behjkmqh.aff 'CER'

BR0455W Value 'TRD' of oracle\_sid will be used for restore

BR0454W Values of sapdata\_home are different: current  
'D:\oracle\TRD', backup behjkmqh.aff 'D:\oracle\CER'

BR0455W Value 'D:\oracle\TRD' of  
sapdata\_home will be used for restore

BR0460W Termination message not found in

D:\oracle\TRD\sapbackup\behjkmqh.aff

- log file incomplete (this is OK if the log file was restored)

BR0427I Files from the old sapdata\_home

D:\oracle\CER will be restored into the new sapdata\_home D:\oracle\TRD

BR0428W File D:\ORACLE\TRD\SAPDATA2\CER\_1\CER.DATA1 will be overwritten  
BR0428W File D:\ORACLE\TRD\SAPDATA3\CERUSR\_1\CERUSR.DATA1 will be  
overwritten

BR0428W File D:\ORACLE\TRD\SAPDATA1\TEMP\_1\TEMP.DATA1 will be overwritten

BR0428W File D:\ORACLE\TRD\SAPDATA1\UNDO\_1\UNDO.DATA1 will be  
overwritten

BR0428W File D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.AUX.DBF will be  
overwritten

BR0428W File D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1 will be  
overwritten

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.48

BR0407I Restore of database: TRD

BR0408I BRRESTORE action ID: rehlbzwi  
 BR0409I BRRESTORE function ID: rsb  
 BR0449I Restore mode: ALL  
 BR0419I Files will be restored from  
 backup: behjkmqh.aff 2011-12-06 05.33.35  
 BR0416I 6 files found to restore, total size 760.047 MB  
 BR0421I Restore device type: util\_file  
 BR0134I Unattended mode with 'force' active  
 - no operator confirmation allowed

BR0280I BRRESTORE time stamp: 2011-12-15 01.58.48  
 BR0229I Calling backup utility with function 'restore'...  
 BR0278I Command output of 'backint -u CER -f restore -i  
 D:\oracle\TRD\sapbackup\rehlbzwi.lst -t file -p D:\param.txt -c':

----- Output of restore -----  
 BI\_BACKUP=<FULL>  
 BI\_CALLER=<BRRESTORE>  
 BI\_REQUEST=<NEW>

----- Parameter Specified -----  
 CvInstanceName=<Instance001>  
 CvClientName=<sde-sap1>  
 numstreams=<4>  
 srccrossclient=<sde-sap2>  
  
 srccrossdbname=<CER>  
  
 destdbname=<CER>

----- backint Command Line -----  
 backintCmd=[backint -u CER -f restore -i  
 D:\oracle\TRD\sapbackup\rehlbzwi.lst -t file -p D:\param.txt -c ]

CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283  
 Total number of Collect Files Generated=<3>  
 Setting the Number of streams desired=<3>  
 to the total number of collect files generated.  
 Number of streams desired=<3> Number of files to restore=<3> CMDLINE Job  
 Restore has been requested

SID=[CER] BkpSet=[default] AppType=[61]  
 Success in getting Job id=14519 Token=<14519:2:1>  
 Success in init with JM  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 CommServeHostName=satishp  
 CommClientHostName=sde-sap1.idcprodcert.loc  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283  
 Restore has been requested

Success in init with JM  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.

Galaxy SrcCrossClientID=218  
 Attaching CommServer Session  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283  
 Restore has been requested

Success in init with JM  
 Attaching CommServer Session  
 Galaxy CommCellID=2  
 Galaxy ClientID=219  
 Src Cross Client=<sde-sap2>  
 getInstanceId for InstanceName=[CER]  
 client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed  
 Instance=[CER] - May not have been configured.  
 Galaxy SrcCrossClientID=218  
 Galaxy CrossClientInstanceID=559  
 Galaxy CrossClientAppType=61  
 Galaxy CrossClientAppID=2283  
 Restore has been requested

Success in init with JM  
 Attaching CommServer Session  
 Restoring from MediaId=<22\_MagVolId\_9030>  
 Restoring from MediaId=<22\_MagVolId\_9032>  
 Restoring from MediaId=<22\_MagVolId\_9031>  
 RESTORED backupId=<1021752\_12884>  
 nextFile=<D:\ORACLE\CER\SAPDATA2\CER\_1\CER.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-15 01.59.14  
 #FILE..... D:\ORACLE\TRD\SAPDATA2\CER\_1\CER.DATA1  
 #RESTORED. 1021752\_12884  
 RESTORED backupId=<1021752\_12884>  
 nextFile=<D:\ORACLE\CER\SAPDATA3\CERUSR\_1\CERUSR.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-15 01.59.16  
 #FILE..... D:\ORACLE\TRD\SAPDATA3\CERUSR\_1\CERUSR.DATA1  
 #RESTORED. 1021752\_12884  
 RESTORED backupId=<1021752\_12884>  
 nextFile=<D:\ORACLE\CER\SAPDATA1\TEMP\_1\TEMP.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-15 01.59.21  
 #FILE..... D:\ORACLE\TRD\SAPDATA1\TEMP\_1\TEMP.DATA1  
 #RESTORED. 1021752\_12884  
 RESTORED backupId=<1021752\_12884>  
 nextFile=<D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSAUX.DBF>

BR0280I BRRESTORE time stamp: 2011-12-15 01.59.40  
 #FILE..... D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSAUX.DBF  
 #RESTORED. 1021752\_12884  
 Sending file=<#EOF> to the Child=<5056>  
 Successful restore; 2 File(s); total transferred bytes=157303132  
 RESTORED backupId=<1021752\_12884>  
 nextFile=<D:\ORACLE\CER\SAPDATA1\UNDO\_1\UNDO.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-15 01.59.43  
 #FILE..... D:\ORACLE\TRD\SAPDATA1\UNDO\_1\UNDO.DATA1  
 #RESTORED. 1021752\_12884  
 Sending file=<#EOF> to the Child=<1796>  
 Successful restore; 2 File(s); total transferred bytes=115360096  
 RESTORED backupId=<1021752\_12884>  
 nextFile=<D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1>

BR0280I BRRESTORE time stamp: 2011-12-15 02.00.14  
 #FILE..... D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1  
 #RESTORED. 1021752\_12884  
 Sending file=<#EOF> to the Child=<4596>  
 Successful restore; 2 File(s); total transferred bytes=524304736  
 Success in sending JMSUCCESS to server  
 Success in sending JMSUCCESS to server

BR0280I BRRESTORE time stamp: 2011-12-15 02.00.24  
 BR0374I 6 of 6 files restored by backup utility  
 BR0230I Backup utility called successfully

BR0406I End of file restore: rehlbzwi.rsb 2011-12-15 02.00.24  
 BR0280I BRRESTORE time stamp: 2011-12-15 02.00.24  
 BR0403I BRRESTORE completed successfully with warnings

=====

BR0292I Execution of BRRESTORE finished with return code 1

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.24  
 BR0668I Warnings or errors occurred  
 - you can continue to ignore them or go back to repeat the last action  
 BR0126I Unattended mode active  
 - continuing processing with default reply 'cont'

BR0614I Database instance TRD is mounted

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.26  
 BR1096I Database file 'D:\ORACLE\CER\SAPDATA2\CER\_1\CER.DATA1'  
 renamed successfully to 'D:\ORACLE\TRD\SAPDATA2\CER\_1\CER.DATA1'  
 BR1096I Database file 'D:\ORACLE\CER\SAPDATA3\CERUSR\_1\CERUSR.DATA1'  
 renamed successfully to 'D:\ORACLE\TRD\SAPDATA3\CERUSR\_1\CERUSR.DATA1'  
 BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\TEMP\_1\TEMP.DATA1'  
 renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\TEMP\_1\TEMP.DATA1'  
 BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\UNDO\_1\UNDO.DATA1'  
 renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\UNDO\_1\UNDO.DATA1'  
 BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYS\_AUX.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYS\_AUX.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1'  
 renamed successfully to 'D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1'  
 BR1096I Database file 'D:\ORACLE\CER\ORIGLOGA\LOG1\_M1.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\ORIGLOGA\LOG1\_M1.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\MIRRLOGA\LOG1\_M2.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\MIRRLOGA\LOG1\_M2.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\ORIGLOGB\LOG2\_M1.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\ORIGLOGB\LOG2\_M1.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\MIRRLOGB\LOG2\_M2.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\MIRRLOGB\LOG2\_M2.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\ORIGLOGA\LOG3\_M1.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\ORIGLOGA\LOG3\_M1.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\MIRRLOGA\LOG3\_M2.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\MIRRLOGA\LOG3\_M2.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\ORIGLOGB\LOG4\_M1.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\ORIGLOGB\LOG4\_M1.DBF'  
 BR1096I Database file 'D:\ORACLE\CER\MIRRLOGB\LOG4\_M2.DBF'  
 renamed successfully to 'D:\ORACLE\TRD\MIRRLOGB\LOG4\_M2.DBF'

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.28  
 BR0655I Control menu 109 # please decide how to proceed

-----  
 Whole database reset main menu

1 + Select database backup or restore point  
 2 + Check the status of database files  
 3 + Restore control files and redolog files  
 4 + Restore data files  
 5 # Restore and apply incremental backup  
 6 # Apply archivelog files  
 7 # Restore archivelog files and flashback  
 8 = Open database and post-processing  
 9 \* Exit program  
 10 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-15 02.00.28  
 BR0134I Unattended mode with 'force' active  
 - continuing processing with default reply '8'

BR0614I Database instance TRD is mounted  
 BR0064I Database instance TRD will be shut down now in mode 'IMMEDIATE'

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.30  
 BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.37  
 BR0308I Shutdown of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.37  
 BR0657I Input menu 135 # please enter/check input values

-----  
 Options for opening database instance TRD

1 ~ Reset logs option (reset\_logs) .. []  
 2 \* Open database command (command) . [alter database open]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help

-----  
 BR0280I BRRECOVER time stamp: 2011-12-15 02.00.37  
 BR0134I Unattended mode with 'force' active

- continuing processing with default reply 'cont'

BR0329I Database instance TRD will be opened now  
BR0787W No more archivelog files can be applied after database has been opened

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.37  
BR0675I This is a recommended action - do you want to execute it now?  
BR0126I Unattended mode active  
- continuing processing with default reply 'yes'

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.37  
BR0304I Starting and opening database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.49  
BR0305I Start and open of database instance TRD successful

BR0118I Tablespaces and data files

Tablespace Status File Status

PSAPCER ONLINE D:\ORACLE\TRD\SAPDATA2\CER\_1\CER.DATA1 ONLINE  
PSAPCERUSR ONLINE D:\ORACLE\TRD\SAPDATA3\CERUSR\_1\CERUSR.DATA1  
ONLINE  
PSAPTEMP ONLINE# D:\ORACLE\TRD\SAPDATA1\TEMP\_1\TEMP.DATA1 ONLINE  
PSAPUNDO ONLINE D:\ORACLE\TRD\SAPDATA1\UNDO\_1\UNDO.DATA1 ONLINE  
SYSAux ONLINE D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSAux.DBF ONLINE  
SYSTEM ONLINE D:\ORACLE\TRD\SAPDATA1\SYSTEM\_1\SYSTEM.DATA1 SYSTEM

Id.	Size	Creation time	Creation scn	Device	Type	Link
4	52428800	2011-12-05 10.33.15	176706	3	FILE	NOLINK
5	10485760	2011-12-05 10.33.15	176736	3	FILE	NOLINK
-1	104857600	2011-12-05 10.02.46	9390	3	FILE	NOLINK
2	104857600	2011-12-05 10.02.42	8337	3	FILE	NOLINK
3	104857600	2011-12-05 10.02.45	8460	3	FILE	NOLINK

BR0119I Redolog files

File Status Group Thread Sequence

D:\ORACLE\TRD\ORIGLOGA\LOG1_M1.DBF	STALE	1	1	49
D:\ORACLE\TRD\MIRRLOGA\LOG1_M2.DBF	STALE	1	1	49
D:\ORACLE\TRD\ORIGLOGB\LOG2_M1.DBF	INUSE	2	1	50
D:\ORACLE\TRD\MIRRLOGB\LOG2_M2.DBF	INUSE	2	1	50
D:\ORACLE\TRD\ORIGLOGA\LOG3_M1.DBF	INUSE	3	1	47
D:\ORACLE\TRD\MIRRLOGA\LOG3_M2.DBF	INUSE	3	1	47
D:\ORACLE\TRD\ORIGLOGB\LOG4_M1.DBF	INUSE	4	1	48
D:\ORACLE\TRD\MIRRLOGB\LOG4_M2.DBF	INUSE	4	1	48

Size	First time	First scn	Device	Type	Link
10485760	2011-12-05 22.00.10	216582	3	FILE	NOLINK
10485760	2011-12-05 22.00.10	216582	3	FILE	NOLINK
10485760	2011-12-06 03.55.50	244501	3	FILE	NOLINK
10485760	2011-12-06 03.55.50	244501	3	FILE	NOLINK
10485760	2011-12-05 17.13.06	207639	3	FILE	NOLINK
10485760	2011-12-05 17.13.06	207639	3	FILE	NOLINK
10485760	2011-12-05 17.16.11	207777	3	FILE	NOLINK
10485760	2011-12-05 17.16.11	207777	3	FILE	NOLINK

BR0120I Control files

File Size Reset time

D:\ORACLE\TRD\SAPDATA1\CNTRL\CTRLCER.CTL	11288576	2011-12-05 10.02.24
D:\ORACLE\TRD\SAPDATA2\CNTRL\CTRLCER.CTL	11288576	2011-12-05 10.02.24
D:\ORACLE\TRD\SAPARCH\CNTRL\CTRLCER.CTL	11288576	2011-12-05 10.02.24

Reset scn Device Type Link

1	3	FILE	NOLINK
1	3	FILE	NOLINK
1	3	FILE	NOLINK

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.51  
BR0370I Directory D:\oracle\TRD\sapbackup\vehlbzto created

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.51  
BR0319I Control file copy created:  
D:\oracle\TRD\sapbackup\vehlbzto\CNTRLTRD.NEW 11288576

BR1404I New control files can be created now

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.51  
BR0675I This is a recommended action - do you want to execute it now?

```

BR0126I Unattended mode active - continuing processing with default reply 'yes'

BR1404I New control files will be created now using SQL script
D:\oracle\TRD\sapbackup\vehlbzto\control.sql
BR0064I Database instance TRD will be shut down now

BR0280I BRRECOVER time stamp: 2011-12-15 02.00.51
BR0307I Shutting down database instance TRD ...

BR0280I BRRECOVER time stamp: 2011-12-15 02.01.09
BR0308I Shutdown of database instance TRD successful

BR0280I BRRECOVER time stamp: 2011-12-15 02.01.09
BR1273I SQLPLUS will be started for execution of SQL script
D:\oracle\TRD\sapbackup\vehlbzto\control.sql

BR0280I BRRECOVER time stamp: 2011-12-15 02.01.09
BR0278I Command output of
'D:\oracle\product\10.2.0\db_1\BIN\sqlplus /nolog <
D:\oracle\TRD\sapbackup\vehlbzto.spl':

SQL*Plus: Release 10.2.0.4.0 - Production on Thu Dec 15 02:01:09 2011
Copyright (c) 1982, 2007, Oracle. All Rights Reserved.
SQL> SQL> Connected to an idle instance.
SQL>
SQL> ORACLE instance started.
Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
System altered.
File created.
ORA-01507: database not mounted
ORACLE instance shut down.
ORACLE instance started.
Total System Global Area 138412032 bytes
Fixed Size 2063992 bytes
Variable Size 125829512 bytes
Database Buffers 8388608 bytes
Redo Buffers 2129920 bytes
Control file created.
Database altered.
Tablespace altered.
SQL> Disconnected from Oracle Database 10g Enterprise Edition Release
10.2.0.4.0
- 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

BR0280I BRRECOVER time stamp: 2011-12-15 02.01.28
BR1274I Execution of SQL script
D:\oracle\TRD\sapbackup\vehlbzto\control.sql completed

BR1275I SQLPLUS executed SQL script
D:\oracle\TRD\sapbackup\vehlbzto\control.sql successfully
BR1405I New control files created successfully

BR0280I BRRECOVER time stamp: 2011-12-15 02.01.28
BR0720I Whole database reset completed

BR0280I BRRECOVER time stamp: 2011-12-15 02.01.28
BR0655I Control menu 109 # please decide how to proceed
-----
Whole database reset main menu

1 + Select database backup or restore point
2 + Check the status of database files
3 + Restore control files and redolog files
4 + Restore data files
5 # Restore and apply incremental backup
6 # Apply archivelog files
7 # Restore archivelog files and flashback
8 + Open database and post-processing
9 = Exit program
10 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0280I BRRECOVER time stamp: 2011-12-15 02.01.28
BR0134I Unattended mode with 'force' active
- continuing processing with default reply '9'

```

BR0797I Number of restored/recovered database files: 11/0  
 BR0798I Number of restored/applied incremental files: 0/0  
 BR0799I Number of restored/applied archivelog files: 0/0

BR0706I End of database recovery: vehlbzto.drs 2011-12-15 02.01.28  
 BR0280I BRRECOVER time stamp: 2011-12-15 02.01.30  
 BR0703I BRRECOVER completed successfully with warnings

17. You can also restore an Offline backup using BRRESTORE

```
D:\scripts>brrestore -d util_file -b2 \#NULL -m
D:\oracle\CER\sapbackup\behjkmqh.aff==D:\oracle\TRD\sapbackup -r
D:\param.txt
BR0401I BRRESTORE 7.20 (1)
BR0405I Start of file restore: rehlbzl.rsf 2011-12-15 01.54.13
BR0484I BRRESTORE log file: D:\oracle\TRD\sapbackup\rehlbzl.rsf
```

```
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.13
BR0407I Restore of database: TRD
BR0408I BRRESTORE action ID: rehlbzl
BR0409I BRRESTORE function ID: rsf
BR0415I File for restore using backup utility ID \#NULL:
D:\oracle\CER\sapbackup\behjkmqh.aff=D:\oracle\TRD\sapbackup
BR0416I 1 file found to restore, size 0.000 MB
BR0421I Restore device type: util_file
```

```
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.13
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRRESTORE:
c
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.16
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...
```

```
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.16
BR0229I Calling backup utility with function 'restore'...
BR0278I Command output of 'backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehlbzl.lst -t file -p D:\param.txt':
Setting the Number of streams desired=<1> for 1 File restore.
```

----- Output of restore -----

```
BI_BACKUP=<PARTIAL>
BI_CALLER=<BRRESTORE>
BI_REQUEST=<NEW>
```

----- Parameter Specified -----

```
CvInstanceName=<Instance001>
CvClientName=<sde-sap1>
numstreams=<1>
srcrossclient=<sde-sap2>
```

```
srcrossdbname=<CER>
```

```
destdbname=<TRD>
```

----- backint Command Line -----

```
backintCmd=[backint -u TRD -f restore -i
D:\oracle\TRD\sapbackup\rehlbzl.lst -t file -p D:\param.txt ]
```

```
CommServeHostName=satishp
CommClientHostName=sde-sap1.idcprodcert.loc
Galaxy CommCellID=2
Galaxy ClientID=219
Src Cross Client=<sde-sap2>
getInstanceId for InstanceName=[CER]
client=[sde-sap1.idcprodcert.loc] clientId=219 AppType=61 Failed
Instance=[CER] - May not have been configured.
Galaxy SrcCrossClientID=218
Galaxy CrossClientInstanceID=559
Galaxy CrossClientAppType=61
Galaxy CrossClientAppID=2283
Number of streams desired=<1>
Number of files to restore=<1> CMDLINE Job
Restore has been requested
```

```
SID=[CER] BkpSet=[default] AppType=[61]
Success in getting Job id=14517 Token=<14517:2:1>
Success in init with JM
Cannot obtain the Index MediaAgent from the Archive Manager..
Attaching CommServer Session
AfileNumber=19589, AcommCellId=2 AgroupNumber=22
archfilename=D:\oracle\CER\sapbackup\behjkmqh.aff
copy=35 BID=12884 reqBID=12884 afileFlags=0d
```

```
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.40
```



```
#FILE..... D:\oracle\CER\sapbackup\behjkmqh.aff
D:\oracle\TRD\sapbackup\behjkmqh.aff
#RESTORED. 1021752_12884
Successful restore; 1 File(s); total transferred bytes=11991
Success in sending JMSUCCESS to server
Success in sending JMSUCCESS to server
```

```
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.41
BR0374I 1 of 1 file restored by backup utility
BR0230I Backup utility called successfully
```

```
BR0406I End of file restore: rehlbzl.rsf 2011-12-15 01.54.41
BR0280I BRRESTORE time stamp: 2011-12-15 01.54.41
BR0402I BRRESTORE completed successfully
```

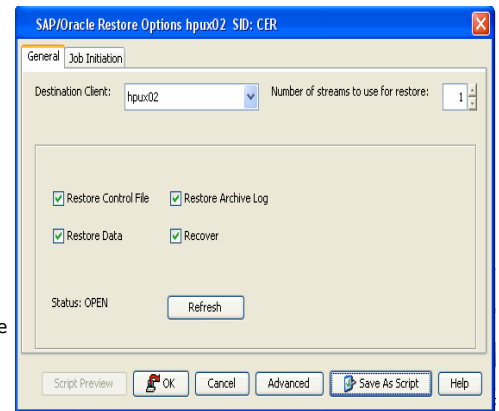
```
D:\scripts>
```

## RESTORING ENTIRE DATABASE

At times, if the database gets corrupted, you might need to restore the entire database and recover it back to the current state.

However, in order to recover a database, you will also need to restore the logs. Both the data and the logs can be restored using the SAP utility or RMAN utility depending on which utility was used for the backup. You can restore the database in-place or out-of-place with the same directory structure and SID name.

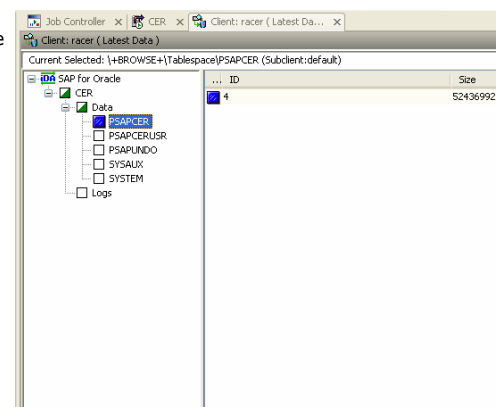
1. From the CommCell Browser, right-click the instance on the source client and select **All Tasks | Browse Backup Data**.
2. Click **OK**.
3. From the **General** tab, select the name of the client computer with the database you want to restore in the **Destination Client** from the list.
4. Choose the **Number of streams to use for restore**.
5. Select all of the the following options to restore and recover the database.
  - **Restore Data**
  - **Restore Archive Logs**
  - **Recover**
6. Verify that the Status of the database is displayed as MOUNTED; if necessary click on the **Refresh** button to refresh the status.
7. Click **Advanced**.
8. From the Advanced Restore Options (Options) tab, select the following:
  - Set the **Reset Logs** to **Yes**.
  - Select **Open DB**.



## RESTORING INDIVIDUAL DATA FILES/TABLE SPACES

If required, you can also restore individual data files or table spaces that was lost or corrupted. However, note that, you can only use the browse and restore method to restore the individual files.

1. From the CommCell Browser, right-click the instance and click **All Tasks | Browse Backup Data**.
2. Click **OK**.
3. From the **Browse** window, select the instance node in the left pane and from the right pane, browse to and select the required data file or table space to be restored.
4. Click **Recover All Selected**.
5. Select the name of the client computer with the database you want to restore in the **Destination Client** from the list.
6. Choose the **Number of streams to use for restore**.
7. Select the following options to restore and recover individual data files/ table spaces:
  - **Restore Data**
  - **Recover**
8. Verify that the Status of the database is displayed as MOUNTED; if necessary click on the Refresh



button to refresh the status.

- Click **OK**.

## RESTORING ARCHIVE LOGS

In addition to restoring data files/ table spaces, the SAP for Oracle iDataAgent also enables you to restore the archive logs. Archive logs can be restored along with the data or separately.

Archive logs can be restored from the latest log backups or from log backups from a specific point in time.

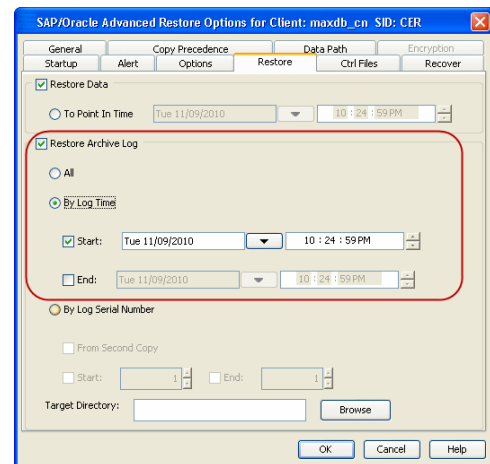
Consider the following scenarios:

- In most cases, users will want to view the pertinent logs of a backup cycle. In such cases, you can specify Browse Latest Data or Specify Browse Time to view only the pertinent logs (logs pertaining to a cycle).
- If, due to a hard disk corruption, logs from a specific time range were lost, you can restore them by performing a point in time restore of the logs. When you browse between a specific point of time range, the logs pertaining to all the cycles within the specified time range will be listed.
- Assume there is a database failure and you need to restore the database as well as the logs to recover the database to the recent state. In such case, you will choose to restore all the logs.
- In certain cases, you might need to restore only specific logs that are missing in the database. In such situations, you can browse the latest logs in the browse window, and choose specific individual logs for the restore operation.

### RESTORING WITH SPECIFIC LOG TIME

When restoring the archive logs based on the log time, if the data is also included in the restore, ensure that the time range is the same for both data and the logs.

- From the CommCell Browser, right-click the instance and select **All Tasks | Restore**.
- From the **General** tab, select these options:
  - Select the name of the client computer with the Archived file you want to restore in the **Destination Client** from the list.
  - Choose the **Number of streams to use for restore** and then select the option for **Restore Archive Log** to restore the Archive logs.
- Click **Advanced**.
- From the **Restore** tab, select **Restore Archive Log**.
- Select **By Log Time** option and specify the point in time restore of archived log file.
- Use the space to type the desired location or click **Browse** to find the location of the **Target Directory**.
- Click **OK**.
- Click **OK** to close the **Restore Options** window and initiate the job.



### RESTORING WITH LOG SERIAL NUMBER

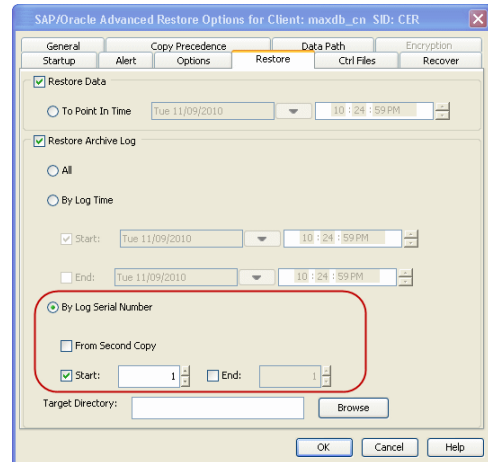
When restoring based on the log serial number, note the following:

- The end serial number must be greater than or equal to the start serial number.
- The start and the end serial number cannot be 0.
- The range of serial numbers to be restored could be from one or more backup jobs or from a part of a job and from one or more cycles.
- If only the start sequence number is provided then the logs starting from that sequence number will be restored.

When restoring the archive logs based on the log time, if the data is also included in the restore, ensure that the time range is the same for both data and the logs.

- From the CommCell Browser, right-click the instance and select **All Tasks | Restore**.
- From the **General** tab, select these options:
  - Select the name of the client computer with the Archived file you want to restore in the **Destination Client** from the list.
  - Choose the **Number of streams to use for restore** and then select the option for **Restore Archive Log** to restore the Archive logs
- Verify that the Status of the database is displayed as MOUNTED; if necessary click on the **Refresh** button to refresh the status.
- Click **Advanced**.
- From the **Restore** tab, select **Restore Archive Log**.
- Select **By Log Serial Number** option and specify the restore between two serial numbers. Optionally, select **From Second Copy**.

7. Use the space to type the desired location or click **Browse** to find the location of the **Target Directory**.
8. Click **OK**.
9. Click **OK** to close the **Restore Options** window and initiate the job.



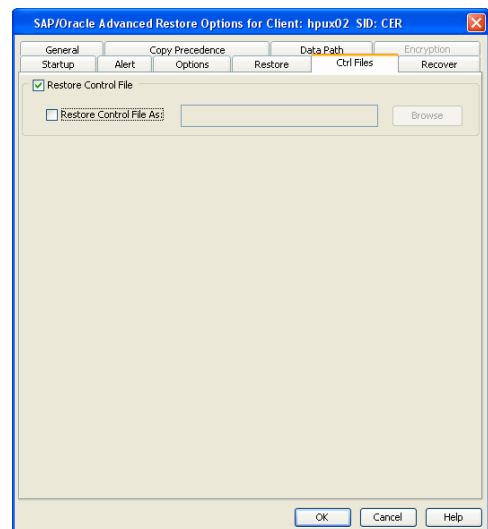
## RESTORING CONTROL FILES

The SAP for Oracle iDataAgent also enables to restore a missing control file. Control file is required to recover a database to the current state. You can restore the control file only when the database is in NOMOUNT mode.

1. From the CommCell Browser, right-click the instance and select **All Tasks | Restore**.
2. From the **General** tab, select **Restore Control File**.
3. Click **Advanced**.
4. Click the **Ctrl Files** tab of the Oracle Advanced Restore Options window, then select **Restore Control File** option and specify the name and location where the file need to be restored in the **Restore Control File As** text box.

If you do not specify a location, the control file is restored to the default location.

5. Click **OK** to save the settings and close the **Advanced Restore Options** window.
6. Click **OK** to close the **Restore Options** window and initiate the job.



## RESTORING DATA FROM A SPECIFIC TIME RANGE

A point in time restore job allows you to restore your database to a specific point in time, and, typically, this point in time would be just before an undesired transaction or update to your database.

When you select the **Point in Time** option, all necessary backups that are required to restore the database to the indicated time are restored.

1. From the CommCell Browser, right-click the SAP instance, select **All Tasks** then click **Restore**.
2. From the **General** tab, select these options:
  - Select the name of the client computer with the database you want to restore in the **Destination Client** from the list.
  - Choose the **Number of streams to use for restore**.
  - Select **Restore Control File**, **Restore Data**, **Restore Archive Logs**, and **Recover** options to restore and recover the entire database.
  - Verify that the Status of the database is displayed as STARTED; if necessary click on the **Refresh** button to refresh the status.
3. Click **Advanced**.
4. From the **Restore** tab, do the following:
  - Select **Restore Data** and **Restore Control File**.
  - Select **To Point In Time** option and specify the point in time to restore the database. When you select the **To Point in Time** option, the backups that are required to restore the database to the indicated time are restored.
  - Select **By Log Time** option and specify the point in time restore of Archived log file. If you select **By Log Serial Number** option, specify the restore between two serial numbers.
  - If you know the exact device SAP device type used for the backup, select the **Sap Device Type** and choose either the `util_file` (file level backups) or `rman_util` (Oracle RMAN backups) device. Alternatively, you may select **Auto Detect Device** to allow the system to choose the exact device type that

is used for the latest backup.

5. From the **Recover** tab, select **Recover**.
  - Select **Current Time** to Recover an entire database at the current time and to the original host or to a different host.
  - Select **Point In Time** option and specify the a specific point in time to restore the database. When you select the **To Point in Time** option, the backups that are required to restore the database to the indicated time are restored.
6. From the **Options** tab, select **Reset Database**.
7. Select **Open DB** to open the database after recovering the database. If required select **Reset Logs** to reset the logs after opening the database.
8. Click **OK** to save the settings and close the **Advanced Restore Options** window.
9. Click **OK** to close the **Restore Options** window and initiate the job.

---

## RESTORING TO SPECIFIC TIME RANGE USING UTIL\_INTERFACE FROM SAP COMMAND LINE

1. Restore the control file from the Full Backup detail file name

```
brrestore -d util_file -b [detailFileName] -m 0
```

eg:

```
brrestore -d util_file -b bebwkurt.anf -m 0
```

2. Restore the data files

```
brrestore -d util_file -b [detailFileName] -m all -u /
```

3. Restore the detail files and summary file pertaining to the log backups using b2 restores. Provide the appropriate SAP Backup Stamps. It is recommended to create a copy of the Original arch<SID>.log before a restore process.

eg:

```
brrestore -d util_file -b2 SAP_007_1005 -m
```

```
home/oracle/product/10g/SAPDB/CER/saparch/archCER.log,/home/oracle/product/10g/SAPDB/CER/saparch/aebwlqlg.sve
```

4. Restore the Archive Logs

```
brrestore -d util_file -a <From ARCHIVE LOG#>-<To ARCHIVE LOG#>
```

5. Recover the database until the recover time using the control file

```
sql> recover database until time 'YYYY-MM-DD hh.mm.ss' using backup controlfile until cancel;
```

6. Open DB with RESET Logs option

```
sql>alter database open resetlogs;
```

## RECOVERING A DATABASE

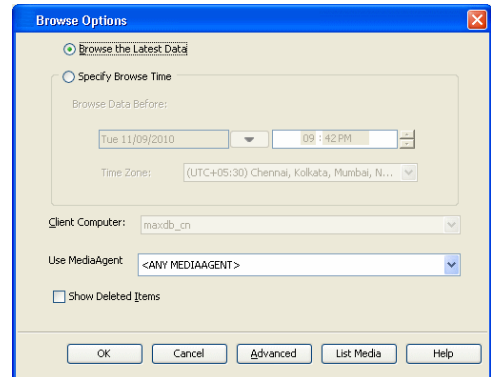
In certain cases, you might restore the data and then recover the database at a later point of time. To facilitate this capability, SAP for Oracle iDataAgent allows you to perform a recover operation independently.

1. From the CommCell Browser, right-click the instance and select **All Tasks | Restore**.
2. From the **General** tab, select the following options:
  - Select the name of the client computer with the database you want to restore in the **Destination Client** from the list.
  - Choose the **Number of streams to use for restore**
  - **Recover** to restore and recover the database based on the criteria specified in **Oracle/SAP for Oracle Restore Options**.
  - Verify that the Status of the database is displayed as STARTED; if necessary click on the **Refresh** button to refresh the status.
3. Click **Advanced**.
4. From the **Recover** tab, select **Recover**.
  - Select **Current Time** to recover an entire database at the current time and to the original host or to a different host.
  - Select **Point In Time** option and specify the a specific point in time to restore the database. When you select the **To Point in Time** option, the backups that are required to restore the database to the indicated time are restored.
5. Select the **Options** tab and select **Reset Database**.
6. Select **Open DB** to open the database after recovering the database. If required select **Reset Logs** to reset the logs after opening the database.
7. Click **OK**.

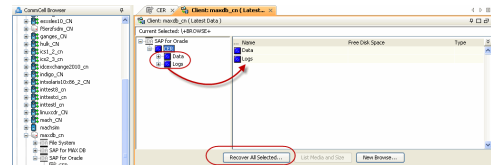
The system automatically resets the logs and the database. Before you can restore and recover the database to the current time, it is good practice to perform another full backup and wait for it to complete successfully.

## SCHEDULING A RESTORE

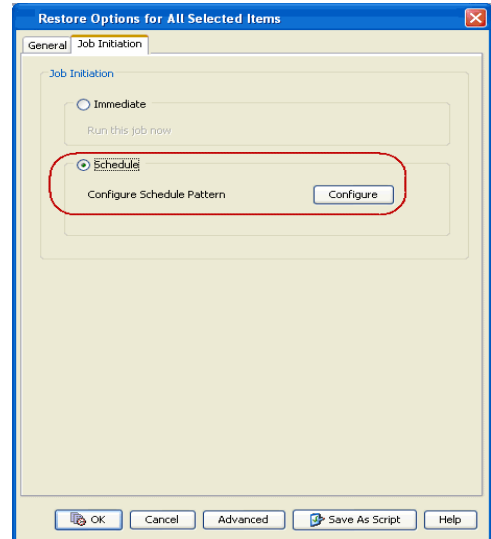
- From the CommCell Console, navigate to **Client Computers | SAP for Oracle**.
  - Right-click an instance and click **All Tasks | Browse Backup Data**.
  - Click **OK**.



- Select data files, table spaces, or logs to restore.
  - Click **Recover All Selected**.

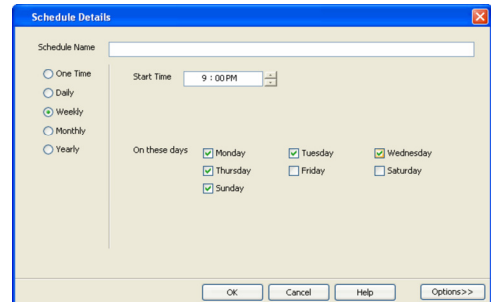


- Click **Job Initiation** tab and click **Schedule**.
  - Click **Configure**.



- Select the appropriate scheduling options. For example:
    - Click **Weekly**.
    - Check the days you want the run the restore job.
    - Change the Start Time to 9:00 PM
    - Click **OK** to close the Schedule Details dialog
    - Click **OK** to close the Restore Options dialog

The restore job will execute as per the schedule.



## RESTORING FROM COMMAND LINE

In addition to restores from CommCell Console, you can also perform restores from the Command Line Interface. Note that backups taken from CommCell Console can be restored via Command Line and vice versa. However, backups taken from a previous version of CommCell Console can be restored only from the Command Line.

You can perform command line restores using one of the following methods:

- Using Qcommands
- Using SAP Command Line
- Using BRTools Interface

However, SAP command line and BRTools are the most preferred methods for performing command line restores.

## USING QCOMMANDS

You can use qcommands to perform restore operations from the command line interface. You can also integrate these qcommands into your own scripts or scheduling programs. In addition, you can also generate scripts for specific operations from the CommCell Console using the **Save As Script** option. These scripts can later be executed using the commands from the command line interface.

For comprehensive information on command line restores, refer to the Command Line Interface documentation.

## USING SAP COMMAND LINE

For the SAP for Oracle iDataAgent, data is restored using the **BRRESTORE** command. From the SAP command line, these programs can restore the following:

- Database data files, control files, and archive log files that were saved using **BRBACKUP**
- Non-database files that were saved using **BRBACKUP**
- Profiles and logs

To restore data from the SAP command line using the **BRRESTORE** program:

1. From the client prompt, type **brrestore** and press **Enter**.
2. Use the subsequent options that appear as appropriate.

When performing command line restores, note the following:

- Customize `init<SID>.utl` and `init<SID>.sap`. If `init<SID>.sap` file do not exist under `$ORACLE_HOME/dbs` DIR, you need to create an empty `init<SID>.sap` file (For example: `touch $ORACLE_HOME/dbs/init<SID>.sap`), and then restore it using the following command:  

```
Brrestore -d util_file -b2 \#NULL -m $ORACLE_HOME/dbs/init<SID>.sap
```
- Database should be in MOUNT mode before you begin a restore operation from command line. If you are restoring logs only from the command line, the database could be in OPEN Mode. If you are restoring the Control File, the database should be in the NOMOUNT mode.
- If you want to restore the control file from a RMAN log backup (i.e., **BRARCHIVE** backup) use the following command:  

```
brrestore -b2 <archive file ID> -m <control file path>
```

For example,

```
brrestore -b2 SAP_1445_18400 -m /u01/app/oracer/product/10.2.0/db_1/CER/sapreorg/cntrlCER.dbf
```
- If you want to restore an entire database, use the following command:  

```
brrestore -d util_file -b last -m all
```
- After a restore, you need to manually recover the database.
- Whenever you restore the control file from Command Line Interface and manually recover the database, you need to reset the logs prior to opening the database. Refer **Reset Logs** for detailed information on resetting logs.
- For SAP for Oracle iDataAgent, Job Details may display the name `defaultDummyInstanceForSAP` as the SID when a restore is run from the command line.

Examples:

- Perform a full restore of the database using the `util_file` interface

```
brrestore -d util_file -m all -b beonnnpz.anf -u /
```

- Perform a log only restore

```
brrestore -d util_file -a 1119-1121 -u /
```

- Perform a control file restore

```
brrestore -b2 SAP_1020140_4613 -m /u01/app/oracer/product/10.2.0/db_1/CER/sapreorg/cntrlCER.dbf
```

Some of the command options commonly used by **BRRestore** command are listed below

Option	Argument	Values
-a	-archive	[<DB_SID>,<log_no> [=<rest_dest>]]
-b	-backup	<log_name> last

-b2	-backup2	<util_backup_id #NULL
-c	-confirm	force
-d	-device	util_file rman_util
-m	-mode	all full incr
-o	-output	dist time [,time dist]

## PARAMETER FILE

- If your restores will be using the SAP utility files, be sure to customize the `init<SID>.utl` and `init <SID>.sap` files by adding values for the following parameters. Note that some parameters are optional.
  - `CvInstanceName <name of instance>`, which specifies the name of the instance for the *iDataAgent* (for example, `Instance001`)
  - `CvClientName <name of client>`, which specifies the name of the computer with the installed *iDataAgent* (for example, `bumblebee`)
  - `numstreams <number of streams>` (optional), which specifies the number of streams. Default value is `1` (for example, `1`)
  - `CV_restCopyPrec <name of copy>` (optional), which specifies the copy to restore from. Default value is `0`, which means any available copy (for example, `1`). This parameter can take values `0`, `1`, `2` etc,. However, in the case of selective copies, you need to specify values `1001`, `1002`, etc.
  - `srcCrossClient <name of source client>` (optional), which specifies the name of the source client with the *iDataAgent* for cross-machine restore purposes (for example, `hotdog`)

Ensure that the *iDataAgent* is installed on both the source computer and the target computer, and run the restore on the target computer.

- `RestoreSnapToTape`, which specifies the source copy for restore. Default value is `0`, which means that media will be used for restores.
- `RevertSnapVolume`, which specifies that the revert operation is enabled. Default value is `0`, which means that revert is disabled.
- It is recommended to revert the data volumes, control file restores, log restores and recovery. You should reset the value of `RevertSnapVolume` to `0` to ensure that a revert operation is not unintentionally performed.

For example:

`CvInstanceName`

**Instance001**

`CvClientName`

**bumblebee**

`numstreams`

**1**

`CV_restCopyPrec`

**1**

`srcCrossClient`

**hotdog**

## RUNNING RMAN RESTORES FROM SAP COMMAND LINE

Use the following steps to run an RMAN restore from auxiliary copy using the SAP command line:

1. Set the `CV_restCopyPrec` parameter in the `init <SID>.sap` file. For example:

```
rman_parms="BLKSIZE=1048576,SBT_LIBRARY=/opt/calypso/Base/libobk.so,ENV=(CvClientName=tigersnap2,CvInstanceName=Instance001,CV_restCopyPrec=4) "
```
2. Run the restore command from the SAP command line. For example:

```
brrestore -d rman_util -b last -m all
```

## RESTORING FROM CONSISTENT ONLINE BACKUPS

When you restore from consistent online backups, the offline redo log files of the same backup can be imported.

Use the following steps to restore the data, logs, and the control file from a consistent online backup:

1. Include the instance name and client name parameters in the `init.utl` file. For example:

```
CvInstanceName
Instance001
CvClientName
client1
```
2. Run the restore command from the SAP command line. For example:

```
brrestore -d util_file -m full -b begqxybq.fnf
```

Use the following steps to restore only the data from a consistent online backup:

1. Include the instance name and client name parameters in the `init.utl` file.

For example:

```
CvInstanceName
```

```
Instance001
```

```
CvClientName
```

```
client1
```

For example:

```
brrestore -d util_file -m full -b begqxybq.fnf
```

2. Run the restore command from the SAP command line.

Use the following steps to restore only the logs from a consistent online backup:

1. Include the instance name and client name parameters in the `init.utl` file.

For example:

```
CvInstanceName
```

```
Instance001
```

```
CvClientName
```

```
client1
```

For example:

```
brrestore -d util_file -b2 1020458_18262 -
m /database/oracle/10GR2/CER/saparch/1_102_756928037.dbf
```

2. Run the restore command from the SAP command line.

## BRTOOLS INTERFACE

In addition to SAP command line, you can also use the BRTools user interface to perform backup and restore operations. BRTools is an easy-to-use interface that provides menus to run different types of backup or restore operations.

## BACKINT INTERFACE

BACKINT is another interface program that internally uses the SAP BRTools to communicate with the SAP Oracle Database and perform backup and restore operations. It also allows you to inquire about backup requests and executes them.

```
backint -u <user_id> [-f <function>] [-t <type>] [-p <par_file>] [-i <in_file>] [-o <out_file>] [-c]
```

-u	Specifies the BACKINT user ID. Normally, this will be the database instance name (ORACLE_SID)	None
-f	Specifies the operation (backup, restore, or inquire)	backup
-t	Specifies the backup type: file or file_online	file
-p	Specifies the backup utility parameter file containing the parameters that determine the backup procedure specific to the backup utility.  The SAP BRtools specify the location of this utility parameter file in their own parameter file (parameter <code>util_par_file</code> ), but they do not evaluate its contents.	none
-i	Specifies the input file (text file) that defines the files and directories to be backed up.	By default, the data is read from the standard input.
-o	Specifies the output text file that will contain the processing messages and the results of the operation.	By default, the messages are displayed on the standard output.
-c	unattended mode (does not involve user interaction)	attended mode

The BACKINT interface allows you to restore files based on the user ID name, backup ID, or file name as specified in the input file. For example, if you include the tag #NULL in front of the file name, the specific file from the most recent backup will be restored.

```
backint -u C11 -f restore -t file -p /oracle/CER/dbs/initC11.utl -i dummy -o dummy.out
```

The output file looks like below:

```
Program: backint
```

```
Parameters:
```

```
Client node: RC1
```

```
Function: backup
```



```

Input File: dummy
Output File: dummy.out
Profile: /oracle/CER/dbs/initCER.utl
Parallel sessions: 1
BKI0032I: Number of bytes to restore: 0.012 MB.
Restore process started ...
#RESTORED SAP__9409020458 /oracle/CER/sapdata1/userli_1/userli.data1
BKI0023I: Bytes restored so far: 0.012 MB (100.0%).
    
```

## BROWSE DATA

The option to browse the backup data provides the facility to view and selectively restore/recover the data that was backed up.

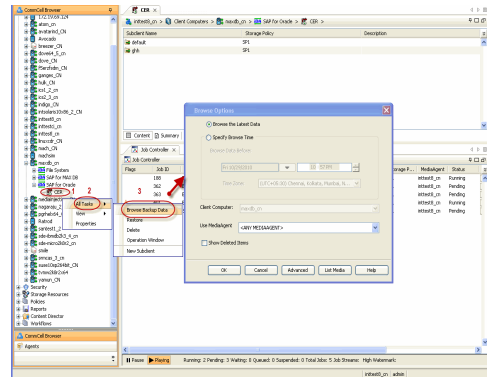
The browse option can be invoked from the client, agent, or instance level depending on the functionality of a given agent.

Depending on the agent, there are several additional options to customize your browse, including:

- Capability to browse the most recent (latest) data.
- Capability to browse data in a specified time range.
- Capability to limit the browse to a specified path.
- Facility to specify the page size of the browse window.
- Ability to browse the image of the data as it existed at the specified browse time.
- Ability to browse from a specified storage policy copy.
- Ability to browse all data including deleted items secured by data protection operations.

Use the following steps to browse data:

1. From the CommCell Browser, navigate to **<Client>**.
2. Right-click **Instance** and click **All Tasks | Browse Backup Data**.
3. Click **OK**.



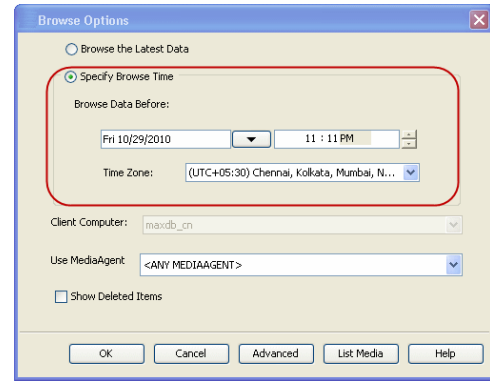
## BROWSING DATA FROM BEFORE THE MOST RECENT FULL BACKUP

To browse data that is older than the most recent full backup specify a **Browse Data Before** date that pre-dates the full backup. Remember, the **Browse Data Before** date establishes the ending point of the search. Consequently, using a **Browse Data Before** date that pre-dates the most recent full backup starts the search in the previous full backup cycle. This is only valid if the data in that full backup cycle has not expired.

### BROWSE DATA BEFORE A SPECIFIED TIME

Follow the steps given below to browse data that was backed up before a specified time:

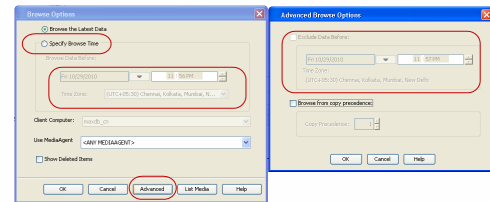
1. From the CommCell Browser, navigate to **<Client>**.
2. Right-click **Instance** and click **All Tasks | Browse Backup Data**.
3. Select **Specify Browse Time** and the **Time Zone**.
4. Click **OK**.



### BROWSE DATA BETWEEN A SPECIFIED TIME

Follow the steps given below to browse data backed up during a specified time interval:

1. From the CommCell Browser, navigate to **<Client>**.
2. Right-click **Instance** and click **All Tasks | Browse Backup Data**.
3. Select **Specify Browse Time** and the **Time Zone**.
4. Click **Advanced**.
5. Select **Exclude Data Before**, select the date and time from which you wish to view the data in the browse window.
6. Click **OK**.



### LISTING MEDIA

List media option is useful to predict media required for the following operations:

- To restore data associated with a specific backup set, subclient or instance
- To restore the index required to browse data associated with a specific backup set or subclient
- To restore a specific file (or specific files and folders)
- To restore data associated with a specific job

The list media operation can be performed for instances, backup sets, and subclients. The following sections describe each of these methods.

The List Media feature can also be used in a number of other capacities. Refer to the List Media documentation for a complete overview of this feature.

#### LISTING MEDIA FOR A SUBCLIENT

1. From the CommCell Browser, right-click the subclient for which you wish to list media and then click **List Media**.
2. From the **List Media** dialog box choose one of the following options:
  - o Click **Media For the Latest Data** to list media associated with the most recent data protection cycle.
  - o Click **Specify Time Range** to list media associated with data protection operations up to the specified date and time range.  
Use the **Data Before** box to specify the end date and time.
  - o Click **Advanced** and then click **Exclude Data Before** to list media associated with data protection operations after the specified date and time.

Note that you can use the **Specify Browse Time** and **Exclude Data Before** options to list media between a specified date and time range.
3. Click **OK**.  
The appropriate media is listed in the **Media** dialog box.

#### LISTING MEDIA FOR A BACKUP SET OR INSTANCE

1. From the CommCell Browser, right-click the backup set or instance for which you wish to list media, click **All Tasks** and then click **Browse**.
2. From the **Browse Options** dialog box, if required, select the following options:
  - o Click **Browse the Latest Data** to list media associated with the most recent data protection cycle.
  - o Click **Specify Browse Time** to list media associated with data protection operations up to the specified date and time range.  
Use the **Browse Data Before** box to specify the end date and time.
  - o Click **Advanced** and then click **Exclude Data Before** and then select the date and time from which you wish to list media associated with data

protection operations.

Note that you can use the **Specify Browse Time** and **Exclude Data Before** options to list media between a specified date and time range.

3. Click **List Media**.
4. From the **List Media** dialog box, click **List Media for restore within specified time range** and click **OK**.

The appropriate media is listed in the **Media** dialog box.

## RESTORING BY JOBS

The Restore By Jobs feature provides the facility to select a specific backup job to be restored. This method of restoring data is considerably faster as it reads continuously on the tape and retrieves the data and does not depend on the indexing subsystem to get the seek offsets on the media.

This feature can be used in different scenarios such as the following:

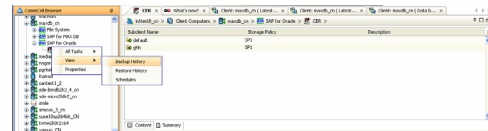
- To restore point-in-time data associated with a specific backup job, such as full, incremental, differential, etc.
- To restore CommServe DR data for the disaster recovery or for creating a hot-site purposes.
- To restore multiplexed data from the same client.

Consider the following when restoring by jobs:

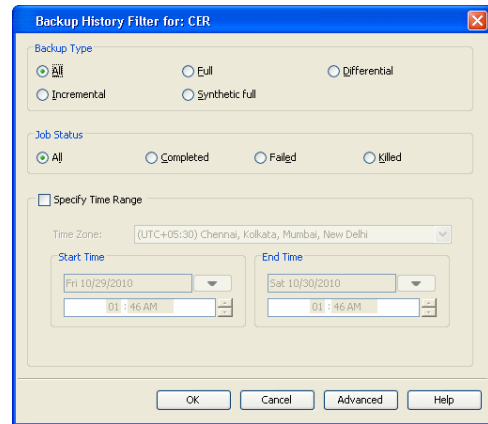
- Run a restore by jobs whenever you want to restore the entire contents of the job.
- Avoid running restores by jobs for jobs associated with the default subclient. If you do this, the entire contents of the machine will be restored. As such, this may cause problems (e.g., the machine might run out of space) or produce undesirable results (e.g., you might end up restoring operating system files or directories that you really do not want to restore).
- Avoid modifying the contents of any associated subclients since this may result in the retrieval of older data.

Use the following steps to restore data by jobs.

1. From the CommCell Browser, right-click the level whose data you want to browse, click **View** and then click the **Backup History**.

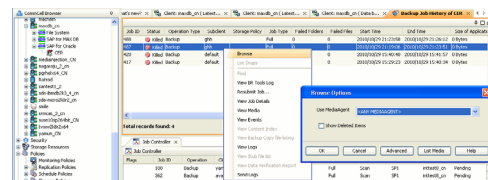


2. From the **Backup History Filter** window, select the filter options, if any, that you want to apply and click **OK**.



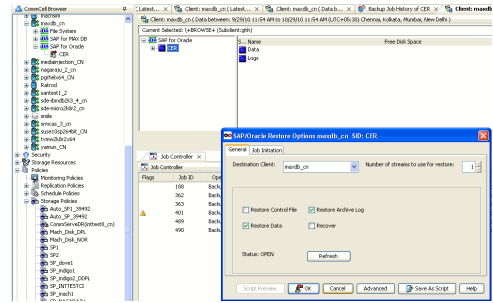
3. From the Backup Job History window, right-click the backup job that need to be restored and select **Browse**.

4. From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option.



5. From the **Browse** window, select the instance node in the left pane and then select the required data and logs in the right pane, and click the **Recover All Selected** button at the bottom of the window.

6. Select the desired restore options and click **OK**.



## MANAGE RESTORE JOBS

Once you initiate the restore operation, a restore job is generated in the Job Controller. Jobs can be managed in a number of ways. The following sections provide information on the different job management options available:

### RESTART JOBS

Jobs that fail to complete successfully are automatically restarted based on the job restartability configuration set in the Control Panel. This configuration can be changed at any time; however, changes to this configuration will affect all jobs run in the entire CommCell.

It is also possible to override the default CommServe configuration for individual jobs by configuring retry settings when initiating the job. This configuration, however, will apply only to the specific job.

Restore jobs for this Agent are re-started from the beginning.

### CONFIGURE JOB RESTARTABILITY AT THE COMMSERVE LEVEL

1. In the CommCell Console, click the **Control Panel** icon, then double-click **Job Management**.
2. In the **Job Restarts** tab of the Job Management dialog box, select a job type from the **Job Type** list, and then select the **Restartable** check box.
3. To change the maximum number of times the Job Manager will try to restart a job, select a number in the **Max Restarts** box.
4. To change the time interval between attempts by the Job Manager to restart the job, select a number of minutes in the **Restart Interval (Mins)** box.
5. Click **OK** to save your changes.

### CONFIGURE JOB RESTARTABILITY FOR AN INDIVIDUAL JOB

1. From the **Restore Options** dialog box, click **Advanced**, then select the **Job Retry** tab and specify the following as desired:
  - o **Total Running Time** - The maximum elapsed time, in hours and minutes, from the time that the job is created.
  - o **Number of Retries** - The number of times that Job Manager will attempt to restart the job.
  - o **Kill Running Jobs When Total Running Time Expires** - Option to kill the job when the specified Total Running Time has elapsed, even if its state is "Running".
2. Click **OK**.

### RESUBMIT JOBS

If a restore job fails to complete successfully, you can resubmit the job without the need to reconfigure the original job's restore options using the **Resubmit Job** feature. When a job is resubmitted, all the original options, restore destinations, and other settings configured for the job remain in tact.

#### RESUBMIT A RESTORE JOB

1. From the CommCell Browser, right-click a client computer whose data recovery history you want to view, click **View**, then click to view a job history.
2. From the **Job History Filter** dialog box, select **Restore**.
  - o If you want to view more advanced options for restores, from the Job History Filter, select **Restore**, then click **Advanced**.
  - o From the **Data Recovery History Advanced Filter** select the destination client computer of the restores you would like to view, then click **OK**.
3. The system displays the results of the options you selected in the **Data Recovery Job History** window.
4. Right-click on any job, and select **Resubmit**.
5. Select the job options.
6. Click **OK**.

## CONTROL JOBS

The following controls are available for running jobs in the Job Controller window:

<b>SUSPEND</b>	Temporarily stops a job. A suspended job is not terminated; it can be restarted at a later time. Only preemptible jobs can be suspended.
<b>RESUME</b>	Resumes a job and returns the status to Waiting, Pending, Queued, or Running depending on the availability of resources or the state of the operation windows and activity control settings. Restore jobs for this Agent are resumed from the beginning.
<b>KILL</b>	Terminates a job.

These controls can be applied to:

- All jobs in the Job Controller.
- All selected jobs in the Job Controller providing you have the correct security associations at the proper level for each job selected.
- All data protection operations running for a particular client or client/agent.
- All data protection operations running for a particular MediaAgent.

### CONTROL A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Kill**, **Suspend**, or **Resume** as desired.
  - When killing a job:
 

Click **Yes** when the confirmation prompt appears if you are sure you want to kill the job. The job status may change to **Kill Pending** for a few moments while the operation completes. Once completed, the job status will change to **Killed** and it will be removed from the Job Controller window after five minutes.
  - When suspending a job:
 

The job status may change to **Suspend Pending** for a few moments while the operation completes. The job status then changes to **Suspended**.
  - When resuming a job:
 

As the Job Manager attempts to restart the job, the job status changes to **Waiting**, **Pending**, or **Running**.

## JOB STATUS

In the case of SAP for Oracle iDataAgent, the job status is displayed depending on the BRTOOLS error codes.

BRTOOLS ERROR CODE	MESSAGE	JOB STATUS
0	Successful	Completed
1	Warnings – all files were processed (for example, backed up or restored)	Completed With Warning
2	Canceled during the initialization phase by a user or other signal	Completed With One or More Errors
3	Errors occurred during the initialization phase, processing was not started	Completed With One or More Errors
4	Canceled by a user or other signal during processing	Completed With One or More Errors
5	Started, but not completed because errors occurred during processing	Completed With One or More Errors
6	Internal termination	Completed With One or More Errors

## ADDITIONAL RESTORE OPTIONS

Several additional options are available to further refine your restore operations. These options are available from the **Advanced Backup Options** window.

To access the **Advanced restore Options** window:

1. From the CommCell Browser, expand **Client Computers** by double-clicking **Client Computers | SAP for Oracle | <instance name>**. The default and other subclients (if available) are displayed on the right-hand windowpane.
2. To restore from the instance level, right-click the instance, and click **Restore**.
3. From the **SAP/Oracle Restore Options** dialog box, click **Advanced**.

The following table describes the additional options:

OPTION	DESCRIPTION	RELATED TOPIC
<b>Use hardware revert capability if available</b>	This option allow you to revert the data to the time when the snapshot was created. Selecting this option brings back the entire LUN to the point when the snapshot was created, overwriting all the modifications to data since the snapshot creation. This option is available if the snapshot engine used for SnapProtect Backup supports the revert operation.	

	<ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   SAP for Oracle   &lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (General)</b> tab, select <b>Use hardware revert capability if available</b>.</li> </ol>	
<p><b>Startup Options</b></p>	<p>The Job Manager will use the startup priority setting when allocating the required resources. This is useful if you have jobs that are very important and must complete, or jobs that can be moved to a lower priority.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   &lt;agent&gt;   &lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (General)</b> tab, select <b>Use Default Priority</b> option.</li> <li>7. Select <b>Change Priority</b> option to change the priority for a job, between 0 (highest priority) and 999 (lowest priority).</li> <li>8. Select <b>Start up in Suspended State</b> option to specify the selected job to start in the Job Controller in a suspended state.</li> <li>9. Click <b>OK</b>.</li> </ol>	<p>Refer to Job Priority and Priority Precedence.</p>
<p><b>Copy Precedence</b></p>	<p>When you select Restore from copy precedence option, the system recovers or retrieves data from the selected storage policy copy (Synchronous Copy or Selective Copy). If data does not exist in the specified copy, the data recovery or retrieve operation fails even if the data exists in another copy of the same storage policy.</p> <p>When cleared, (or by default) the system recovers or retrieves data from the storage policy copy with the lowest copy precedence. If the data was pruned from the primary copy, the system automatically recovers or retrieves from the other copies of the storage policy in the lowest copy precedence to highest copy precedence order. Once the data is found, it is recovered or retrieved, and no further copies are checked.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers   &lt;agent&gt;   &lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (General)</b> tab, select <b>Restore from copy precedence</b> option.</li> <li>7. Select the number to change the selected copy's precedence. The numbers will move a copy to a higher or lower precedence in increments of 1.</li> <li>8. Click <b>OK</b>.</li> </ol>	<p>Refer to Recovering Data From Copies.</p>
<p><b>Data Path Options</b></p>	<p>Data Recovery operations use a specific data path (Library, MediaAgent, Drive Pool, and Drive) to perform the restore operations as configured in the CommCell. By default, the system automatically identifies the data path for the restore operations. You can change the data path at the restore level by selecting a specific MediaAgent, library, drive pool or drive in the Advanced Restore Options dialog.</p> <p>The following are some of the important situations where you may need to change the data path:</p> <ul style="list-style-type: none"> <li>• To free heavily loaded resources such as MediaAgents and libraries.</li> <li>• A library suffers severe hardware damage and you need to move its media to a different library in order to access data secured by data protection operations.</li> <li>• A drive pool within a library is being used much more frequently than another, and a storage policy copy from the more active drive pool can be assigned to the less active one.</li> </ul>	<p>Refer to Change Data Path.</p>

	<ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers</b>   <b>&lt;agent&gt;</b>   <b>&lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (General)</b> tab, select the <b>MediaAgent</b> and <b>Library</b> that you wish to perform the restore.</li> <li>7. Select the <b>Drive Pool</b> and <b>Drive</b> for optical and tape libraries.</li> <li>8. Click <b>OK</b>.</li> </ol>	
<b>Alerts</b>	<p>The Alert option is used for setting up the criteria to raise notifications/alerts for job statuses such as failure, success, or any other conditions triggered by the restore job. Adding alerts helps the user or the user group to get the notification automatically about the status of the restore job.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers</b>   <b>&lt;agent&gt;</b>   <b>&lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (General)</b> tab, click <b>Add Alert</b>.</li> <li>7. From the Add Alert Wizard window, select the <b>Threshold and Notification Criteria</b>. Click <b>Next</b>.</li> <li>8. Select the <b>Notification Types</b>. Click <b>Next</b>.</li> <li>9. Select the <b>Users and User Groups</b>. Click <b>Next</b>.</li> <li>10. Verify the <b>Summary</b>.</li> <li>11. Click <b>Finish</b>.</li> </ol>	Refer to Alert.
<b>Reset Database</b>	<p>When you select this option, a new database incarnation record is created for the new database after recovering the database.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers</b>   <b>SAP for Oracle</b>   <b>&lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (Options)</b> tab, select <b>Reset Database</b> option.</li> </ol>	
<b>Open DB</b>	<p>Once you recover the database, you can choose whether to open the database after the restore/recovery operation has completed. Selecting this option will open the database, and enable the <b>Reset Logs</b> option.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers</b>   <b>SAP for Oracle</b>   <b>&lt;instance name&gt;</b>. The default and other subclients (if available) are displayed on the right-hand windowpane.</li> <li>2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click <b>All Tasks</b> and then click <b>Browse Backup Data</b>.</li> <li>3. From the Browse Options window, click <b>OK</b>.</li> <li>4. From the browse window, select the data to be restored and click <b>Recover all Selected</b>.</li> <li>5. From the <b>Restore Options for All Selected Items</b> dialog box, click <b>Advanced</b>.</li> <li>6. From the <b>Advanced Restore Options (Options)</b> tab, select <b>Open DB</b> option.</li> </ol>	
<b>Reset logs</b>	<p>This option is available from the <b>Options</b> tab in the <b>Advanced Restore Options</b> window.</p> <p>Whenever you restore the control file from Command Line Interface and manually recover the database, you need to reset the logs prior to opening the database.</p> <p>To enable the <b>Reset Logs</b> option, the <b>Open DB</b> checkbox must be selected.</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, click <b>Client Computers</b>   <b>SAP for Oracle</b>   <b>&lt;instance</b></li> </ol>	

**name>**. The default and other subclients (if available) are displayed on the right-hand windowpane.

2. From the CommCell Browser, right-click the instance that contains the data you want to restore. Click **All Tasks** and then click **Browse Backup Data**.
3. From the Browse Options window, click **OK**.
4. From the browse window, select the data to be restored and click **Recover all Selected**.
5. From the **Restore Options for All Selected Items** dialog box, click **Advanced**.
6. From the Advanced Restore Options (Options) tab, ensure the **Open DB** checkbox is selected.

You can **Reset Logs** as follows:

- None - Open the database without any RESETLOGS option.
- Yes - Open the database with RESETLOGS option.
- No - Open the database with NORESETLOGS option.

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# Data Aging - SAP for Oracle iDataAgent

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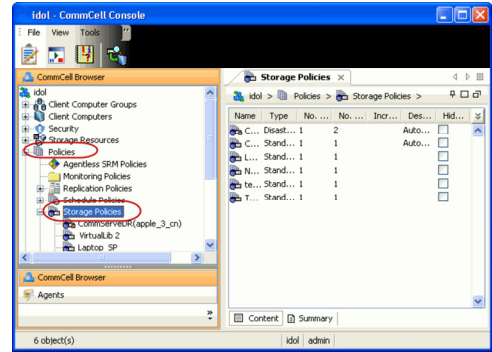
### Data Aging Rules for Jobs Completed with Warning

## GETTING STARTED

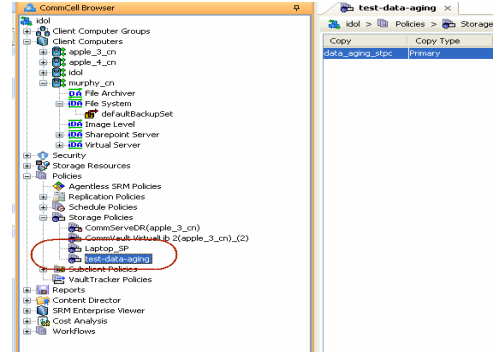
Data Aging is the process of removing old data from secondary storage to allow the associated media to be reused for future backups.

By default, all backup data is retained infinitely. However, you should change the retention of your data based on your needs. Note that if you continue to have infinite retention, you will also need infinite storage capacity.

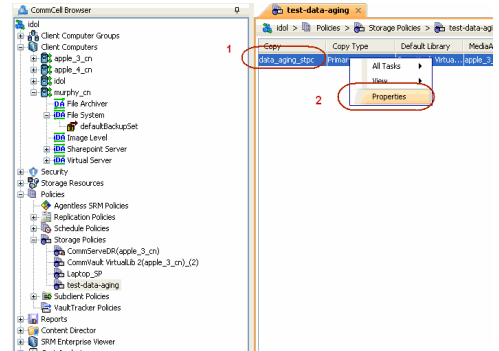
1. From the CommCell Browser, navigate to **Policies | Storage Policies**.



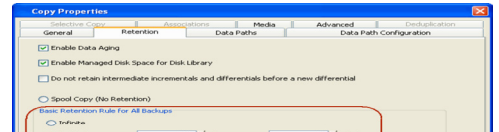
2. Highlight the **Storage Policy**.



3. From the right pane, right-click the **Storage Policy Copy** and click the **Properties**.

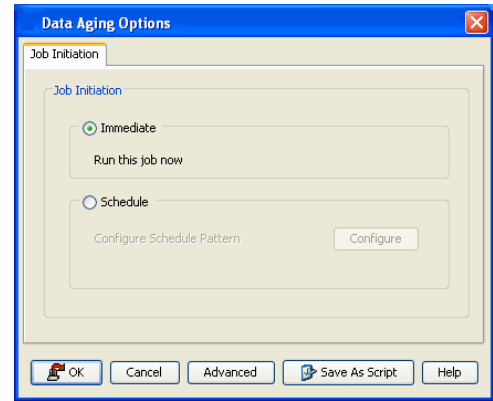


4.
  - Click the **Retention** tab.
  - Click the **Retain For** in the **Basic Retention Rules for All Backups** area.
  - Enter number of days to retain the data.
  - Enter number of cycles to retain the data.



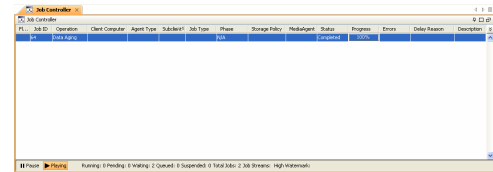


10. Select **Immediate** in the Job Initiation section and click **OK**.



11. You can track the progress of the job from the **Job Controller** window. When the job has completed, the Job Controller displays **Completed**.

Make sure that the job completes successfully. If the job did not complete successfully, re-run the job.



## EXTENDED RETENTION RULES

Extended retention rules allow you to keep specific full (or synthetic full) backups for longer periods of time.

Extended retention rules can be used in the following circumstances:

- If you have a single drive tape library
- If you want to create a hierarchical retention scheme (grandfather-father-son tape rotation)

In all other cases, it is recommended that the Auxiliary Copy feature be used for extended storage as it actually creates another physical copy of the data, thereby reducing the risk of data loss due to media failure.

### UNDERSTANDING EXTENDED RETENTION RULES

Extended retention allows you to retain a specific full (or synthetic full) backup for an additional period of time. For example, you may want to retain your monthly full backups for 90 days.

Extended retention rules allow you to define three additional "extended" retention periods for full (or synthetic full) backups. For example:

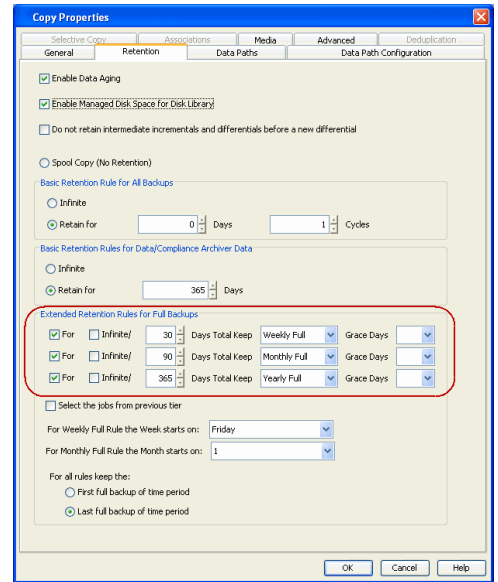
- You may want to retain your weekly full backups for 30 days.
- You may want to retain your monthly full backup for 90 days.
- You may want to retain your yearly full backup for 365 days.

A backup job will be selected for extended retention based on its start time. For example: If a backup job starts at 11:55 pm on August 31st and ends at 1 am on September 1st, then it will be selected as the last full backup for the month of August and will be picked up for extended retention.

### SETTING UP EXTENDED RETENTION RULES

Use the following steps for setting up the extended retention rules:

1. Right-click the storage policy copy and click **Properties**.
2. Click the **Retention** tab.
3. Set the basic retention rules by clicking **Retain for** and entering the number of days and cycles appropriate for your organization.
4. Set the extended retention rules as follows:
  - Click the **For** button.
  - Enter the number of **Days Total** to retain the backup.
  - Click the **Keep** drop-down list, and select the desired backup criteria (e.g., Monthly Full).
  - Click the **Grace Days** drop-down list and select the number of days (e.g., 2).
5. Repeat Step 4 to configure additional extended retention.
6. Click **OK**.



## WHEN ARE LOG BACKUPS AGED ALONG WITH FULL BACKUPS

Log Backups (transaction, archive, or logical logs) are not considered part of the backup cycle. Therefore, storage policy cycle retention parameters do not apply to them. However, log backups may be linked to data backup operations depending on how the backups are performed. The following table helps to determine if log backups are linked to full backups:

BACKUP SCENARIOS	ARE LOG AND FULL BACKUPS LINKED?	RETENTION RULES
Log backups and full backups (data only or data and logs) are running at the same time	Yes	Log backups and full backups follow the standard data aging rules.
A full backup is performed including data only	Yes, the next log backup job will be linked	<p>Linked log backups are not aged until the linked data is aged. In addition, the following is also considered:</p> <ul style="list-style-type: none"> <li>• Logs that need to be copied to secondary copies will not be aged both on primary and non-primary source copy</li> <li>• Logs that exist only on one copy will be aged when they are older than the oldest data</li> <li>• Logs that exist on multiple copies will be aged according to copy retention days</li> <li>• Logs that exist on multiple copies with the longest retention days will be aged when they are older than the oldest data</li> <li>• Partial, disabled logs will be aged when they are older than the oldest data</li> </ul>
A full backup is performed including data and log phases	No, the next log backup will not be linked	<p>Unlinked log backups follow the data aging rules for log backups. If you want such log backups to be aged according to the defined days retention rule for the data, you can do so as follows:</p> <ol style="list-style-type: none"> <li>1. From the CommCell Browser, select <b>Tools   Control Panel</b>.</li> <li>2. Double-click <b>Media Management</b></li> <li>3. Click the <b>Data Aging</b> tab.</li> <li>4. Enable the <b>Prune All Database Agent Logs Only By Days Retention Rule</b> option.</li> <li>5. Click <b>OK</b>.</li> </ol>

## SELECTIVE ONLINE FULL BACKUP RETENTION RULES

Retention rules can be set for archive log backups and data for long term archiving purposes. This can be achieved by enabling Selective Online full backup. The advantage of this type of backup is that both data and logs use the same storage policy. During a disaster recovery situation it becomes easier to locate different offsite media from various jobs to gather the necessary data and logs to recover the database. Follow the steps given below to selective online full backups of the Oracle database:

1. From the CommCell Browser, right-click the instance for which you want to create a new subclient, click **All Tasks** and then click **New Subclient**.

2. From the **General** tab, type the name (up to 32 characters) of the subclient that you want to create.
3. From the **Content** tab, define the contents of the subclient.
4. Click **Selective Online Full**.
5. From the **Storage Device** tab, select a storage policy to associate with this subclient.
6. Select one of the following SAP interfaces:

`util_file`

`util_file_online`

7. Click **OK**.

## COMMAND LINE RETENTION RULES

Command line log backups can be linked to third-party data backups as well as any other kind of backup data as per the regular data link rule.

Retention cycles are not used for copies involved in operations from the command line. For such operations, data is aged according to the associated retention time. However, you can manually set the retention time for each command line job from the storage policy copy. The command line log backups will be aged according to the retention time set for its associated command line data backup job.

## DATA AGING RULES FOR JOBS COMPLETED WITH ERRORS

Jobs that are completed with errors are not treated as a valid full backup job and hence are pruned based on basic retention rules. However, in case if you require to apply extended retention rules to these jobs, you can exclude jobs that completed with errors during extended retention calculations. Note that this option is applicable only for SAP for Oracle Selective Online full backup jobs.

1. From the CommCell Browser, select **Tools | Control Panel**.
2. Double-click **Media Management**
3. Click the **Data Aging** tab.
4. Change the value for the **Ignore Completed With Errors job option for Extended Retention calculations** option from 1 to 0.
5. Click **OK**.

## DATA AGING RULES FOR JOBS COMPLETED WITH WARNINGS

For jobs that are completed with warning are treated as regular full backup jobs and utilize the same data aging rules defined for regular full jobs.

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## ADVANCED TOPICS

### Data Aging - Advanced

Provides comprehensive information on additional Data Aging capabilities.

# Disaster Recovery - SAP for Oracle

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#### Restoring SAP for Oracle Database from SAP Command Line Interface

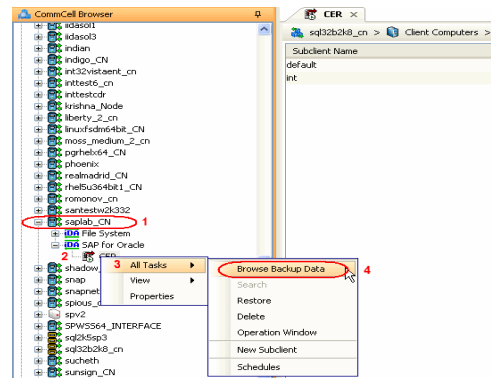
## PLANNING FOR A DISASTER RECOVERY

Before you begin a disaster recovery, make sure to perform the following:

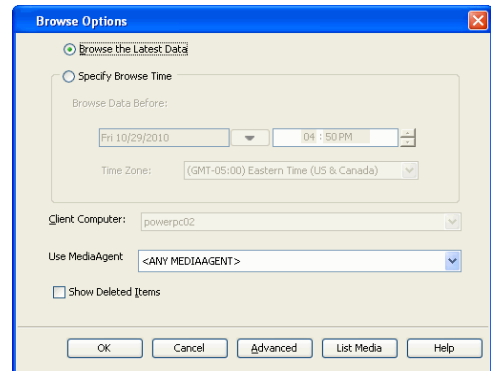
- Perform regular backups of application files along with their binaries. Frequent backups of log and data with control files will also be helpful for a successful disaster recovery.
- Ensure that the destination client is same as source client while performing a disaster recovery.
- Make sure to restore the configuration files before performing a disaster recovery.
- Make sure to install the SAP application in the destination client and create an empty instance in the same directory structure as existing in the source client.

## RESTORING SAP FOR ORACLE DATABASE FROM COMMCELL CONSOLE

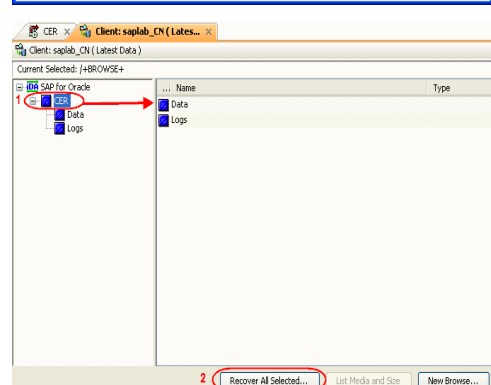
1.
  - From the CommCell Console, navigate to **<Client> | SAP for Oracle**.
  - Right-click the instance that contains the data you want to restore and click **All Tasks | Browse Backup Data**.



2. Click **OK**.

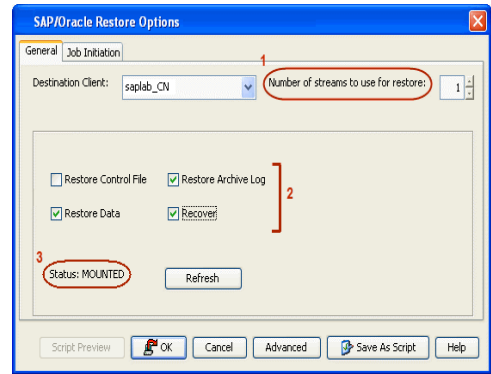


3.
  - Select the instance node in the left pane. The data and logs will be automatically selected in the right pane.
  - Click **Recover All Selected**.

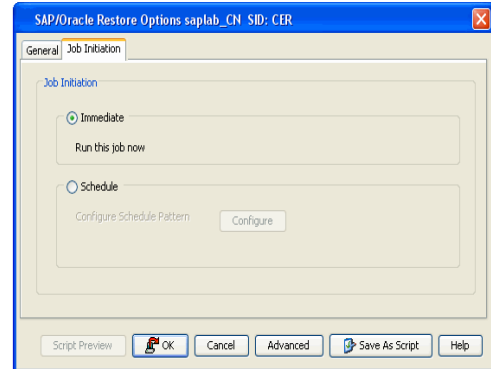


4.
  - Choose the **Number of streams to use for restore**.

- Select the following options to restore the database.
  - **Restore Archive Log**
  - **Restore Data**
  - **Recover**
- Verify that the Status of the database is displayed as **MOUNTED**; if necessary click **Refresh** to get the latest status.



5.
  - Click the **Job Initiation** tab.
  - Select **Immediate** to run the job immediately.
  - Click **OK**.

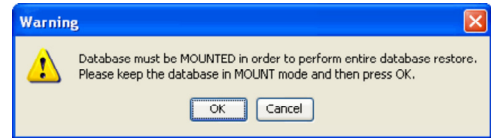


If the database is not mounted, a warning dialog appears to remind you to set the database in MOUNT mode.

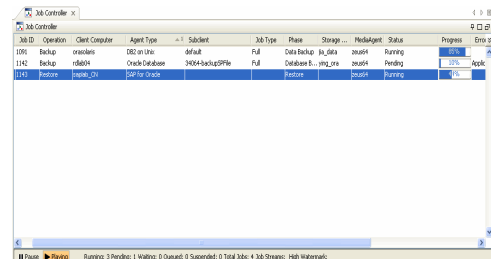
To mount the database, enter the following commands in the machine hosting the database:

```
[root]# export ORACLE_SID=<instance name>
[root]# sqlplus "/ as sysdba"
[root]# shutdown immediate;
[root]# startup mount;
```

Once the database is mounted, click **OK**.

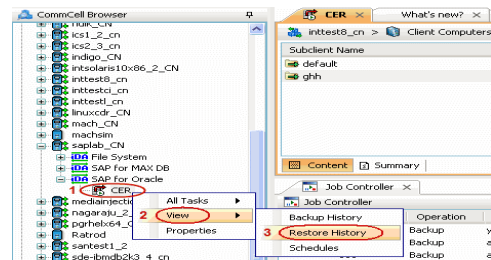


6. You can monitor the progress of the restore job in the **Job Controller** or **Event Viewer** window of the CommCell Console.



7. Once the restore job has completed, right-click the entity (e.g. agent, instance) and click **View | Restore History**.

If the entity chosen is the client computer, click **View | Job History**.



8. Click **OK**.

9. You can view the following details about the job by right-clicking the job:
  - View Restore Items  
You can view them as **Successful**, **Failed**, **Skipped** or **All**.
  - View Job Details
  - View Events of the restore job.
  - View Log files of the restore job.
10. The database is restored to the directory where it resides.

Job ID	Status	Instance	Backup Set	Started Time	End Time	No. of Objects	Destination Client	User Name
19	Completed			2010/09/20 14:00:00	2010/09/20 14:00:00	98723	ib_hmc302_auto	admin
17	killed			2010/09/20 12:00:00	2010/09/20 12:00:00	0	ib_hmc302_auto	admin

## RESTORING SAP FOR ORACLE DATABASE FROM SAP COMMAND LINE INTERFACE

You can recover the Oracle database using SAP command line interface.

1. Restore the Oracle application available under the <oracle install> directory using the File System iDataAgent.
2. Restore the Oracle database files using the SAP command line. To this purpose, use the following general steps in the order presented:
  - a. Ensure that the appropriate profiles exist, the profile names are defined appropriately, and the parameters are correctly set. Then use BRRESTORE to restore each required file (including the current summary log and current detail log) individually.
  - b. Use BRRESTORE to completely restore the backup (i.e., reset the database to the last online or offline backup).
  - c. Use BRRESTORE to restore the required offline redo log files from the BRARCHIVE tape.

3. Restore init<SID>.ora file:

```
brrestore -d util_file -b2 becmmcsy.anf -m /oracle_setup/dbs/init<SID>.ora
```

4. Restore init<SID>.utl file:

```
brrestore -d util_file -b2 becmmcsy.anf -m /oracle_setup/dbs/init<SID>.utl
```

5. Restore init<SID>.sap file:

```
brrestore -d util_file -b2 becmmcsy.anf -m /oracle_setup/dbs/init<SID>.sap
```

6. Restore Control File:

```
brrestore -d util_file -m 0
```

7. Restore DataFiles:

```
brrestore -d util_file -b last -m all -u /
```

8. Restore Archive logs:

```
brrestroe -a <From ARCHIVE LOG# - To ARCHIVE LOG#>
```

9. After restoring the above files, run recover database manually using backup control file:

```
sql>recover database using backup controlfile until cancel;
```

10. Reset open DB with RESET LOGS option:



```
sql>alter database open resetlogs;
```

init<SID>.ora, init<SID>.sap and init<SID>.utl can only be restored by SAP Command Line Interface. The remaining files such as control file, data files, archive log files can also be restored from CommCell Console.

For more information on Disaster Recovery using BRRESTORE, refer SAP documentation.

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# Additional Operations - SAP for Oracle

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## RELATED TOPICS

### Support

Provides comprehensive information on SAP for Oracle iDataAgent support.

### Additional Operations - Concepts

Provides comprehensive information on additional operations procedures contained on this page.

- [Audit Trail](#)
- [Storage Policies](#)
- [Storage Policy Copies](#)
- [Schedule Policy](#)
- [Auxiliary Copy](#)
- [Operation Window](#)
- [Uninstalling Components](#)

## AUDIT TRAIL

The Audit Trail feature allows you to track the operations of users who have access to the CommCell. This capability is useful if a detrimental operation was performed in the CommCell and the source of that operation needs to be determined.

Audit Trail tracks operations according to four severity levels:

- **Critical:** This level records operations that will result in imminent loss of data.
- **High:** This level records operations that may result in loss of data.
- **Medium:** This level records changes to the general configuration of one or more entities. Such changes may produce unintended results when operations are performed.
- **Low:** This level records changes to status, addition of entities, and other operations that have minimal impact on existing CommCell functions.

To set Audit Trail retention periods:

1. From the **Tools** menu in the CommCell Console, click **Control Panel**, and then select **Audit Trail**.
2. From the **Audit Trail** dialog box, select the desired retention time (in days) for each severity level.
3. Click **OK**.

## STORAGE POLICY

A Storage policy defines the data lifecycle management rules for protected data. Storage policies map data from its original location to a physical storage media and determine its retention period.

1. Expand the **Policies** node, right-click **Storage Policies**, and select **New Storage Policy**.
2. Click **Next**.
3. Select **Data Protection and Archiving** to create a regular storage policy or **CommServe Disaster Recovery Backup** to backup the CommServe database and click **Next**.
4. Click **Next**.
5. Enter the name of storage policy and click **Next**.
6. Enter the name of the primary copy and click **Next**.
7. From the drop down box, select the default library for the primary copy and click **Next**.
8. From the drop down box, select the MediaAgent and click **Next**.
9. Enter number of data streams and set the retention period for the policy and click **Next**.
10. Click **Next**.
11. Click **Browse**, browse to your designated deduplication store location and click **Next**.
12. Confirm your selections and click **Finish**.

## SCHEDULE POLICY

A schedule policy is a defined schedule or group of schedules for specific operations to be performed on associated objects within the CommCell. When the

schedules from a policy are run, the specified operations, (e.g., auxiliary copy, backup, etc.) will be performed on the associated CommCell objects.

1. Expand the **Policies** node, right-click **Schedule Policies** and click **Add**.
2. Type the **Name** of the schedule policy.
3. Select the **Type** of schedule policy.
4. Select the **Agent Type**.
5. Type a description of the schedule policy.
6. Click **Add**.
7. Enter a schedule ion the **Schedule Pattern** tab.
8. Click **OK**.
9. On the **Associations** tab, select the objects to be associated with the schedule policy.
10. Click **OK**.

## AUXILIARY COPY

An auxiliary copy operation allows you to create secondary copies of data associated with data protection operations, independent of the original copy.

1. Expand the **Policies** node, right-click storage policy for which you want to perform an auxiliary copy, click **All Tasks**, and then click **Run Auxiliary Copy**.
2. If you are starting the auxiliary copy operation from the CommServe level, select the storage policy for which you wish to perform the auxiliary copy.

If you are starting the auxiliary copy operation from the Storage Policy level, the Storage Policy field is already populated with the name of the Storage Policy you selected.

3. If the source copy is configured with a shared library, select the **Source MediaAgent** for the auxiliary copy.
4. Click **OK** to start the auxiliary copy operation. A progress bar displays the progress of the operation.

## OPERATION WINDOW

By default, all operations in the CommCell can run for 24 hours. To prevent certain operations from running during certain periods of the day, you can define operation rules so that these operations are disabled during those times.

When operation rules are configured, operations that are started within the time window specified will go to a queued (as opposed to pending) state. Once the time window specified in the operation rule has elapsed, these queued or running operations will resume automatically.

1. In the CommCell Browser, right-click the appropriate entity, click **All Tasks**, and then click **Operation Window**.
2. Click **Add**.
3. From the **Operation Window** dialog box:
  - o Enter the name of the rule in the **Name** field.
  - o Select either an administration, data protection (either full or non-full), and/or a data recovery operation from the **Operations** pane.
4. Click **OK**.

## OPERATING SYSTEM AND APPLICATION UPGRADES

Operating system upgrades are only supported when upgrading from one version of an OS to a different version of the same OS (e.g., Win2003 to Win2008). The two methods of upgrading are:

- **Seamless Upgrade** - This involves uninstalling the Agent software, upgrading the operating system, and then re-installing the Agent software.
- **Full OS Replacement** - This involves performing a clean install of a new version of the OS, re-installing any application software, then re-installing the CommServe, MediaAgent, and/or Agent software.

For Full OS Replacement, the client computer must be configured to have the CommServe, MediaAgent, and/or Client software re-installed to the same location, the same Fully Qualified Domain Name or short domain name, the same partitions, disk drive format (FAT, NTFS, et. al.), and IP configuration as previously.

If it is necessary to remove Agent software to facilitate an operating system or application upgrade, do not delete the icon for the Agent from the CommCell Console, or all associated backed up data will be lost.

Use the following strategy to upgrade the operating system software:

- Identify the computers you want to upgrade and the CommCell components installed on each of these computers.

- Choose the type of upgrade procedure you want to use on each computer: seamless or full replacement.
- CommServe, MediaAgent, and Client computers can be upgraded in any order.

---

## NOTES ON SAP/ORACLE APPLICATION UPGRADES

If you want to upgrade both Oracle and SAP, be sure to upgrade the Oracle application software first and then the SAP application software.

- To upgrade the Oracle application software:
  1. Uninstall the SAP for Oracle iDataAgent.
  2. Upgrade the Oracle application software.
  3. Reinstall the SAP for Oracle iDataAgent.
  4. Relink the Oracle application software.
- To upgrade the SAP application software:
  1. Uninstall the SAP for Oracle iDataAgent.
  2. Upgrade the SAP application software.
  3. Reinstall the SAP for Oracle iDataAgent.
  4. Relink the SAP application software.

## UNINSTALLING COMPONENTS

You can uninstall Windows components using one of the following methods:

- Method 1: Uninstall Components Using the CommCell Console
- Method 2: Uninstall Components from Add or Remove Programs

---

### METHOD 1: UNINSTALL WINDOWS COMPONENTS USING THE COMMCELL CONSOLE

1. From the CommCell Browser, right-click the desired Client Computer and click **All Tasks -> Add/Remove Programs** and click **Uninstall Software**.
2. **Uninstall Software Options** dialog will appear.
3. In the **Uninstall Software** tab, select **Uninstall All** to uninstall all the software packages.
4. In the **Job Initiation** tab, select **Immediate** to run the job immediately.  
You can track the progress of the job from the **Job Controller** or **Event Viewer**.

---

### METHOD 2: UNINSTALL WINDOWS COMPONENTS FROM ADD OR REMOVE PROGRAMS

1. Click the **Start** button on the **Windows** task bar and then click **Control Panel**.
2. Double-click **Add/Remove Programs**.  
For Windows Vista/Windows 2008, click Uninstall a Program in the **Control Panel**.
3. Click **Remove** to uninstall the components in the following sequence:
  1. SAP for Oracle iDataAgent
  2. Windows File System iDataAgent
  3. Base Software

---

## UNINSTALLING UNIX AND MACINTOSH COMPONENTS

In order to uninstall the SAP for Oracle iDataAgent on a Unix computer, you need to remove the `CVGxOrSAP` Unix component using the `cvpkgrm` utility.

### UNINSTALL SEQUENCE

When uninstalling a component on a Unix or Macintosh computer, the following sequence must be used:

1. Uninstall all application components and updates.
2. Uninstall the MediaAgent (if one exists)
3. Uninstall the Base software

Since the component software depends upon the Base software, you must uninstall the component software first.

## UNINSTALLING COMPONENTS FROM A CLUSTER

The following sections provide general guidelines for uninstalling components from a Windows or Unix cluster.

### ALL CLUSTERS

- Verify that the cluster is set to its original state (i.e., the active and passive nodes are in the same state of ownership for their disk groups as they were during installation).
- If the computer from which the component has been uninstalled is rebooted, services will not be restarted following the reboot. However, any cluster plugins available will continue to run.

### WINDOWS CLUSTERS

- The software for a virtual server must be uninstalled from each computer in the cluster configured to host that virtual server, on which the software had been installed.
- For uninstalling a MediaAgent or Client from a cluster virtual server, it is recommended that users uninstall the active node first and then continue and uninstall all passive nodes. This will ensure that `GxClusterPlugIn` resources are removed properly.
- For a CommServe in a clustered environment, it is possible to remove the CommServe software from just one node of the cluster, while allowing it to continue to function on the remaining node(s). To do so, you must ensure the computer from which you are uninstalling the CommServe is a passive node. If you uninstall the CommServe from an active node, this will cause it to stop functioning because this will also remove the database.
- When you have more than one CommServe installed in a cluster and if you uninstall one of the CommServes from any of the nodes, leaving behind other installations, you need to re-register the `DM2FastWebquery.dll` using the following command line utility on the node where the CommServe was uninstalled:

```
<software installation path>\Base\CVGACUtil.exe /i /s DM2FastWebquery.dll
```

### UNIX CLUSTERS

- Clustered environments pertain only to HP-UX, Linux, and Solaris clients.
- You will need to deconfigure the Unix File System iDataAgent from each virtual machine first before uninstalling it from the physical nodes.
- You will then need to uninstall the Unix File System iDataAgent and Base software (`cvpkgzm`) from the client computer hosting the software. You can uninstall the Base software from your client computer by entering the `cvpkgzm` command from a command line and then completing the directives in the resulting script. This script deletes the appropriate files and executables, and it removes the registry entries from the system.
- The component software allows you to Deconfigure virtual machines completely. It also allows you to Deconfigure individual modules for the virtual machines.

To Deconfigure a virtual machine, the virtual machine must be Deconfigured from all of the physical machines (hosts) on which it has been configured. This means that, within a clustered environment, each virtual machine must be Deconfigured from at least two hosts. To do this, follow the sequence outlined in Components on Unix.

## ONLINE HELP LINKS

Use the following links to view the online help for the corresponding tabs in the CommCell Console:

OPERATIONS	ENTITY	ONLINE HELP LINKS	SUB LINKS
<b>CONFIGURATION</b>	Agent	SAP for Oracle Agent Properties (General) SAP for Oracle Agent Properties (Version) SAP for Oracle Agent Properties (Security) SAP for Oracle Agent Properties (Activity Control)	
	Instance	SAP for Oracle Instance Properties (General) SAP for Oracle Instance Properties (Details) SAP for Oracle Instance Properties (Storage Device) SAP for Oracle Instance Properties (Security) SAP for Oracle Instance Properties (Encryption)	Impersonate NT User
	Subclient	SAP for Oracle Subclient Properties (General) SAP for Oracle Subclient Properties (Content) SAP for Oracle Subclient Properties (Pre/Post Process) SAP for Oracle Subclient Properties (Activity Control) SAP for Oracle Subclient Properties (Storage Device) SAP for Oracle Subclient Properties (Encryption)	
<b>BACKUP</b>	Backup Options	Backup Options	Save As Script Command Line XML Options
	Advanced Backup Options	Advanced Backup Options (Data) Advanced Backup Options (Startup)	

		Advanced Backup Options (Job Retry) Advanced Backup Options (Media) Advanced Backup Options (Data Path) Advanced Backup Options (VaultTracking) Advanced Backup Options (Alert)	
<b>BROWSE</b>		Browse Options Advanced Browse Options	
<b>RESTORE</b>	Restore Options	SAP for Oracle Restore Options (General) SAP for Oracle Restore Options (Job Initiation)	Save As Script Command Line XML Options
	Advanced Restore Options	Advanced Restore Options (General) Advanced Restore Options (Copy Precedence) Advanced Restore Options (Data Path) Advanced Restore Options (Encryption) Advanced Restore Options (Startup) Advanced Restore Options (Alert) Advanced Restore Options (Options) Advanced Restore Options (Restore) Advanced Restore Options (Ctrl Files) Advanced Restore Options (Recover)	

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## Frequently Asked Questions - SAP for Oracle

---

### **CAN WE PROTECT DATA ON NON-GLOBAL ZONES IF THE FILE SYSTEM /DATAAGENT IS INSTALLED ONLY ON THE GLOBAL ZONE?**

Yes. We can protect file system data on non-global zones if the File System iDataAgent is installed only on the global zone. However, in order to enable consistent backups of application specific data on the non-global zones, you will need to install the corresponding application specific iDataAgent on the non-global zone.

---

### **HOW DO WE PROTECT SAP FOR ORACLE DATA ON A NON-GLOBAL ZONE?**

In order to enable consistent backups of SAP for Oracle data on a non-global zone, you need to install the SAP for Oracle iDataAgent on the non-global zone.

---

### **CAN I USE ENABLE INTERMEDIATE INDEX CACHE WITH SAP FOR ORACLE /DATAAGENT?**

Use of **Intermediate Index Cache** is not supported with SAP for Oracle iDataAgent. You must uncheck this option in MediaAgent Properties before running a backup.

# Troubleshooting - SAP for Oracle Backup

Backup | Restore

The following section provides information on some of the troubleshooting scenarios related to backup:

## BACKUP OPERATION FAILS IF THE INDEX CANNOT BE RECOVERED

### SYMPTOM

Backup operation fails with an error message, if the index file present cannot be recovered.

### RESOLUTION

As a workaround to this issue, create the key `CreateNewIndexForSapOracle` before running a backup at the location mentioned below:

- On Windows, create the key under **C:\tmp** (not C:\temp; create the folder **tmp** under C: drive).
- On UNIX, create the key under **/tmp**.

Now run the backup operation. After the backup operation is complete, you might need to delete the key `CreateNewIndexForSapOracle` from its location (if it did not delete automatically).

## BACKUP FAILURE

<b>From CommCell Console due to Invalid User Permissions</b>	<p>Make sure to use the following user accounts when creating SAP for Oracle instances:</p> <p>For Unix clients: &lt;SID_name&gt;adm</p> <p>For Windows clients: &lt;client_name&gt;/&lt;SID_name&gt;adm</p>
<b>From CommCell Console when data and log storage policies use different Media Agents</b>	<p>During backups, if the data and log storage policies use different Media Agents, the backup fails with the following error:</p> <p>UPDATEINDEX:Failed to ReOpen IndexCacheDir</p> <p>To avoid this, ensure that the data and log storage polices use the same Media Agent.</p> <p>If you want to use storage policies with different Media Agents, then it is recommended to create separate subclients for data and log backups.</p>
<b>On AIX when the CIO option is turned on</b>	<p>Make sure to mount the data volumes of JFS2 with "mount -o cio" option.</p> <p>Online backup of oracle database not working with JFS2 and Oracle 10g:</p> <p>As per SAP Note- 948294, Starting with Oracle 10g, the advanced I/O capabilities of JFS2 are used by default from the Oracle database server. If file system type JFS2 is detected by the database server, all Oracle data files residing on this file system are accessed using the CIO (Concurrent IO) option. CIO bypasses the file system cache from the AIX operating system, which results in better IO performance for the Oracle database. If a data file is opened in CIO mode by Oracle, all access to this data file via the regular file system cache is prohibited by the AIX OS. Tools like cp, dd, cpio, tar, dbv etc., do not open Oracle data files with the CIO option. Therefore these tools receive an error from the AIX operating system when trying to access the Oracle data files if the database is open.</p> <p>You need to mount all JFS2 file systems containing Oracle data files (sap data directories) with the mount -o cio option. This enforces a bypass of the file system cache for all programs.</p> <p>Oracle redo log and control files are part of the Oracle data files. If these files are on JFS2 also (origlogA, mirrlogA, origlogB, mirrlogB), use the mount -o cio option accordingly.</p> <p>Note that the access to the Oracle data files by all other programs which do not support CIO directly will probably be significantly slowed down. This is because caching, read ahead etc. is no longer possible.</p> <p>To lessen performance penalty during database backup use the dd command with a big blocksize parameter.</p> <p>Example from file initSID.sap:</p> <pre>tape_copy_cmd = dd disk_copy_cmd = dd dd_flags = "bs=1024k" dd_in_flags = "bs=1024k" compress_cmd = "dd bs=1024k if=\$   ( compress -c &gt; \$ ) 2&gt;&amp;1"</pre> <p>For restore:</p> <pre>uncompress_cmd = "uncompress -c \$   dd bs=1024k of=\$ 2&gt;&amp;1"</pre> <p>For verify:</p> <pre>uncompress_cmd = "uncompress -c \$ &gt; \$"</pre> <p>For "compress-only" (option "-k only"):</p>



	<pre>compress_cmd = "dd bs=1024k if=\$   compress -c &gt; \$"</pre> <p>As an alternative, use a backup utility (BACKINT) which supports CIO.</p> <p>Another alternative is the use of Oracle RMAN for online backup. The use of Oracle RMAN can be controlled by the BR*Tools.</p> <p>With Oracle RMAN as backup utility, the mount -option -cio for JFS2 is not required when mounting file systems holding Oracle data files.</p> <p>Do not mount JFS2 file systems holding \$ORACLE_HOME, logfiles etc. with the -o cio option! Header Data</p>
<b>Shared Memory Error</b>	<p><b>Issue:</b></p> <p>The backup failed because the shared memory on the HP-UX PA-RISC client has not been configured per operational guidelines.</p> <p><b>Resolution:</b></p> <p>Add the <b>DisableIPC_GLOBAL</b> file in the <b>/apps/simpana/Base</b> directory on the client where the backup failed.</p> <ol style="list-style-type: none"> <li>1. Stop the Calypso software.</li> <li>2. Create an empty file called <b>DisableIPC_GLOBAL</b> in the <b>/apps/simpana/Base</b> directory. From the command line, enter the following: <pre>touch /apps/simpana/Base/DisableIPC_Global</pre> </li> <li>3. Restart the Calypso software.</li> </ol>

## COMMAND LINE ERRORS

Prior to running backups from the RMAN command line for SAP for Oracle iDataAgent, ensure that the `SBT_LIBRARY` path and environment variables for `CvClientName` and `CvInstanceName` are defined in the RMAN script.

For example, on a Solaris client, provide the path as given below:

```
util_par_file = ?/dbs/init@.utl rman_parms="BLKSIZE=1048576,SBT_LIBRARY=/opt/calypso/Base64/libobk.so,ENV=(CvClientName=sunsign,CvInstanceName=Instance001)" rman_channels=1
```

where `Cvclientname` and `Cvinstancename` are the names of the Client and Instance (e.g., Instance001) on which the iDataAgent is installed.

The `SBT_LIBRARY` for the various platforms are listed below:

Platform	SBT_LIBRARY
AIX with 64 bit Oracle	<Client Agent Install Path>/Base/libobk.a(shr.o)
HP UX PA RISC 64 bit Oracle,	<Client Agent Install Path>/Base64/libobk.sl
Solaris with 64 bit Oracle	<Client Agent Install Path>/Base64/libobk.so
Linux on System Z with 64 bit Oracle	<Client Agent Install Path>/Base64/libobk.so
All Other Unix platforms	<Client Agent Install Path>/Base/libobk.so

`SBT_LIBRARY` is not applicable for Windows platform.

## PENDING STATE FOR SAP FOR ORACLE BACKUPS

You may receive an error message indicating that the SAP for Oracle backup has gone to a pending state after a given percentage of the job has completed. This error has occurred because the `SAPSECULIB` (`libsapsecu.so`) library cannot be found or the permissions are not correct. To correct the problem, complete the following steps:

1. Ensure that the permissions for the **br\*** executables are correct.
2. Ensure that the `SHLIB_PATH` and `DIR_LIBRARY` environment variables are set correctly.
3. On Unix systems, ensure that the `DIR_LIBRARY` environment variable is set on the directory that contains the `libsapsecu` library; for example:

```
DIR_LIBRARY = /usr/sap/<SID>/SYS/exe/run
```

This is especially important if you use an external scheduler (for example, cron, at, or BACKINT scheduler) to start the BR\*Tools. Also, ensure that `DIR_LIBRARY` is set for both user `ora<sid>` and `<sid>adm`.

4. Ensure that the `libsapsecu.so` library is accessible.
5. Ensure that the `SAPSYSTEMNAME` environment variable is set correctly.
6. Ensure that the contents of the database (i.e., SAP tables and SAP owner) are accessible. This is especially important if you use an external scheduler (for example, cron, at, or BACKINT scheduler) to start BR\*Tools. In such a case, the `SAPSYSTEMNAME` variable must be set in the environment of this scheduler (for example, in an environment file); in this case, it must be set within the backup profile of Calypso (be sure to consult your backup vendor).
7. You can verify this setup by appending "-TRC11" to the **brbackup** command line that is called by Calypso. The created trace file will contain all the active

environment variables at runtime of the **brbackup** command.

## SAP FOR ORACLE RMAN BACKUP FAILURE

<b>When using RMAN utility on Solaris client</b>	Ensure that you set the following parameter on the client computer: <code>crle -64 -c /var/ld/64/ld.config -l/opt/calypso/Base64:/lib/64:/usr/lib/64</code>
<b>When using RMAN_UTIL after the Logs have been Reset</b>	Use the util_file interface instead to backup all the Archive logs after the logs have been reset. However, subsequent log backups can be performed using the RMAN_util interface.

## ORACLE ERRORS

If you receive an Oracle error during a SAP for Oracle backup operation, we recommend that you follow procedures published by Oracle Corporation on resolving the specific error. We also advise you to consult with your on-site Oracle database administrator, as needed.

### COMPLETED WITH ONE OR MORE ERRORS

Backup jobs from SAP for Oracle iDataAgent will be displayed as "Completed w/ one or more errors" in the Job History in the following cases:

- After backup, if the job gets killed after running the archive index phase.
- If the brbackup or brarchive returns with warnings, the job will be marked "Completed with warnings".

### BACKUPS FAILING WITH INTERMEDIATE INDEX CACHE SELECTED IN MEDIAAGENT PROPERTIES

The following error may occur if Enable Intermediate Index Cache option is selected at the MediaAgent Properties level while running a backup using SAP for Oracle iDataAgent:

```
5584 1584 04/19 13:45:43 3618 UPDATEINDEX: Failed to ReOpen IndexCacheDir. ErrCode=0
5584 1584 04/19 13:45:43 3618 UPDATEINDEX: Failed to ReOpen IndexCacheDir. ErrCode=1
```

Disable the Intermediate Index Cache option in the **MediaAgent Properties** window **Catalog** tab.

# Troubleshooting - SAP for Oracle Restore

Backup | **Restore**

The following section provides information on some of the troubleshooting scenarios related to restore:

## RESTORE FAILURE

<b>With "Character set name is not recognized" error</b>	Make sure the character sets are same between the locations of where you are running RMAN from and the location of the target database. Because this is an Oracle related issue, please contact Oracle support for more information.
<b>Not enough disk space</b>	Make sure to delete the data files manually and perform a restore operation again with required permissions.

## ORACLE ERRORS

If you receive an Oracle error during a SAP for Oracle restore operation, we recommend that you follow procedures published by Oracle Corporation on resolving the specific error. We also advise you to consult with your on-site Oracle database administrator, as needed.

## SETTING THE NUMBER OF STREAMS FOR A RESTORE JOB USING RMAN\_UTIL

While running a restore job using the Rman\_util interface, the restore job does not consider the number of streams set in the CommCell Console. To work around this issue, you can set the number of streams by changing the `rman_channels` value from the `init<SID>.sap` file before starting the restore. Accepted value for `rman_channels` is 1 or greater than 1.

## RECOVERING DATA ASSOCIATED WITH DELETED CLIENTS AND STORAGE POLICIES

The following procedure describes the steps involved in recovering data associated with the following entities:

- Deleted Storage Policy
- Deleted Client, Agent, Backup Set or Instance

### BEFORE YOU BEGIN

This procedure can be performed when the following are available:

- You have a Disaster Recovery Backup which contains information on the entity that you are trying to restore. For example, if you wish to recover a storage policy (and the data associated with the storage policy) that was accidentally deleted, you must have a copy of the disaster recovery backup which was performed before deleting the storage policy.
- Media containing the data you wish to recover is available and not overwritten.
- If a CommCell Migration license was available in the CommServe when the disaster recovery backup was performed, no additional licenses are required. If not, obtain the following licenses:
  - IP Address Change license
  - CommCell Migration license
 See License Administration for more details.
- A standby computer, which will be used temporarily to build a CommServe.

### RECOVERING DELETED DATA

- Locate the latest Disaster Recovery Backup which contains the information on the entity (Storage Policy, Client, Agent, Backup Set or Instance) that you are trying to restore.
  - You can check the Phase 1 destination for the DR Set or use Restore by Jobs for CommServe DR Data to restore the data.
  - If the job was pruned and you know the media containing the Disaster Recovery Backup, you can move the media in the **Overwrite Protect Media** Pool. See Accessing Aged Data for more information. You can then restore the appropriate DR Set associated with the job as described in Restore by Jobs for CommServe DR Data.
  - If the job is pruned and you do not know the media containing the Disaster Recovery Backup, you can do one of the following:
    - If you regularly run and have copies of the Data on Media and Aging Forecast report you can check them to see if the appropriate media is available.
- On a standby computer, install the CommServe software. For more information on installing the CommServe, see CommServe Deployment.
- Restore the CommServe database using the CommServe Disaster Recovery Tool from the Disaster Recovery Backup described in Step 1. (See Restore a Disaster Recovery Backup for step-by-step instructions.)
- Verify and ensure that the **Bull Calypso Client Event Manager Bull Calypso Communications Service (EvMgrS)** is running.
- If you did not have a CommCell Migration license available in the CommServe when the disaster recovery backup was performed, apply the IP Address Change license and the CommCell Migration license on the standby CommServe. See Activate Licenses for step-by-step instructions.

6. Export the data associated with the affected clients from the standby CommServe as described in Export Data from the Source CommCell.

When you start the Command Line Interface to capture data, use the name of the standby CommServe in the `- commcell` argument.

7. Import the exported data to the main CommServe as described in Import Data on the Destination CommCell.

This will bring back the entity in the CommServe database and the entity will now be visible in the CommCell Browser. (Press F5 to refresh the CommCell Browser if the entity is not displayed after a successful merge.)

8. If you have additional data that was backed up after the disaster recovery backup and before the deletion of the entity, use the procedure described in Import Metadata from a Tape or Optical Media to obtain the necessary information.
9. You can now browse and restore the data from the appropriate entity.

As a precaution, mark media (tape and optical media) associated with the source CommCell as READ ONLY before performing a data recovery operation in the destination CommCell.

## **RESTORE COMPLETED WITH WARNINGS**

Restore jobs from SAP for Oracle iDataAgent will be displayed as "Completed with Warnings" in the Job History in the following cases:

- When the database restore succeeds but it fails when recovering the database or opening the database.

## Online Help Topics

### SAP for Oracle Agent Properties (General)

Use this dialog box to obtain or provide general and/or user account information for the agent.

#### Client Name

Displays the name of the client computer on which this Agent is installed.

#### Billing Department

Displays the name of the billing department, when the Agent is associated with a billing department.

#### iDataAgent

Displays the identity of the Agent that is installed on the client computer.

#### Installed date

Displays the date on which the Agent was installed or upgraded on the client computer.

#### Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

---

### SAP for Oracle Agent Properties (Version)

Use this dialog box to view the software version.

#### Version Information

Displays the Agent software version installed on the computer.

---

### SAP for Oracle Agent Properties (Security)

Use this tab to:

- Identify the user groups to which this CommCell object is associated.
- Associate this object with a user group.
- Disassociate this object from a user group.

#### Available Groups

Displays the names of the user groups that are not associated with this CommCell object.

#### Associated Groups

Displays the names of user groups that are associated with this CommCell object.

---

### SAP for Oracle Agent Properties (Activity Control)

Use this dialog box to enable or disable backups and restores on a selected subclient.

If data management and data recovery operations are disabled at the client computer group or client level, then these operations below these levels will be disabled. If data management / data recovery operations are enabled at the client computer group or client level, then these operations below these levels will be enabled.

#### Enable Backup

Specifies whether Backups will occur from this agent or subclient. .

If cleared:

- Backup operations from this agent or subclient cannot be started and are skipped.
- Running and waiting data management operations for this agent or subclient run to completion.
- Stopped data management operations for this agent or subclient cannot be resumed until this option is enabled.

- Pending data management operations for this agent or subclient do not run until this option is enabled.

#### Enable Restore

Specifies whether Restores will occur from this agent or subclient. .

If cleared:

- Restore operations from this agent or subclient cannot be started and are skipped.
- Running and waiting data recovery operations for this agent or subclient run to completion.
- Stopped data recovery operations for this agent or subclient cannot be resumed until this option is enabled.
- Pending data recovery operations for this agent or subclient do not run until this option is enabled.

## SAP for Oracle Instance Properties (General)

Use this dialog box to define a new instance or view the properties of an existing instance.

#### Client Name

Displays the name of the client computer on which this instance is found.

#### Billing Department

Displays the name of the billing department defined in the software.

#### iDataAgent

Displays the name of the iDataAgent to which this instance belongs.

#### Instance (ORACLE SID)

- When you create a new instance (Oracle SID), type the name of the instance.
- For an existing instance (Oracle SID), the name of the instance is displayed.

#### ORACLE Version

For an existing instance, the version of Oracle on which the iDataAgent was installed or upgraded on the client computer is displayed.

#### ORACLE USER

Specifies the user name to access the Oracle application on a Unix client from the CommCell Console.

In order to perform backup and restore operations for the associated instance, use <SID\_name>adm.

Make sure that the user has administrator privileges to access the Oracle application.

#### User Account

Displays the user name to access the Oracle application on a Windows client. Click the **Change** button and provide the user name and password in the Impersonate NT User dialog box.

#### ORACLE HOME

- When you create a new instance, enter or click **Browse** to specify the path to the application's Home directory.
- For an existing instance, the path to the application's Home directory is displayed.

#### SAP DATA PATH

- When you create a new instance, enter or click **Browse** to specify the path to the Oracle data files and control files. This path can be the same as the path for ORACLE HOME.
- For an existing instance, the path to the Oracle data files and control files is displayed.

#### Storage Policy used for the data of default client

When you create a new instance, assign a Storage Policy from the list.

#### Oracle Status

For an existing instance, the state of the database is displayed.

Oracle states are OPEN, MOUNTED, STARTED or SHUTDOWN.

Click **Refresh** to display the most current status of the database.

#### Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

---

## SAP for Oracle Instance Properties (Details)

When you create a new instance, use this tab to add the details of the instance.

For an existing instance, use this tab to view or change the details of the selected instance.

### Connect String

- When you create a new instance, specify the database connect string.
- For an existing instance, you can change the database connect string by entering 1) database user ID, 2) password for the user ID @ 3) Oracle instance name in the three spaces provided. The user ID must have SYSDBA, ALTER SYSTEM and SELECT ANY TABLE system privileges.

Alternatively, instead of the SELECT ANY TABLE privilege, you can create less powerful user IDs with the following object privileges:

- SELECT ON "SYS"."V\_\$DATABASE"
- SELECT ON "SYS"."V\_\$DATAFILE"
- SELECT ON "SYS"."V\_\$SESSION"
- SELECT ON "SYS"."DBA\_TABLESPACES"
- GRANT SELECT ON "SYS"."V\_\$ARCHIVE\_DEST" TO "USER\_NAME"

You can create a user ID with these privileges, or you can use the internal user ID.

### SAP EXE Folder (Required)

When you create a new instance, specify the path to the SAP EXE folder. Type the path in the space provided or click **Browse** to specify the location.

For an existing instance, you can view the specified SAP EXE folder path to click **Browse** to change this location.

---

## SAP for Oracle Instance Properties (Storage Device)

When you create a new instance, use this tab to add the details of the instance.

For an existing instance, use this tab to view or change the storage policy used to back up data via the command line for the selected instance, select a storage policy for backing up logs on the selected instance, view or select a default storage policy for the selected instance or view or establish the options for Deduplication on the subclient.

### Command Line Backup

- **Storage Policy used for user command backup of data**
  - When you create a new instance (Oracle SID), specify the storage policy used for command line backups and restores
  - For an existing instance (Oracle SID), you can use this space to select another storage policy. A changed storage policy will apply only to new command line backup jobs (i.e., those command line backup jobs that you subsequently start).

### Log Backup

- **Storage Policy used for all Archive Log backups**
  - When you create a new instance (Oracle SID), specify the storage policy used by the subclients in this instance to back up archive log files.
  - For an existing instance (Oracle SID), you can use this space to select another storage policy.

### Data Paths

Click to display the details of the data paths associated with the primary storage policy copy of the selected storage policy.

### Number of Archive Log Backup Streams

- When you create a new instance (Oracle SID), specify the number of backup streams to be used for backing up Archive Log files. The maximum number of streams is determined by the value established for the Storage Policy.
- For an existing instance (Oracle SID), you can use this space to change the number of Archive Log Backup Streams.

### Data Transfer Option

#### Software Compression

Select the software compression to be used for "Command Line Backup" in case hardware compression is not available or not selected on the destination storage policy copy.

#### On Client

Use the client's software compression functionality.

**On MediaAgent**

Use the MediaAgent's software compression functionality.

**Off**

Do not use software compression.

• **Resource Tuning**

Specify the number of processes (1-4) that the client uses to transfer data. Improvement in performance is resource dependent.

**Throttle Network Bandwidth (MB/HR)**

Specify the number of processors from available options.

## DEDUPLICATION

Use this tab to establish the options for deduplication on the subclient. It indicates whether deduplication for the subclient is enabled or disabled, and if enabled whether the signature generation (a component of deduplication) is performed on the client or MediaAgent computer.

Note that deduplication is supported on disk storage devices. So the deduplication options are applicable only if the subclient is associated with a Storage Policy containing disk storage.

**On Client**

Click to enable signature generation on the client computer.

**On MediaAgent**

Click to enable signature generation on the MediaAgent computer.

## SAP for Oracle Instance Properties (Security)

You can view this tab associated only to an existing Instance.

Use this tab to:

- Identify the user groups to which this CommCell object is associated.
- Associate this object with a user group.
- Disassociate this object from a user group.

**Available Groups**

Displays the names of the user groups that are not associated with this CommCell object.

**Associated Groups**

Displays the names of user groups that are associated with this CommCell object.

## Encryption

Use this dialog box to select the data encryption options for the selected content. When accessing this dialog box from the Subclient Properties Encryption tab, this setting applies only to the selected subclient content for operations run from the CommCell Console. When accessing this dialog box from the Instance Properties Encryption tab, this setting applies only to third-party Command Line operations. The functionality is not propagated to the Subclient Properties Encryption tabs.

**None**

When selected, no encryption will take place during a data protection operations.

**Media Only (MediaAgent Side)**

When selected, for data protection operations, data is transmitted without encryption and then encrypted prior to storage. During data recovery operations, data is decrypted by the client.

When using this setting in conjunction with the client property **With a Pass-Phrase**, you will be required to provide a pass-phrase for data recovery operations unless you export the client pass-phrase to the destination client(s). When using pass-phrase security for third-party Command Line operations or DataArchiver Agents stub recovery operations, you must export the pass- phrase to the destination client.

**Network and Media (Agent Side)**



When selected, for data protection operations, data is encrypted before transmission and is stored encrypted on the media. During data recovery operations, data is decrypted by the client.

When using this setting in conjunction with the client property **With a Pass-Phrase**, you will be required to provide a pass-phrase for data recovery operations unless you export the client pass-phrase to the destination clients.

**Network Only (Agent Encrypts, MediaAgent Decrypts)**

When selected, for data protection operations, data is encrypted for transmission and then decrypted prior to storage on the media. During data recovery operations, data is encrypted by the MediaAgent and then decrypted in the client.

When using this setting in conjunction with the client property **With a Pass-Phrase**, you will not be required to provide a pass-phrase for data recovery operations.

**Script Preview**

Click to display the backup script, based on the current subclient configuration, that will be submitted to RMAN when backups are performed for the selected Oracle subclient.

## SAP for Oracle Subclient Properties (General)

**Client Name**

Displays the name of the Client computer to which this subclient belongs.

**Billing Department**

Displays the name of the billing department, when the subclient is associated with a billing department. For more information on Billing and Costing See the *CommNet Books Online*.

**iDataAgent**

Displays the name of the Agent to which this subclient belongs.

**Instance (ORACLE SID)**

Displays the name of the Instance to which this subclient belongs.

**Subclient Name**

Displays the name of this Subclient. You can use this space to enter or modify the name of the subclient.

**Description**

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

## SAP for Oracle Subclient Properties (Content)

Use this tab to define the contents of a new subclient or to change the content of an existing subclient. Items included in subclient content are backed up by the subclient.

**Selective Online Full**

Specifies whether selective online full backups will be performed for this subclient.

**Backup Device**

Specifies the SAP for Oracle-specific device (Util\_File, Rman\_util, util\_file\_online) to use for backups. For more information, refer to the appropriate SAP for Oracle application documentation.

**Data**

Specifies whether data files will be backed up for this subclient, and provides you with a choice of backup modes - Online Database, Online Subset or Offline Database.

- **Backup Mode**

A choice of modes is provided to specify the manner in which data file backups for this subclient will be conducted.

- **Online Database**

Specifies the backup of the online database.

- **Online Subset**

Specifies the backup of a subset of database objects. Use the tree displayed in the **Current Database View** to add new or modify these subsets. The database must be online and in ARCHIVELOG mode when the backup is invoked.

#### Offline Database

Specifies the backup of the offline database. The database must be in the MOUNT mode when the backup is invoked.

- **Current Database View**

Displays the subsets (tablespaces and datafiles) that are available in the database associated with this subclient.

#### Refresh

Click to refresh the content of the database.

#### Backup Archive Log

Specifies whether archived redo log files will be backed up. These logs can be applied to the database in order to recover it to a point-in-time. Keep in mind that when this option is selected, the Resync Catalog option on the Backup Arguments tab will automatically be selected by default. This option is not available when you select Offline Database.

#### Archive Delete

Specifies whether archived redo log files will be deleted once they are backed up. Any archived redo log files that do not match the format indicated by the LOG\_ARCHIVE\_FORMAT environment variable are not deleted. This option is available only when you select the Backup Archive Log option.

#### Disable Switch Current Log

When selected, log switching is disabled for the current redo log file during an archive log backup.

#### Archive Log Second Copy

When selected, creates a second copy of the archive logs and deletes the original archive logs.

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## SAP for Oracle Subclient Properties (Pre/Post Process)

Use the Pre/Post Process tab to add, modify or view Pre/Post processes for the selected subclient.

#### Pre Backup process

Displays the name/path of the backup that you want to run before the respective phase. You can use this space to enter a path for the backup process that will execute before this phase on the subclient, or you can use the **Browse** button to search for and select the name/path of the process. The system allows the use of spaces in the name/path, provided they begin with an opening quotation mark and end with a closing quotation mark.

#### Post Backup process

Displays the name/path of the backup process that you want to run after the respective phase. You can use this space to enter a path for the backup process that will execute after this phase on the subclient, or you can use the **Browse** button to search for and select the name/path of the process. The system allows the use of spaces in the name/path, provided they begin with an opening quotation mark and end with a closing quotation mark.

#### Run Post Backup Process for all attempts

Specifies whether this process will execute for all attempts to run the phase. Selecting this option will execute the post backup process for all attempts to run the phase, including situations where the job phase is interrupted, suspended, or fails. Otherwise, when the checkbox is cleared the specified process will only execute for successful, killed, or failed jobs.

#### Browse

Click to search for and select the Pre/Post Process.

---

## SAP for Oracle Subclient Properties (Activity Control)

Use this dialog box to enable or disable backups on a selected subclient.

#### Enable Backup

Specifies whether backups will occur from this subclient.

If cleared:

- Backups from this subclient cannot be started and are skipped.

- Running and waiting backups for this subclient run to completion.
- Stopped backups for this subclient cannot be resumed until this option is enabled.
- Pending backups for this subclient do not run until this option is enabled.

(Job states are indicated in the Job Controller.)

---

## SAP for Oracle Subclient Properties (Storage Device)

Use this dialog box to establish the storage device related settings on the selected subclient.

The following tabs are displayed:

- (Data) Storage Policy
- Data Transfer Option
- Deduplication

### (DATA) STORAGE POLICY

Use this tab to select or view storage policy settings on the selected subclient.

#### Data Storage Policy

Displays the storage policy to which this subclient is currently associated. To associate a storage policy to a new subclient or to change the storage policy associated with an existing subclient, click one in the list.

#### Data Paths

Click to view or modify the data paths associated with the primary storage policy copy of the selected storage policy.

#### Number of Data Backup Streams

Displays the number of streams used for backup operations. To change the number of streams, click one in the list. For DB2 DPF, be sure to set the appropriate number of streams for each database partition by double-clicking the appropriate **Stream** space and typing the desired number.

### DATA TRANSFER OPTION

Use this tab to establish the options for data transfer.

#### Software Compression

Indicates whether software compression for the subclient or instance is enabled or disabled, and if enabled whether it is performed on the client or MediaAgent computer.

#### On Client

Click to enable software compression on the client computer.

#### On MediaAgent

Click to enable software compression on the MediaAgent computer.

#### Off

Click to disable software compression.

Note that hardware compression has priority over the software compression. Hardware compression is established in the Data Path Properties dialog box. The above software compression option will take effect when the data path is associated with a disk library, or when hardware compression is disabled in the data path associated with tape libraries.



If the subclient is associated with a storage policy copy that is deduplicated, then the compression settings on the storage policy copy takes precedence. See Copy Properties (Deduplication) - Advanced tab for compression settings on deduplicated storage policy copy.

#### Resource Tuning

Indicates the processes used by the client to transfer data based and whether bandwidth throttling is enabled or not.

#### Network Agents

Specifies the number of data pipes/processes that the client uses to transfer data over a network. Increasing this value may provide better throughput if the network and the network configuration in your environment can support it. On non-UNIX computers, the default value is 2 and a maximum of 4 can be established if necessary. On UNIX computers the default value is 1 and a maximum of 2 can be established if necessary.

**Throttle Network Bandwidth (MB/HR)**

Specifies whether the backup throughput is controlled or not. (By default this option is not selected and therefore the throughput is not controlled). When selected, use the space to specify a value for the throughput. By default, this is set to 500. The minimum value is 1 and there is no limit to the maximum value. (In this case the backup throughput will be restricted to the maximum bandwidth on the network.)

Use this option to set the backup throughput, based on the network bandwidth in your environment. Use this option to reduce the backup throughput, so that the entire network bandwidth is not consumed, especially in slow links. Increasing this value will end up consuming the bandwidth with the maximum throughput limited to the network bandwidth capability.

Note that throttling is done on a per Network Agent basis.

**DEDUPLICATION**

Use this tab to establish the options for deduplication on the subclient. It indicates whether deduplication for the subclient is enabled or disabled, and if enabled whether the signature generation (a component of deduplication) is performed on the client or MediaAgent computer.

Note that deduplication is supported on disk storage devices. So the deduplication options are applicable only if the subclient is associated with a Storage Policy containing disk storage.

**On Client**

Click to enable signature generation on the client computer.

**On MediaAgent**

Click to enable signature generation on the MediaAgent computer.

## SAP for Oracle Subclient Properties (Encryption)

Use this dialog box to select the data encryption options for the selected subclient content for operations run from the CommCell Console.

**None**

When selected, no encryption will take place during a data protection operations.

**Media Only (MediaAgent Side)**

When selected, for data protection operations, data is transmitted without encryption and then encrypted prior to storage. During data recovery operations, data is decrypted by the client.

**Network and Media (Agent Side)**

When selected, for data protection operations, data is encrypted before transmission and is stored encrypted on the media. During data recovery operations, data is decrypted by the client.

**Network Only (Agent Encrypts, MediaAgent Decrypts)**

When selected, for data protection operations, data is encrypted for transmission and then decrypted prior to storage on the media. During data recovery operations, data is encrypted by the MediaAgent and then decrypted in the client.

## Backup Options

Use this dialog box to schedule or immediately run a backup job.

**Select Backup Type****Full**

Specifies the job as a Full backup, which backs up all data for the selected subclient(s).

**Incremental**

Specifies the job as an Incremental backup, which backs up only that portion of the data that is new or has changed since the last backup.

- **Oracle Incremental Level**

Specify the level of incremental backup for Oracle backups. Valid values are from 1 to 4.

- **Cumulative**

Specifies a Cumulative Incremental backup at level 1 to 4 for Oracle backups. When cleared, the system performs a non-cumulative backup.

The Incremental backup and cumulative incremental backup with Oracle incremental level will be displayed only when you perform backup of RMAN Util.

### Status of SID

Displays the state of the Oracle database. (OPEN, MOUNTED, STARTED or SHUTDOWN)

### Refresh

Click to display the most current status of the database.

### Job Initiation

- **Run Immediately**

Specifies this job will run immediately.

- **Schedule**

Specifies this job will be scheduled. Click **Configure** to specify the schedule details.

### Configure Alert

- **Alert**

The currently configured Alert.

- **Add/Modify Alert**

When clicked, opens the Alert Wizard to configure alerts for this operation.

- **Delete Alert**

When clicked, deletes any existing alerts that are already configured.

### Advanced

Click to select advanced backup options, such as start priorities, Job retry, start new media, mark media as full, Vault Tracking etc.

### Save As Script

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using `qoperation execute` command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

Command Line XML Options

## Advanced Backup/Archive Options (Data)

You can select advanced backup/archive data options for the operation. Note that all the options described in this help may not be available and only the options displayed in the dialog box are applicable to the agent or enabler for which the information is being displayed.

### Create new index

Specifies the system will create a new index with a full or On Demand data protection operation, and for archive operations. Selecting this option will cause the following to occur for this job only:

- full backup transparent browse capability will be disabled, if it is supported by the agent.
- override the **Create new index on full backup** option on the **Agent Properties (Index)** tab
- for an On Demand Data Protection operation, override the **Set index cycle to every *nn* backup jobs** setting in the **Subclient Properties (General)** tab of the default subclient.
- for Archiver Agents, a new index will be automatically created during the first archiving job run after January 1st provided the associated subclient was created prior to July 1st of the preceding year. If a subclient is created between July 1st and December 31st, the new index will be automatically created during the first archiving job run after January 1st of the year after the next. For example, **Subclient A** was created on March 1st, 2009. When **Subclient A**'s first archiving job of 2010 was run on January 15th 2010, a new index was automatically created. **Subclient B**, however, was created on August 5th, 2009. Therefore, a new index for **Subclient B** will not be created until the first archiving job run in 2011.

Still, a new index can always be created on-demand for an individual job at any time. This is possible by selecting the Create New Index option in the Advanced Backup Options of a backup or schedule policy dialog box.

**Perform Consistency Check**

Select this option to perform a consistency check.

- **Throttle check for 1 second**

Enter the number of I/O operations to complete before a consistency check is performed.

**Create Backup Copy immediately**

Select to create an inline backup copy to start movement of snapshot to media, immediately after the completion of the SnapProtect backup job.

**Verify Synthetic Full**

Specifies to include never-changing files in the next backup when **Synthetic Full** is selected in the Backup Options dialog box. This is especially useful if you run a conventional full backup only once for a given subclient, and then run incremental (or differential) backups with periodic synthetic full backups after that for an extended period of time.

**Catalog**

Use this section to select index cache sharing and granular restartability options for the job. Note that these options are not applicable for the disaster recovery data protection.

- **Use shared profile if present with transaction logging**

Select this option if you wish to use the shared index cache profile of the MediaAgent (if configured) to save a copy of the job's index cache for index cache sharing *with* transaction logging feature for granular job restartability.

Shared profile with transaction logging provides job restartability in failover situations. This is a recommended configuration.

- **Use shared profile if present without transaction logging**

Select this option if you wish to use the shared index cache profile of the MediaAgent (if configured) to save a copy of the index cache for index cache sharing *without* transaction logging feature for granular job restartability. This is not a recommended configuration.

- **Use transaction logging**

Select this option to use transaction logging feature to provide granular job restartability (without using shared profile for index cache sharing).

- **None**

Select this option to use neither shared profile nor transaction logging.

## Advanced Backup Options (Startup)

You can specify advanced backup startup options for the operation. For more information, select one of the following:

**Set Priority**

- **Use Default Priority**

Select this option to use default priority for the job.

- **Change Priority**

Use this option to modify the priority of a job between 0 (highest priority) and 999 (lowest priority). The Job Manager will use the priority setting when allocating the required resources.

**Start job in suspended state**

Specifies that this job will start in the Job Controller in a suspended state and cannot run until the job is manually resumed using the **Resume** option.

**Description**

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

## Advanced Backup Options (Job Retry)

You can specify advanced backup startup options for attempting to restart a job. For more information, select one of the following:

**Enable Total Running Time**

The maximum elapsed time, in hours and minutes, from the time that the job is created. When the specified maximum elapsed time is reached, as long as the job is in the "Running" state, it will continue; if the job is not in the "Running" state when the specified time is reached, Job Manager will kill the job.

**Enable Number of Retries**

The number of times that Job Manager will attempt to restart the job. Once the maximum number of retry attempts has been reached, if the job has still not restarted successfully, Job Manager will kill the job. Note that this job-based setting will not be valid if restartability has been turned off in the Job Management Control Panel.

#### **Kill Running Jobs When Total Running Time Expires**

Option to kill the job when the specified Total Running Time has elapsed, even if its state is "Running". This option is available only if you have specified a Total Running Time.

## **Advanced Backup Options (Data Path)**

Select the data path to be used for the backup/archive operation.

Ensure that the Library, MediaAgent, Drive Pool, and Drive selected for this operation is available online and is a part of the associated Storage Policy.

#### **Use MediaAgent**

Specifies the name of the MediaAgent that will be used to perform the backup operation. If necessary, you can change the name of the MediaAgent.

For example, if the library is shared and you wish to use a specific MediaAgent (instead of the system selected MediaAgent, or a MediaAgent which may be idle, or less critical) or if you know that the library attached to the specified MediaAgent.

#### **Use Library**

Specifies the name of the library that will be used to perform the backup operation. Use this option when you wish to backup to a specific library.

#### **Use Drive Pool**

Specifies the name of the Drive Pool that will be used to perform the backup operation. Use this option when you wish to backup using a specific Drive Pool.

#### **Use Drive**

Specifies the name of the Drive that will be used to perform the backup operation. Use this option when you wish to backup using a specific Drive from the selected Drive Pool.

## **Vault Tracking**

Select options to export and track media, using Vault Tracker.



Vault Tracking Options will be displayed only when a Vault Tracker license is available in the CommServe.

Vault Tracking options are only applicable for data protection operations using a storage policy associated with a library containing removable media (e.g., tape, optical or stand-alone.)

#### **Export media after the job finishes**

Specifies the media used by the data protection operation and media with the specific Media Status (if specified) will be exported and tracked by Vault Tracker.

#### **Exclude Media Not Copied**

When selected, allows you to exclude media with jobs that have to be copied.

#### **Media Status**

- **All**  
Click to select all media. Clear this option to select media with a specific status.
- **Active**  
Click to select media with its status marked as active.
- **Full**  
Click to select media with its status marked as full.
- **Overwrite Protected**  
Click to select media with its status marked as read-only .
- **Bad**  
Click to select media with its status marked as bad.

#### **Export Location**

Specifies the destination location and lists the stationary locations entered using the **Export Location Details** dialog box.

#### **Track Transit**

Specifies that transit information must be tracked, and lists the transit locations entered using the **Export Location Details** dialog box.

#### **Use Virtual Mail Slots**

Specifies the exported media is stored within the library in the virtual mail slots defined in the **Library Properties (Media)** dialog box.

#### **Filter Media By Retention**

Specifies that the system must automatically filter media based on whether the media has extended retention jobs or not.

- **Media with extended retention job(s)**

Specifies that media with at least one extended retention job will be exported.

- **Media with no extended retention job(s)**

Specifies that media with no extended retention jobs will be exported.

## Alert

Use this tab to configure an alert for a schedule policy.

#### **Configure Alert**

- **Alert**

The currently configured Alert.

- **Add/Modify Alert**

When clicked, opens the Alert Wizard to configure alerts for this operation.

- **Delete Alert**

When clicked, deletes any existing alerts that are already configured.

## Browse Options

Use this dialog box to select the basic options under which you want to browse the data secured by a data protection operation in the selected client, agent, instance/partition, or backup set level depending on the functionality of a given agent. The system provides several browse options. These options influence the behavior of the browse operation in the subsequent Browse window.

#### **Browse the Latest Data**

Specifies whether the browse operation must display data from the most recent data protection operation (from now back to the last full backup) in the Browse window. (This option is selected by default.)

#### **Specify Browse Time**

Specifies whether the browse operation must display data, up to the specified date and time in the Browse window. Data secured after the specified date and time will be omitted in this window.

- **Browse Data Before/Browse to Point-In-Time**

Specifies the date and time that must be used to display the data in the Browse window.

- **Time Zone**

Lists the time zones. To change the time zone, click one in the list.

#### **Client Computer**

Lists the client computers available for the browse operation. This option is available only when the browse operation is performed either from the client node in the CommCell Browser, **Browse & Recover** option from the **Tools** menu in the CommCell Console or when the **New Browse** button is clicked in the Browse window.

#### **Use MediaAgent**

Specifies the name of MediaAgent that will be used to perform the browse (and restore) operation. If necessary, you can change the name of the MediaAgent. For example, if the library is shared and you wish to use a specific MediaAgent (instead of the system selected MediaAgent, or a MediaAgent which may be idle, or less critical) or if you know that the media containing the data you wish to restore is available in the library attached to the specified MediaAgent.

If the media containing the data is not available in the tape/optical library attached to the MediaAgent, the system will automatically prompt you to insert the



appropriate media. In the case of a disk library, the operation will fail if the requested data is not available in the disk library attached to the specified MediaAgent.

#### Show Deleted Items

Specifies whether the operation will browse all the data (including deleted items) secured by all data protection operations for the selected backup set as of the specified browse items.

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## Advanced Browse Options

Use this dialog to access additional browse capabilities for the browse window.

#### Exclude Data Before

Specifies that the browse operation must return data that has been backed up after the specified date. Select the date and time from the list.

- **Time Zone**

Lists the time zones. To change the time zone, click one in the list.

#### Browse from copy precedence

When selected, the system retrieves the data from the storage policy copy with the specified copy precedence number. If data does not exist in the specified copy, the operation fails even if the data exists in another copy of the same storage policy.

When cleared, (or by default) the system retrieves data from the storage policy copy with the lowest copy precedence. If the data was pruned from the primary copy, the system automatically retrieves the data from the other copies of the storage policy starting with the copy with the lowest copy precedence and proceeding through the copies with higher copy precedence. Once the data is found, it is retrieved, and no further copies are checked.

## SAP for Oracle Restore Options (General)

Use this dialog box to select restore options.

#### Destination Client/Computer/Server

Displays the name of the client computer to which the selected data will be restored. To change the destination computer, select one from the list. The list includes clients:

- Which are established as clients within the CommCell.
- Clients with Operating Systems that support the cross-platform restore operation from this client. (Refer to the topic titled **Cross Platform Restore Operations** in Books Online for additional information.)

By default, data is restored to the same computer from which it was backed up.

#### Number of streams to use for restore

Use this space to set the number of data channels through which data is restored.

#### Restore Control File

Specifies whether to restore the control file from the latest control file backup to its original location.

#### Restore Archive Log

Specifies whether to restore the archived redo log files based on the following:

- If the archived redo log files exist in the LOG\_ARCHIVE\_DEST location and are not corrupted, the backed up archived redo log files are not restored.
- If the archived redo log files do not exist or are unusable, the backed up archived redo log files are restored to the directory specified in LOG\_ARCHIVE\_DEST.

This field and **Restore Data** are selected by default. You must select this field and/or **Restore Data** before you run the restore.

#### Restore Data

Specifies whether to restore the database based on the selected options.

This field and **Restore Archive Log** are selected by default. You must select this field and/or **Restore Archive Log** before you run the restore.

#### Recover

Specifies whether to recover the database by applying any incremental backups and archive redo logs that are needed to bring the database back to the current time.

Before using the **Recover** option in combination with the **Point-In-Time** option to recover the Oracle database to a point-in-time, read **Caution on the Use of RESETLOGS**.

To use this option for SAP for Oracle, you must also select **Restore Archive Log**; otherwise, you can only manually recover the database.

#### **Refresh**

Click to refresh the screen with the current status of the database

#### **Advanced**

Click to select additional restore options.

#### **Save As Script**

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using `qoperation execute` command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

Command Line XML Options

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## **Job Initiation**

Select from the following options.

#### **Immediate**

##### **Run This Job Now**

Specifies this job will run immediately.

#### **Schedule**

Specifies this job will be scheduled. When you click **Configure**, the Schedule Details dialog box will open and allow you to configure the schedule pattern.

#### **Advanced**

Click to select additional options.

#### **Save As Script**

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using `qoperation execute` command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

Command Line XML Options

## **Advanced Restore/Recover/Retrieve Options (General)**

Use this dialog box to access additional restore/recover/retrieve options. Note that all the options described in this help may not be available and only the options displayed in the dialog box are applicable to the component installed on the client.

#### **Use hardware revert capability if available**

Specifies whether to revert the data to the time when the snapshot was created. Selecting this option brings back the entire LUN to the point when the snapshot was created, overwriting all the modifications to data since the snapshot creation. This option is only available if the snapshot engine used for SnapProtect backup supports the revert operation.

#### **Use RMAN Restore**

Specifies whether to use RMAN for the restore operations.

#### **Use FileSystem Restore**

Specifies whether to use file system for the restore operations.

---

## Advanced Restore Options (Copy Precedence)

Choose the copy from which you wish to recover or retrieve. Select from the following options:

### Restore/recover from copy precedence

When selected, the system recovers or retrieves data from the selected storage policy copy (**Synchronous Copy** or **Selective Copy**). If data does not exist in the specified copy, the data recovery or retrieve operation fails even if the data exists in another copy of the same storage policy.

When cleared, (or by default) the system recovers or retrieves data from the storage policy copy with the lowest copy precedence. If the data was pruned from the primary copy, the system automatically recovers or retrieves from the other copies of the storage policy in the following order:

1. Lowest copy precedence to highest copy precedence among all synchronous copies.
2. Lowest copy precedence to highest copy precedence among all selective copies (if your agent supports selective copies).

Once the data is found, it is recovered or retrieved, and no further copies are checked.

- **Synchronous Copy Precedence**

When selected, the system recovers or retrieves data from the synchronous copy with the specified precedence number.

- **Selective Copy Precedence**

When selected, the system recovers or retrieves data from the selective copy with the specified precedence number.

---

## Advanced Restore Options (Data Path)

Select the data path for the restore/recovery operation. You can specify the MediaAgent, Library, Drive Pool, and Drive from which the restore operation must be performed.

### Use MediaAgent

Specifies the name of the MediaAgent that will be used to perform the restore operation. If necessary, you can change the name of the MediaAgent.

For example, if the library is shared and you wish to use a specific MediaAgent (instead of the system selected MediaAgent, or a MediaAgent which may be idle, or less critical) or if you know that the media containing the data you wish to restore is available in the library attached to the specified MediaAgent.

If the media containing the data is not available in the tape/optical library attached to the MediaAgent, the system will automatically prompt you to insert the appropriate media. In the case of a disk library, the operation will fail if the requested data is not available in the disk library attached to the specified MediaAgent.

### Use Library

Specifies the name of the library that will be used to perform the restore operation. Use this option when you wish to restore using a specific library.

For example, if you know that the media containing the data you wish to restore is available in a specific library.

### Use Drive Pool

Specifies the name of the Drive Pool that will be used to perform the restore operation. Use this option when you wish to restore using a specific Drive Pool.

To restore NAS data, select the drive pool type that was used to perform the backup, *i.e.*, if a drive pool associated with an NDMP Remote Server was used to perform the backup, select a drive pool associated with an NDMP Remote Server. Similarly, if an NDMP drive pool was used, specify an NDMP drive pool.

### Use Drive

Specifies the name of the drive in the drive pool that will be used to perform the restore operation. Use this option when you wish to restore using a specific Drive in the Drive Pool.

### Use Proxy

Specifies the name of the proxy server that will be used to perform the restore operation. Use this option when you wish to restore using a proxy server.

---

## Advanced Restore Options (Encryption)

### Pass-Phrase

Enter the pass-phrase that is currently assigned to the client, whose data you are restoring. Note that if you have changed the pass-phrase since you secured the client data, you need to provide the new pass-phrase here, not the old one.

**Re-enter Pass-Phrase**

Re-enter the pass-phrase for confirmation.

If you attempt an immediate restore of encrypted data that was pass-phrase protected without entering the pass-phrase here, the restore operation will fail.

If you have an exported pass-phrase set up, and you enter the pass-phrase under **Decryption**, you over-ride (not overwrite) the client properties pass-phrase. Thus, if you enter the pass-phrase incorrectly, the restore does not complete successfully.

## Startup

Select from the following options. Note that all the options described in this help may not be available and only the options displayed in the dialog box are applicable to the operation for which the information is being displayed.

**Priority**

- **Use Default Priority**

If selected, the default priority for this type of job will be used in determining how the Job Manager will allocate resources for this job.

- **Change Priority**

Use this option to manually specify the priority for the job, between 0 (highest priority) and 999 (lowest priority). The Job Manager will use the priority setting when allocating the required resources. This is useful if you have jobs that are very important and must complete, or jobs that can be moved to a lower priority.

**Start up in suspended state**

Specifies that this job will start in the Job Controller in a suspended state and cannot run until the job is manually resumed using the **Resume** option. This option can be used to add a level of manual control when a job is started. For example, you could schedule jobs to start in the suspended state and then choose which scheduled jobs complete by resuming the operation started in the suspended state.

**Description**

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

## Advanced Restore Options (Options)

Use this dialog box to choose additional restore options. Note that all the options described in this help may not be available and only the options displayed in the dialog box are applicable to the agent or feature for which the information is being displayed.

**Time Zone**

To view the information in the time zone that you require, click a time zone in the list.

**Reset Database**

Specifies whether the **reset database** command will direct RMAN to create a new database incarnation record in the Recovery Catalog. Selecting this option will reset the target database, and is to be used only when you open the database with the RESETLOGS option. Read *Caution on the Use of RESETLOGS* in Books Online before selecting this option.

**Open DB**

Specifies whether to open the database after the restore/recovery operation has completed. Selecting this option will open the database, and enable the **Reset Logs** option.

**Reset Logs**

Lists the following choices for resetting the logs when the database is opened:

- None - Open the database without any RESETLOGS option.
- Yes - Open the database with RESETLOGS option.
- No - Open the database with NORESETLOGS option.

To change the setting, select one from the list. This option is only enabled when the **Open DB** checkbox is selected.

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# Advanced Restore Options (Restore)

Use this dialog box to restore data and archive logs.

## Restore Data

Specifies whether to restore datafiles from the specified full backup. When cleared, the system does not restore datafiles.

Data is restored from the latest full backup only. If you have performed incremental backups and need to apply this data to the full backup, see the description of the **Recover** option below.

- **To Point In Time**

Specifies that the system will restore data files from the full backup created at or before the point-in-time based on the date and time that you specify. For a Point-In-Time recovery, you should have all log files available up to that time.

To change the date, click one in the list. Also, use the space to set the appropriate time. Ensure that the date/time that you enter is equal to or later than the date and time that the backup completed. Also, ensure that the date/time to which the datafiles are restored is earlier than or equal to the date and time of the control files restore.

## Restore Archive Log

Specifies whether to restore the archive log files.

- If the archived log files exist in the LOG\_ARCHIVE\_DEST location and are not corrupted, the backed up archive log files are not restored.
- If the archive log files do not exist or are unusable, the backed up archive log files are restored to the directory specified in LOG\_ARCHIVE\_DEST.

When cleared, the system does not restore the archive log files.

- **By Log Time**

Specifies that the archive log files will be restored based on the specified dates and times that you specify.

- **Start**

When selected and used without the End Log Time option, specifies that the system will restore all archive log files starting from the date and time that you specify and up to the current date. When selected and used with the End Log Time option, specifies that the system will restore all archive log files starting from the date and time that you specify and up to the date specified by End Log Time.

To change the start date, click one in the list. Also, use the space provided to enter a new start time.

- **End**

When selected and used with the Start Log Time option, specifies that the system will restore archive log files starting from the date and time specified by Start Log Time up to the date and time specified by End Log Time. When selected and used without the Start Log Time option, specifies that the system will restore archive log files from the oldest active backed up archive log file up to the date and time specified by End Log Time.

To change the end date, click one in the list. Also, use the space provided to enter a new end time.

- **By LSN**

Specifies that the system will restore the archive log files based on the specified Log Sequence Numbers (LSNs) that you specify.

- **Start**

When selected and used without the END LSN option, specifies that the system will restore archive log files starting from the log file with the sequence number that you specify in START LSN and ending with the current log file.

When selected and used with the END LSN option, specifies that the system will restore archive log files starting from the log file with the sequence number that you specify in START LSN and ending with the log file sequence number that you specify in END LSN. Use the space to enter the start LSN.

- **End**

When selected and used without the START LSN option, specifies that the system will restore archive log files from the oldest available archive log file and ending with the sequence number that you specify in END LSN. All the Log Sequence Numbers from log #1 must be backed up to tape. Use the space to enter the end LSN.

- **Auto Detect Device**

For SAP for Oracle, specifies whether the system should automatically detect the device that was used for the backup. This field is selected by default. If you have old data, you may need to use the **SAP Device Type** field below as an alternative.

- **SAP Device Type**

For SAP for Oracle, click to manually select the device that was used for backup. If you have old data, you may need to use this field as an alternative to the **Auto Detect Device** field above.

- **Target Directory**

Use this space to type the specified destination directory to which the archive log files will be restored. Alternatively, click **Browse** for this purpose.

If you leave this field blank, the archive log files are restored to the LOG\_ARCHIVE\_DEST location.

- **Browse**

Click to establish the directory for restoring the archived log files.

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## Advanced Restore Options (Control Files)

Use this dialog box to restore the control file and the server parameter file.

### Restore Control File

Specifies whether the system will restore the control file of the target database. If the **To Point in Time** and the **Restore Control File As** options are not selected, the control files is restored from the latest control file backup to its original location. When cleared, the system will not restore the control file of the target database.

### Restore Control File As

Specifies whether the system will restore the control file to the name and location that you specify. If you select this option, either use the space to type the desired location or click **Browse** to find this location. The restored control file will not be automatically replicated to the control files of the database, but this can be done manually. Restoring a control file to a new location can be performed even without a recovery catalog. The database should be mounted for this type of restore.

### Browse

Click to restore to the specified destination directory and enter a name for the control file.

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## Advanced Restore Options (Recover)

Use this dialog box to recover the database.

### Recover

Specifies whether the system will recover the database. Recover applies and restores any incremental backups and archived redo log files that are needed to bring the database back to the specified time.

### Current Time

Specifies that the database will be recovered to the current time.

### Point In Time

Specifies whether the system will recover the database to a specific point in time that you specify. To change the date, select the appropriate date in the list. Also, use the space to enter the appropriate time. The date and time to which the database is recovered must be later than or equal to the date and time of the control files restore.

## Command Line XML Backup Options - SAP for Oracle iDataAgent

Options

Task Request Information			
Description	Field Name	Data Type	Commandline Parameter
<b>Task</b>			task
Policy Type	<a href="#">policyType</a>	enum	policyType
Type	<a href="#">taskType</a>	enum	taskType
Initiated From	<a href="#">initiatedFrom</a>	enum	initiatedFrom
<b>Task Flags</b>			taskFlags
Disabled	<a href="#">disabled</a>	boolean	disabled

Common Job Options			
Description	Field Name	Data Type	Commandline Parameter
<b>StartUp Options</b>			startUpOpts
Startup in suspended state	<a href="#">startInSuspendedState</a>	boolean	startInSuspendedState
Priority	<a href="#">priority</a>	integer	priority
Use Default Priority	<a href="#">useDefaultPriority</a>	boolean	useDefaultPriority
<b>Job Retry Options</b>			jobRetryOpts
Kill Running Job When Total Running Time Expires	<a href="#">killRunningJobWhenTotalRunningTimeExpires</a>	boolean	killRunningJobWhenTotalRunningTimeExpires
Enable Number Of Retries	<a href="#">enableNumberOfRetries</a>	boolean	enableNumberOfRetries
Number Of Retries	<a href="#">numberOfRetries</a>	integer	numberOfRetries
<b>Running Time</b>			runningTime
Enable Total Running Time	<a href="#">enableTotalRunningTime</a>	boolean	enableTotalRunningTime
Total Running Time	<a href="#">totalRunningTime</a>	integer	totalRunningTime
Backup Job Options			
Description	Field Name	Data Type	Commandline Parameter
Backup Type	<a href="#">backupLevel</a>	enum	backupLevel (t)
Run Incremental Backup	<a href="#">runIncrementalBackup</a>	boolean	runIncrementalBackup
Inc Level	<a href="#">incLevel</a>	enum	incLevel
Do Not Truncate Log	<a href="#">doNotTruncateLog</a>	boolean	doNotTruncateLog
Sybase Skip Full after Log Backup	<a href="#">sybaseSkipFullafterLogBkp</a>	boolean	sybaseSkipFullafterLogBkp
Enable Granular Recovery	<a href="#">collectMetaInfo</a>	boolean	collectMetaInfo
<b>Media Backup Option</b>			mediaOpt
Allow Other Schedules To Use Media Set	<a href="#">allowOtherSchedulesToUseMediaSet</a>	boolean	allowOtherSchedulesToUseMediaSet
Mark Media Full On Success	<a href="#">markMediaFullOnSuccess</a>	boolean	markMediaFullOnSuccess
Start New Media	<a href="#">startNewMedia</a>	boolean	startNewMedia
Days	<a href="#">numberOfDays</a>	integer	numberOfDays
Extend Job Retention	<a href="#">retentionJobType</a>	enum	retentionJobType
<b>Data Backup Option</b>			dataOpt
Create new index	<a href="#">createNewIndex</a>	boolean	createNewIndex
Follow mount points	<a href="#">followMountPoints</a>	boolean	followMountPoints
Perform Consistency Check	<a href="#">skipConsistencyCheck</a>	boolean	skipConsistencyCheck
<b>Vault Tracker Backup Option</b>			vaultTrackerOpt
Exclude Media Not Copied	<a href="#">excludeMediaNotCopied</a>	boolean	excludeMediaNotCopied
Export Media After Job Finishes	<a href="#">exportMediaAfterJobFinishes</a>	boolean	exportMediaAfterJobFinishes
Track Transit	<a href="#">trackTransit</a>	boolean	trackTransit
Use Virtual Mail Slots	<a href="#">useVirtualMailSlots</a>	boolean	useVirtualMailSlots
Filter Media By Retention	<a href="#">filterMediaByRetention</a>	boolean	filterMediaByRetention
Media with extended retention job (s)	<a href="#">mediaWithExtendedRetentionJobs</a>	boolean	mediaWithExtendedRetentionJobs
<b>Media Status</b>			mediaStatus
All	<a href="#">all</a>	boolean	all
Active	<a href="#">active</a>	boolean	active
Full	<a href="#">full</a>	boolean	full
Overwrite Protected	<a href="#">overwriteProtected</a>	boolean	overwriteProtected
Bad	<a href="#">bad</a>	boolean	bad
<b>Export Location:</b>			exportLocation
Location Name	<a href="#">locationName</a>	string	exportLocation/locationName (loc)
<b>In Transit Location</b>			inTransitLocation
Location Name	<a href="#">locationName</a>	string	inTransitLocation/locationName (loc)
<b>Oracle Backup Option</b>			oracleOptions
Level	<a href="#">level</a>	integer	level

Cumulative	<a href="#">cumulative</a>	boolean	cumulative
SubTask Options			
Description	Field Name	Data Type	Commandline Parameter
Sub Task Type	<a href="#">subTaskType</a>	enum	subTaskType (st)
Operation Type	<a href="#">operationType</a>	enum	operationType (op)
Associations			
Description	Field Name	Data Type	Commandline Parameter
Backupset Name	<a href="#">backupsetName</a>	string	backupsetName (b)
Subclient Name	<a href="#">subclientName</a>	string	subclientName (s)
Client Name	<a href="#">clientName</a>	string	clientName (c)
App Name	<a href="#">appName</a>	string	appName (a)
Instance Name	<a href="#">instanceName</a>	string	instanceName (i)

## Usage

Task Request Information	
<b>Task</b>	
policyType	Home
Type: enum Default Value: DATA_PROTECTION Possible Values: DATA_PROTECTION , AUX_COPY , SRM_REPORT , SINGLE_INSTANCING , SRM_JOBS , SUBCLIENT_FILTER , CONTENT_INDEX , CONTENT_INDEX Command Line Paramter: policyType Location: taskInfo/task/policyType	
Policy Type	
taskType	Home
Type: enum Default Value: IMMEDIATE Possible Values: NONE , IMMEDIATE , SCHEDULE , SAVED_REPORT , SCHEDULE_POLICY , WORKFLOW , PREVIEW , AUTOMATIC_COPY , AGENTLESS_SRM , AGENTLESS_SRM Command Line Paramter: taskType Location: taskInfo/task/taskType	
Type	
initiatedFrom	Home
Type: enum Default Value: GUI Possible Values: NONE , GUI , COMMANDLINE , SYSTEM , SCRIPT , SCHEDULE , SCHEDULE Command Line Paramter: initiatedFrom Location: taskInfo/task/initiatedFrom	
Initiated From	
<b>Task Flags</b>	
disabled	Home
Type: boolean Possible Values: true/false Command Line Paramter: disabled Location: taskInfo/task/taskFlags/disabled	
Disabled	
Common Job Options	
<b>StartUp Options</b>	
startInSuspendedState	Home
Type: boolean Possible Values: true/false Command Line Paramter: startInSuspendedState Location: taskInfo/subTasks/options/commonOpts/startUpOpts/startInSuspendedState	
Startup in suspended state	
priority	Home
Type: integer Command Line Paramter: priority	



Location: taskInfo/subTasks/options/commonOpts/startUpOpts/priority	
Priority	
useDefaultPriority	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: useDefaultPriority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/useDefaultPriority	
Use Default Priority	
<b>Job Retry Options</b>	
killRunningJobWhenTotalRunningTimeExpires	Home
Type: boolean Possible Values: true/false Command Line Paramter: killRunningJobWhenTotalRunningTimeExpires Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/killRunningJobWhenTotalRunningTimeExpires	
Kill Running Job When Total Running Time Expires	
enableNumberOfRetries	Home
Type: boolean Possible Values: true/false Command Line Paramter: enableNumberOfRetries Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/enableNumberOfRetries	
Enable Number Of Retries	
numberOfRetries	Home
Type: integer Default Value: 0 Command Line Paramter: numberOfRetries Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/numberOfRetries	
Number Of Retries	
<b>Running Time</b>	
enableTotalRunningTime	Home
Type: boolean Possible Values: true/false Command Line Paramter: enableTotalRunningTime Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/runningTime/enableTotalRunningTime	
Enable Total Running Time	
totalRunningTime	Home
Type: integer Default Value: 3600 Command Line Paramter: totalRunningTime Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/runningTime/totalRunningTime	
Total Running Time	
<b>Backup Job Options</b>	
backupLevel	Home
Type: enum Default Value: INCREMENTAL Possible Values: NONE , FULL , INCREMENTAL , DIFFERENTIAL , SYNTHETIC_FULL , ASR , TRANSACTION_LOG , PRE_SELECT , QR_SNAPSHOT , QR_CREATE_QR_VOLUME , QR_INCREMENTALLY_UPDATE_QR_VOLUME , SRM_ANALYSIS , SRM_DISCOVERY , MINING , DATA_VERIFICATION , DATA_VERIFICATION Command Line Paramter: backupLevel Location: taskInfo/subTasks/options/backupOpts/backupLevel	
Backup Type	
runIncrementalBackup	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: runIncrementalBackup Location: taskInfo/subTasks/options/backupOpts/runIncrementalBackup	
Run Incremental Backup	
incLevel	Home
Type: enum Default Value: BEFORE_SYNT Possible Values: NONE , BEFORE_SYNT , AFTER_SYNT , AFTER_SYNT Command Line Paramter: incLevel Location: taskInfo/subTasks/options/backupOpts/incLevel	
Inc Level	

doNotTruncateLog	Home
Type: boolean Default Value: false Possible Values: true/false Command Line Paramter: doNotTruncateLog Location: taskInfo/subTasks/options/backupOpts/doNotTruncateLog	
Do Not Truncate Log	
sybaseSkipFullafterLogBkp	Home
Type: boolean Possible Values: true/false Command Line Paramter: sybaseSkipFullafterLogBkp Location: taskInfo/subTasks/options/backupOpts/sybaseSkipFullafterLogBkp	
Sybase Skip Full after Log Backup	
collectMetaInfo	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: collectMetaInfo Location: taskInfo/subTasks/options/backupOpts/collectMetaInfo	
Enable Granular Recovery	
<b>Media Backup Option</b>	
allowOtherSchedulesToUseMediaSet	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: allowOtherSchedulesToUseMediaSet Location: taskInfo/subTasks/options/backupOpts/mediaOpt/allowOtherSchedulesToUseMediaSet	
Allow Other Schedules To Use Media Set	
markMediaFullOnSuccess	Home
Type: boolean Possible Values: true/false Command Line Paramter: markMediaFullOnSuccess Location: taskInfo/subTasks/options/backupOpts/mediaOpt/markMediaFullOnSuccess	
Mark Media Full On Success	
startNewMedia	Home
Type: boolean Possible Values: true/false Command Line Paramter: startNewMedia Location: taskInfo/subTasks/options/backupOpts/mediaOpt/startNewMedia	
Start New Media	
numberOfDays	Home
Type: integer Command Line Paramter: numberOfDays Location: taskInfo/subTasks/options/backupOpts/mediaOpt/numberOfDays	
Days	
retentionJobType	Home
Type: enum Default Value: STORAGE_POLICY_DEFAULT Possible Values: INFINITE , NO_OF_DAYS , STORAGE_POLICY_DEFAULT , STORAGE_POLICY_DEFAULT Command Line Paramter: retentionJobType Location: taskInfo/subTasks/options/backupOpts/mediaOpt/retentionJobType	
Extend Job Retention	
<b>Data Backup Option</b>	
createNewIndex	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: createNewIndex Location: taskInfo/subTasks/options/backupOpts/dataOpt/createNewIndex	
Create new index	
followMountPoints	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: followMountPoints Location: taskInfo/subTasks/options/backupOpts/dataOpt/followMountPoints	
Follow mount points	

skipConsistencyCheck	Home
Type: boolean Default Value: false Possible Values: true/false Command Line Paramter: skipConsistencyCheck Location: taskInfo/subTasks/options/backupOpts/dataOpt/skipConsistencyCheck	
Perform Consistency Check	
<b>Vault Tracker Backup Option</b>	
excludeMediaNotCopied	Home
Type: boolean Possible Values: true/false Command Line Paramter: excludeMediaNotCopied Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/excludeMediaNotCopied	
Exclude Media Not Copied	
exportMediaAfterJobFinishes	Home
Type: boolean Possible Values: true/false Command Line Paramter: exportMediaAfterJobFinishes Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/exportMediaAfterJobFinishes	
Export Media After Job Finishes	
trackTransit	Home
Type: boolean Possible Values: true/false Command Line Paramter: trackTransit Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/trackTransit	
Track Transit	
useVirtualMailSlots	Home
Type: boolean Possible Values: true/false Command Line Paramter: useVirtualMailSlots Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/useVirtualMailSlots	
Use Virtual Mail Slots	
filterMediaByRetention	Home
Type: boolean Possible Values: true/false Command Line Paramter: filterMediaByRetention Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/filterMediaByRetention	
Filter Media By Retention	
mediaWithExtendedRetentionJobs	Home
Type: boolean Possible Values: true/false Command Line Paramter: mediaWithExtendedRetentionJobs Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaWithExtendedRetentionJobs	
Media with extended retention job(s)	
<b>Media Status</b>	
all	Home
Type: boolean Possible Values: true/false Command Line Paramter: all Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/all	
All	
active	Home
Type: boolean Possible Values: true/false Command Line Paramter: active Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/active	
Active	
full	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: full Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/full	
Full	
overwriteProtected	Home

Default Value: true Possible Values: true/false Command Line Paramter: overwriteProtected Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/overwriteProtected	
Overwrite Protected	
bad	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: bad Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/bad	
Bad	
<b>Export Location:</b>	
locationName	Home
Type: string Command Line Paramter: exportLocation/locationName Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/exportLocation/locationName	
Location Name	
<b>In Transit Location</b>	
locationName	Home
Type: string Command Line Paramter: inTransitLocation/locationName Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/inTransitLocation/locationName	
Location Name	
<b>Oracle Backup Option</b>	
level	Home
Type: integer Default Value: 1 Command Line Paramter: level Location: taskInfo/subTasks/options/backupOpts/oracleOptions/level	
Level	
cumulative	Home
Type: boolean Possible Values: true/false Command Line Paramter: cumulative Location: taskInfo/subTasks/options/backupOpts/oracleOptions/cumulative	
Cumulative	
<b>SubTask Options</b>	
subTaskType	Home
Type: enum Possible Values: NONE , ADMIN , BACKUP , RESTORE , WORKFLOW , COMPLIANCE_POLICY , COMPLIANCE_POLICY Command Line Paramter: subTaskType Location: taskInfo/subTasks/subTask/subTaskType	
Sub Task Type	
operationType	Home
Type: enum Default Value: NONE Possible Values: NONE , ALL_BACKUP_JOBS , BACKUP , RECOVERY_POINT_CREATION , CONSISTENCY_POINT_CREATION , SRM , ARCHIVE , CONTENT_INDEXING , ALL_RESTORE_JOBS , RESTORE , POWER_RESTORE , BROWSE , RESTORE_BY_JOB , ONETOUCH_RECOVERY , ADMIN , WORK_FLOW , COMPLIANCE , SEARCH , SAVE , EMAIL , TAGGING , LEGAL_HOLDS , COMP_RESTORE , MOSS , PRUNE , DRBACKUP , AUX_COPY , REPORT , MEDIA_INVENTORY , SCHED_EXPORT , ARCHIVE_CHECK , MEDIA_PREDICTION , TAPE_ERASE , VT , SELECTIVE_DELETE , DRIVE_VALIDATION , DRIVE_CLEANING , STAMP_MEDIA , BROWSE_DELETE , CATALOGUE_MEDIA , DATA_AGING , DOWNLOAD_UPDATES , INSTALL_UPDATES , SRM_REPORT , OFFLINE_CONTENT_INDEX , MAGLIBMAINTENANCE , SHELF_MANAGEMENT , INFOMGMT , INSTALL_CLIENT , UNINSTALL_CLIENT , SNAP_TO_TAPE , CCM_CAPTURE , CCM_MERGE , EXTERNAL_DATA_PROCESSOR , MEDIA_REFRESHING , PREPARATION , FDC , MAGLIBVOLRECON , DEDUPDBSYNC , TAPEIMPORT , WORKFLOW , QR , FS_BACKUP , IMAGE_BACKUP , SERVERLESS_BACKUP , MOUNT_SNAPSHOT , UNMOUNT_SNAPSHOT , DELETE_SNAPSHOT , MINING_BACKUP , SRM_AGENTLESS , SRM_AGENTLESS Command Line Paramter: operationType Location: taskInfo/subTasks/subTask/operationType	
Operation Type	
<b>Associations</b>	
backupsetName	Home
Type: string Command Line Paramter: backupsetName	

Location: taskInfo/associations/backupsetName		
Backupset Name		
subclientName		Home
Type: string Command Line Paramter: subclientName Location: taskInfo/associations/subclientName		
Subclient Name		
clientName		Home
Type: string Command Line Paramter: clientName Location: taskInfo/associations/clientName		
Client Name		
appName		Home
Type: string Command Line Paramter: appName Location: taskInfo/associations/appName		
App Name		
instanceName		Home
Type: string Command Line Paramter: instanceName Location: taskInfo/associations/instanceName		
Instance Name		

## Command Line XML Restore Options - SAP for Oracle iDataAgent

### Options

Task Request Information			
Description	Field Name	Data Type	Commandline Parameter
<b>Task</b>			task
Type	<a href="#">taskType</a>	enum	taskType
Initiated From	<a href="#">initiatedFrom</a>	enum	initiatedFrom
<b>Task Flags</b>			taskFlags
Disabled	<a href="#">disabled</a>	boolean	disabled
Common Job Options			
Description	Field Name	Data Type	Commandline Parameter
<b>StartUp Options</b>			startUpOpts
Startup in suspended state	<a href="#">startInSuspendedState</a>	boolean	startInSuspendedState
Priority	<a href="#">priority</a>	integer	priority
Use Default Priority	<a href="#">useDefaultPriority</a>	boolean	useDefaultPriority
Restore Job Options			
Description	Field Name	Data Type	Commandline Parameter
<b>Browse Option</b>			browseOption
Comm Cell Id	<a href="#">commCellId</a>	integer	commCellId
List Media	<a href="#">listMedia</a>	boolean	listMedia
<b>Backupset</b>			backupset
Client Name	<a href="#">clientName</a>	string	backupset/clientName (c)
<b>Media Option</b>			mediaOption
<b>Use Library</b>			library
Library Name	<a href="#">libraryName</a>	string	libraryName (l)
<b>Use MediaAgent</b>			mediaAgent
Media Agent Name	<a href="#">mediaAgentName</a>	string	mediaAgentName (m)
<b>Copy Precedence</b>			mediaOption/copyPrecedence

Restore from copy precedence	<a href="#">copyPrecedenceApplicable</a>	boolean	copyPrecedenceApplicable
Copy Precedence Type	<a href="#">copyPrecedenceType</a>	enum	copyPrecedenceType
Synchronous Copy Precedence	<a href="#">synchronousCopyPrecedence</a>	integer	synchronousCopyPrecedence
Copy Precedence	<a href="#">copyPrecedence</a>	integer	copyPrecedence/copyPrecedence
<b>Restore Destination</b>			destination
<b>Destination client</b>			destClient
Client Name	<a href="#">clientName</a>	string	destClient/clientName (c)
<b>Oracle Restore Option</b>			oracleOpt
Restore Control File	<a href="#">restoreControlFile</a>	boolean	restoreControlFile
Restore Control File As:	<a href="#">specifyControlFile</a>	boolean	specifyControlFile
To Point In Time	<a href="#">specifyControlFileTime</a>	boolean	specifyControlFileTime
Restore Archive Log	<a href="#">archiveLog</a>	boolean	archiveLog
Archive Log By	<a href="#">archiveLogBy</a>	enum	archiveLogBy
Start:	<a href="#">useStartLSN</a>	boolean	useStartLSN
Start LSNNum	<a href="#">startLSNNum</a>	string	startLSNNum
End:	<a href="#">useEndLSN</a>	boolean	useEndLSN
End LSNNum	<a href="#">endLSNNum</a>	string	endLSNNum
Max Open Files	<a href="#">maxOpenFiles</a>	integer	maxOpenFiles
Db Incarnation	<a href="#">dbIncarnation</a>	integer	dbIncarnation
Replicate	<a href="#">controlFileReplicate</a>	boolean	controlFileReplicate
Restore SP File	<a href="#">restoreSPFile</a>	boolean	restoreSPFile
Restore SP File As:	<a href="#">specifySPFile</a>	boolean	specifySPFile
To Point In Time	<a href="#">specifySPFileTime</a>	boolean	specifySPFileTime
Start:	<a href="#">useStartLog</a>	boolean	useStartLog
End:	<a href="#">useEndLog</a>	boolean	useEndLog
Log Target	<a href="#">logTarget</a>	string	logTarget
Restore Data	<a href="#">restoreData</a>	boolean	restoreData
Partial Restore	<a href="#">partialRestore</a>	boolean	partialRestore
Restore From	<a href="#">restoreFrom</a>	integer	restoreFrom
Check Read Only	<a href="#">checkReadOnly</a>	boolean	checkReadOnly
Recover	<a href="#">recover</a>	boolean	recover
Recover From	<a href="#">recoverFrom</a>	integer	recoverFrom
NO CATALOG	<a href="#">noCatalog</a>	boolean	noCatalog
Restore Stream	<a href="#">restoreStream</a>	integer	restoreStream
Reset Database	<a href="#">resetDatabase</a>	boolean	resetDatabase
No Re-do Logs	<a href="#">doNotRecoverRedoLogs</a>	boolean	doNotRecoverRedoLogs
Open DB	<a href="#">openDatabase</a>	boolean	openDatabase
Reset Logs	<a href="#">resetLogs</a>	integer	resetLogs
Validate	<a href="#">validate</a>	boolean	validate
Duplicate DB	<a href="#">duplicate</a>	boolean	duplicate
Duplicate No File Namecheck	<a href="#">duplicateNoFileNamecheck</a>	boolean	duplicateNoFileNamecheck
Duplicate Standby	<a href="#">duplicateStandby</a>	boolean	duplicateStandby
Duplicate Standby Do Recover	<a href="#">duplicateStandbyDoRecover</a>	boolean	duplicateStandbyDoRecover
Duplicate To	<a href="#">duplicateTo</a>	boolean	duplicateTo
Duplicate To Skip Read Only	<a href="#">duplicateToSkipReadOnly</a>	boolean	duplicateToSkipReadOnly
Duplicate To Open Restricted	<a href="#">duplicateToOpenRestricted</a>	boolean	duplicateToOpenRestricted
Duplicate To Skip Tablespace	<a href="#">duplicateToSkipTablespace</a>	boolean	duplicateToSkipTablespace
Duplicate To Log File	<a href="#">duplicateToLogFile</a>	boolean	duplicateToLogFile
Disable Oracle Channel Restore Failover	<a href="#">restoreFailover</a>	boolean	restoreFailover
Set DBID	<a href="#">setDBID</a>	boolean	setDBID
Table View Restore	<a href="#">tableViewRestore</a>	boolean	tableViewRestore
Ctrl File Backup Type	<a href="#">ctrlFileBackupType</a>	enum	ctrlFileBackupType
Sp File Backup Type	<a href="#">spFileBackupType</a>	enum	spFileBackupType
Restore From	<a href="#">ctrlRestoreFrom</a>	boolean	ctrlRestoreFrom
Restore From			

	<a href="#">spFileRestoreFrom</a>	boolean	spFileRestoreFrom
Os ID	<a href="#">osID</a>	integer	osID
Restore Tablespace	<a href="#">restoreTablespace</a>	boolean	restoreTablespace
Auto Detect Device	<a href="#">autoDetectDevice</a>	boolean	autoDetectDevice
Sap Device Type	<a href="#">isDeviceTypeSelected</a>	boolean	isDeviceTypeSelected
Device Type	<a href="#">deviceType</a>	enum	deviceType
By Tag	<a href="#">restoreByTag</a>	boolean	restoreByTag
Switch Database mode for Restore	<a href="#">switchDatabaseMode</a>	boolean	switchDatabaseMode
Tag	<a href="#">restoreDataTag</a>	boolean	restoreDataTag
<b>Catalog Connect2</b>			catalogConnect2
Password	<a href="#">password</a>	string	password (p)
<b>Control File Time</b>			controlFileTime
Time	<a href="#">time</a>	integer	controlFileTime/time
<b>SPFile Time</b>			SPFileTime
Time	<a href="#">time</a>	integer	SPFileTime/time
<b>Log Time</b>			logTime
From Time	<a href="#">fromTime</a>	integer	fromTime
To Time	<a href="#">toTime</a>	integer	toTime
<b>Restore Time</b>			restoreTime
Time	<a href="#">time</a>	integer	restoreTime/time
<b>Recover Time</b>			recoverTime
Time	<a href="#">time</a>	integer	recoverTime/time
<b>Time Zone</b>			timeZone
Time Zone Name	<a href="#">TimeZoneName</a>	string	TimeZoneName
<b>Restore Common Options</b>			commonOptions
Automatically Detect Regular Expressions	<a href="#">detectRegularExpression</a>	boolean	detectRegularExpression
Restore device files as regular files	<a href="#">restoreDeviceFilesAsRegularFiles</a>	boolean	restoreDeviceFilesAsRegularFiles
Restore Space Restrictions	<a href="#">restoreSpaceRestrictions</a>	boolean	restoreSpaceRestrictions
Ignore Namespace Requirements	<a href="#">ignoreNamespaceRequirements</a>	boolean	ignoreNamespaceRequirements
Skip errors and continue	<a href="#">skipErrorsAndContinue</a>	boolean	skipErrorsAndContinue
Use hardware revert capability if available	<a href="#">revert</a>	boolean	revert
Recover All Protected Mails	<a href="#">recoverAllProtectedMails</a>	boolean	recoverAllProtectedMails
Is From Browse Backup	<a href="#">isFromBrowseBackup</a>	boolean	isFromBrowseBackup
Cluster DBBackedup	<a href="#">clusterDBBackedup</a>	boolean	clusterDBBackedup
<b>SubTask Options</b>			
Description	Field Name	Data Type	Commandline Parameter
Sub Task Type	<a href="#">subTaskType</a>	enum	subTaskType (st)
Operation Type	<a href="#">operationType</a>	enum	operationType (op)
<b>Associations</b>			
Description	Field Name	Data Type	Commandline Parameter
Backupset Name	<a href="#">backupsetName</a>	string	backupsetName (b)
Client Name	<a href="#">clientName</a>	string	associations/clientName (c)
App Name	<a href="#">appName</a>	string	appName (a)
Instance Name	<a href="#">instanceName</a>	string	instanceName (i)

## Usage

Task Request Information	
<b>Task</b>	
taskType	Home
Type: enum Default Value: IMMEDIATE	

Possible Values: NONE , IMMEDIATE , SCHEDULE , SAVED_REPORT , SCHEDULE_POLICY , WORKFLOW , PREVIEW , AUTOMATIC_COPY , AGENTLESS_SRM , AGENTLESS_SRM Command Line Paramter: taskType Location: taskInfo/task/taskType	
Type	
initiatedFrom	Home
Type: enum Default Value: GUI Possible Values: NONE , GUI , COMMANDLINE , SYSTEM , SCRIPT , SCHEDULE , SCHEDULE Command Line Paramter: initiatedFrom Location: taskInfo/task/initiatedFrom	
Initiated From	
<b>Task Flags</b>	
disabled	Home
Type: boolean Possible Values: true/false Command Line Paramter: disabled Location: taskInfo/task/taskFlags/disabled	
Disabled	
Common Job Options	
<b>StartUp Options</b>	
startInSuspendedState	Home
Type: boolean Possible Values: true/false Command Line Paramter: startInSuspendedState Location: taskInfo/subTasks/options/commonOpts/startUpOpts/startInSuspendedState	
Startup in suspended state	
priority	Home
Type: integer Command Line Paramter: priority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/priority	
Priority	
useDefaultPriority	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: useDefaultPriority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/useDefaultPriority	
Use Default Priority	
Restore Job Options	
<b>Browse Option</b>	
commCellId	Home
Type: integer Command Line Paramter: commCellId Location: taskInfo/subTasks/options/restoreOptions/browseOption/commCellId	
Comm Cell Id	
listMedia	Home
Type: boolean Possible Values: true/false Command Line Paramter: listMedia Location: taskInfo/subTasks/options/restoreOptions/browseOption/listMedia	
List Media	
<b>Backupset</b>	
clientName	Home
Type: string Command Line Paramter: backupset/clientName Location: taskInfo/subTasks/options/restoreOptions/browseOption/backupset/clientName	
Client Name	
<b>Media Option</b>	
<b>Use Library</b>	
libraryName	Home
Type: string	



Command Line Paramter: libraryName Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/library/libraryName	
Library Name	
<b>Use MediaAgent</b>	
mediaAgentName	Home
Type: string Command Line Paramter: mediaAgentName Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/mediaAgent/mediaAgentName	
Media Agent Name	
<b>Copy Precedence</b>	
copyPrecedenceApplicable	Home
Type: boolean Possible Values: true/false Command Line Paramter: copyPrecedenceApplicable Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/copyPrecedenceApplicable	
Restore from copy precedence	
copyPrecedenceType	Home
Type: enum Default Value: SYNCHRONOUS Possible Values: SYNCHRONOUS , SELECTIVE , SELECTIVE Command Line Paramter: copyPrecedenceType Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/copyPrecedenceType	
Copy Precedence Type	
synchronousCopyPrecedence	Home
Type: integer Command Line Paramter: synchronousCopyPrecedence Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/synchronousCopyPrecedence	
Synchronous Copy Precedence	
copyPrecedence	Home
Type: integer Command Line Paramter: copyPrecedence/copyPrecedence Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/copyPrecedence	
Copy Precedence	
<b>Restore Destination</b>	
<b>Destination client</b>	
clientName	Home
Type: string Command Line Paramter: destClient/clientName Location: taskInfo/subTasks/options/restoreOptions/destination/destClient/clientName	
Client Name	
<b>Oracle Restore Option</b>	
restoreControlFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreControlFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreControlFile	
Restore Control File	
specifyControlFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifyControlFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifyControlFile	
Restore Control File As:	
specifyControlFileTime	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifyControlFileTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifyControlFileTime	
To Point In Time	
archiveLog	Home
Type: boolean Possible Values: true/false Command Line Paramter: archiveLog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/archiveLog	

Restore Archive Log	
archiveLogBy	Home
Type: enum Default Value: BYTIME Possible Values: DEFAULT , BYLSN , BYTIME , BYTAG , BYTAG Command Line Paramter: archiveLogBy Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/archiveLogBy	
Archive Log By	
useStartLSN	Home
Type: boolean Possible Values: true/false Command Line Paramter: useStartLSN Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useStartLSN	
Start:	
startLSNNum	Home
Type: string Command Line Paramter: startLSNNum Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/startLSNNum	
Start LSNNum	
useEndLSN	Home
Type: boolean Possible Values: true/false Command Line Paramter: useEndLSN Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useEndLSN	
End:	
endLSNNum	Home
Type: string Command Line Paramter: endLSNNum Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/endLSNNum	
End LSNNum	
maxOpenFiles	Home
Type: integer Command Line Paramter: maxOpenFiles Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/maxOpenFiles	
Max Open Files	
dbIncarnation	Home
Type: integer Command Line Paramter: dbIncarnation Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/dbIncarnation	
Db Incarnation	
controlFileReplicate	Home
Type: boolean Possible Values: true/false Command Line Paramter: controlFileReplicate Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/controlFileReplicate	
Replicate	
restoreSPFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreSPFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreSPFile	
Restore SP File	
specifySPFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifySPFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifySPFile	
Restore SP File As:	
specifySPFileTime	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifySPFileTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifySPFileTime	
To Point In Time	
useStartLog	

	Home
Type: boolean Possible Values: true/false Command Line Paramter: useStartLog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useStartLog	
Start:	
useEndLog	Home
Type: boolean Possible Values: true/false Command Line Paramter: useEndLog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useEndLog	
End:	
logTarget	Home
Type: string Command Line Paramter: logTarget Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/logTarget	
Log Target	
restoreData	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreData Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreData	
Restore Data	
partialRestore	Home
Type: boolean Possible Values: true/false Command Line Paramter: partialRestore Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/partialRestore	
Partial Restore	
restoreFrom	Home
Type: integer Command Line Paramter: restoreFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreFrom	
Restore From	
checkReadOnly	Home
Type: boolean Possible Values: true/false Command Line Paramter: checkReadOnly Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/checkReadOnly	
Check Read Only	
recover	Home
Type: boolean Possible Values: true/false Command Line Paramter: recover Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/recover	
Recover	
recoverFrom	Home
Type: integer Command Line Paramter: recoverFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/recoverFrom	
Recover From	
noCatalog	Home
Type: boolean Possible Values: true/false Command Line Paramter: noCatalog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/noCatalog	
NO CATALOG	
restoreStream	Home
Type: integer Default Value: 1 Command Line Paramter: restoreStream Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreStream	
Restore Stream	
resetDatabase	Home
Type: boolean	

Possible Values: true/false Command Line Paramter: resetDatabase Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/resetDatabase	
Reset Database	
doNotRecoverRedoLogs	Home
Type: boolean Possible Values: true/false Command Line Paramter: doNotRecoverRedoLogs Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/doNotRecoverRedoLogs	
No Re-do Logs	
openDatabase	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: openDatabase Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/openDatabase	
Open DB	
resetLogs	Home
Type: integer Default Value: 1 Command Line Paramter: resetLogs Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/resetLogs	
Reset Logs	
validate	Home
Type: boolean Possible Values: true/false Command Line Paramter: validate Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/validate	
Validate	
duplicate	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicate Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicate	
Duplicate DB	
duplicateNoFileNamecheck	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateNoFileNamecheck Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateNoFileNamecheck	
Duplicate No File Namecheck	
duplicateStandby	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateStandby Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateStandby	
Duplicate Standby	
duplicateStandbyDoRecover	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateStandbyDoRecover Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateStandbyDoRecover	
Duplicate Standby Do Recover	
duplicateTo	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateTo Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateTo	
Duplicate To	
duplicateToSkipReadOnly	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToSkipReadOnly Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToSkipReadOnly	
Duplicate To Skip Read Only	
duplicateToOpenRestricted	

	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToOpenRestricted Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToOpenRestricted	
Duplicate To Open Restricted	
duplicateToSkipTablespace	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToSkipTablespace Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToSkipTablespace	
Duplicate To Skip Tablespace	
duplicateToLogFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToLogFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToLogFile	
Duplicate To Log File	
restoreFailover	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreFailover Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreFailover	
Disable Oracle Channel Restore Failover	
setDBID	Home
Type: boolean Possible Values: true/false Command Line Paramter: setDBID Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/setDBID	
Set DBID	
tableViewRestore	Home
Type: boolean Possible Values: true/false Command Line Paramter: tableViewRestore Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/tableViewRestore	
Table View Restore	
ctrlFileBackupType	Home
Type: enum Default Value: AUTO_BACKUP Possible Values: AUTO_BACKUP , BACKUP_PIECE , BACKUP_PIECE Command Line Paramter: ctrlFileBackupType Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/ctrlFileBackupType	
Ctrl File Backup Type	
spFileBackupType	Home
Type: enum Default Value: AUTO_BACKUP Possible Values: AUTO_BACKUP , BACKUP_PIECE , BACKUP_PIECE Command Line Paramter: spFileBackupType Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/spFileBackupType	
Sp File Backup Type	
ctrlRestoreFrom	Home
Type: boolean Possible Values: true/false Command Line Paramter: ctrlRestoreFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/ctrlRestoreFrom	
Restore From	
spFileRestoreFrom	Home
Type: boolean Possible Values: true/false Command Line Paramter: spFileRestoreFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/spFileRestoreFrom	
Restore From	
osID	Home
Type: integer Command Line Paramter: osID Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/osID	

restoreTablespace	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreTablespace Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreTablespace	
Restore Tablespace	
autoDetectDevice	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: autoDetectDevice Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/autoDetectDevice	
Auto Detect Device	
isDeviceTypeSelected	Home
Type: boolean Possible Values: true/false Command Line Paramter: isDeviceTypeSelected Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/isDeviceTypeSelected	
Sap Device Type	
deviceType	Home
Type: enum Default Value: UTIL_FILE Possible Values: UTIL_FILE , RMAN_UTIL , RMAN_UTIL Command Line Paramter: deviceType Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/deviceType	
Device Type	
restoreByTag	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreByTag Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreByTag	
By Tag	
switchDatabaseMode	Home
Type: boolean Possible Values: true/false Command Line Paramter: switchDatabaseMode Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/switchDatabaseMode	
Switch Database mode for Restore	
restoreDataTag	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreDataTag Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreDataTag	
Tag	
<b>Catalog Connect2</b>	
password	Home
Type: string Command Line Paramter: password Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/catalogConnect2/password	
Password	
<b>Control File Time</b>	
time	Home
Type: integer Command Line Paramter: controlFileTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/controlFileTime/time	
Time	
<b>SPFile Time</b>	
time	Home
Type: integer Command Line Paramter: SPFileTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/SPFileTime/time	
Time	
<b>Log Time</b>	
fromTime	

	Home
Type: integer Command Line Paramter: fromTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/logTime/fromTime	
From Time	
toTime	Home
Type: integer Command Line Paramter: toTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/logTime/toTime	
To Time	
<b>Restore Time</b>	
time	Home
Type: integer Command Line Paramter: restoreTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreTime/time	
Time	
<b>Recover Time</b>	
time	Home
Type: integer Command Line Paramter: recoverTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/recoverTime/time	
Time	
<b>Time Zone</b>	
TimeZoneName	Home
Type: string Command Line Paramter: TimeZoneName Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/timeZone/TimeZoneName	
Time Zone Name	
<b>Restore Common Options</b>	
detectRegularExpression	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: detectRegularExpression Location: taskInfo/subTasks/options/restoreOptions/commonOptions/detectRegularExpression	
Automatically Detect Regular Expressions	
restoreDeviceFilesAsRegularFiles	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreDeviceFilesAsRegularFiles Location: taskInfo/subTasks/options/restoreOptions/commonOptions/restoreDeviceFilesAsRegularFiles	
Restore device files as regular files	
restoreSpaceRestrictions	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreSpaceRestrictions Location: taskInfo/subTasks/options/restoreOptions/commonOptions/restoreSpaceRestrictions	
Restore Space Restrictions	
ignoreNamespaceRequirements	Home
Type: boolean Possible Values: true/false Command Line Paramter: ignoreNamespaceRequirements Location: taskInfo/subTasks/options/restoreOptions/commonOptions/ignoreNamespaceRequirements	
Ignore Namespace Requirements	
skipErrorsAndContinue	Home
Type: boolean Default Value: false Possible Values: true/false Command Line Paramter: skipErrorsAndContinue Location: taskInfo/subTasks/options/restoreOptions/commonOptions/skipErrorsAndContinue	
Skip errors and continue	
revert	Home
Type: boolean Possible Values: true/false	

Command Line Paramter: revert Location: taskInfo/subTasks/options/restoreOptions/commonOptions/revert	
Use hardware revert capability if available	
recoverAllProtectedMails	Home
Type: boolean Possible Values: true/false Command Line Paramter: recoverAllProtectedMails Location: taskInfo/subTasks/options/restoreOptions/commonOptions/recoverAllProtectedMails	
Recover All Protected Mails	
isFromBrowseBackup	Home
Type: boolean Possible Values: true/false Command Line Paramter: isFromBrowseBackup Location: taskInfo/subTasks/options/restoreOptions/commonOptions/isFromBrowseBackup	
Is From Browse Backup	
clusterDBBackedup	Home
Type: boolean Possible Values: true/false Command Line Paramter: clusterDBBackedup Location: taskInfo/subTasks/options/restoreOptions/commonOptions/clusterDBBackedup	
Cluster DBBackedup	
SubTask Options	
subTaskType	Home
Type: enum Possible Values: NONE , ADMIN , BACKUP , RESTORE , WORKFLOW , COMPLIANCE_POLICY , COMPLIANCE_POLICY Command Line Paramter: subTaskType Location: taskInfo/subTasks/subTask/subTaskType	
Sub Task Type	
operationType	Home
Type: enum Default Value: NONE Possible Values: NONE , ALL_BACKUP_JOBS , BACKUP , RECOVERY_POINT_CREATION , CONSISTENCY_POINT_CREATION , SRM , ARCHIVE , CONTENT_INDEXING , ALL_RESTORE_JOBS , RESTORE , POWER_RESTORE , BROWSE , RESTORE_BY_JOB , ONETOUCH_RECOVERY , ADMIN , WORK_FLOW , COMPLIANCE , SEARCH , SAVE , EMAIL , TAGGING , LEGAL_HOLDS , COMP_RESTORE , MOSS , PRUNE , DRBACKUP , AUX_COPY , REPORT , MEDIA_INVENTORY , SCHED_EXPORT , ARCHIVE_CHECK , MEDIA_PREDICTION , TAPE_ERASE , VT , SELECTIVE_DELETE , DRIVE_VALIDATION , DRIVE_CLEANING , STAMP_MEDIA , BROWSE_DELETE , CATALOGUE_MEDIA , DATA_AGING , DOWNLOAD_UPDATES , INSTALL_UPDATES , SRM_REPORT , OFFLINE_CONTENT_INDEX , MAGLIBMAINTENANCE , SHELF_MANAGEMENT , INFOMGMT , INSTALL_CLIENT , UNINSTALL_CLIENT , SNAP_TO_TAPE , CCM_CAPTURE , CCM_MERGE , EXTERNAL_DATA_PROCESSOR , MEDIA_REFRESHING , PREPARATION , FDC , MAGLIBVOLRECON , DEDUPDBSYNC , TAPEIMPORT , WORKFLOW , QR , FS_BACKUP , IMAGE_BACKUP , SERVERLESS_BACKUP , MOUNT_SNAPSHOT , UNMOUNT_SNAPSHOT , DELETE_SNAPSHOT , MINING_BACKUP , SRM_AGENTLESS , SRM_AGENTLESS Command Line Paramter: operationType Location: taskInfo/subTasks/subTask/operationType	
Operation Type	
Associations	
backupsetName	Home
Type: string Command Line Paramter: backupsetName Location: taskInfo/associations/backupsetName	
Backupset Name	
clientName	Home
Type: string Command Line Paramter: associations/clientName Location: taskInfo/associations/clientName	
Client Name	
appName	Home
Type: string Command Line Paramter: appName Location: taskInfo/associations/appName	
App Name	
instanceName	Home
Type: string Command Line Paramter: instanceName Location: taskInfo/associations/instanceName	
Instance Name	



