25

DBNEWID Utility

DBNEWID is a database utility that can change the internal database identifier (DBID) and the database name (DBNAME) for an operational database.

25.1 What Is the DBNEWID Utility?

The DBNEWID utility enables you to change only the DBID, DBNAME, or both the DBID and DBNAME of a database.

Before the introduction of the DBNEWID utility, you could manually create a copy of a database and give it a new database name (DBNAME) by recreating the control file. However, you could not give the database a new identifier (DBID). The DBID is an internal, unique identifier for a database. Because Recovery Manager (RMAN) distinguishes databases by DBID, you could not register a seed database and a manually copied database together in the same RMAN repository. The DBNEWID utility solves this problem by enabling you to change any of the following:

- Only the DBID of a database
- Only the DBNAME of a database
- Both the DBNAME and DBID of a database

25.2 Ramifications of Changing the DBID and DBNAME

Before you change the DBID and DBNAME of a database with the DBNEWID utility, review these guidelines.

When you change the DBID, you should make a backup of the whole database immediately.

Changing the DBID of a database is a serious procedure. When the DBID of a database is changed, all previous backups and archived logs of the database become unusable. Changing the DBID is similar to creating a database, except that the data is already in the data files. After you change the DBID, backups and archive logs that were created before the DBID change can no longer be used, because they still have the original DBID, which does not match the current DBID. You must open the database with the RESETLOGS option, which recreates the online redo logs, and resets the redo log sequence to 1. Consequently,

When you change DBNAME and do not change DBID, you must change the DBNAME initialization parameter, and follow additional guidelines.

Changing the DBNAME without changing the DBID does not require you to open with the RESETLOGS option, so database backups and archived logs are not invalidated. However, changing the DBNAME does have consequences. You must change the DB_NAME initialization parameter after a database name change to reflect the new name. Also, you may have to recreate the Oracle password file. If you restore an old backup of the control file (before the name change), then you should use the initialization parameter file and password file from before the database name change.

> **Caution:**
>
> If you are using a capture process to capture changes to the database, then do not change the DBID or DBNAME of a database .

For Oracle RAC environments only, you must first detach the database from the cluster before you can run the DBNEWID utility. Use SQL*Plus to enter the following commands to set the initialization parameter value for CLUSTER_DATABASE to FALSE

1.
   ```
   ALTER SYSTEM SET CLUSTER_DATABASE=FALSE SCOPE=SPFILE;
   ```

   Restart the database after changing the CLUSTER_DATABASE parameter.
2. Shut down the database.

   ```
   SHUTDOWN IMMEDIATE
   ```

You can then run STARTUP MOUNT EXCLUSIVE, and change the global database name. If you attempt to use the DBNEWID utility while CLUSTER_DATABASE=TRUE, then the command fails with NID-00120: Database should be mounted exclusively.

Related Topics

- How to Change the DBID, DBNAME Using NID Utility (Doc ID 863800.1)

25.3 Considerations for Global Database Names

If you are dealing with a database in a distributed database system, then each database should have a unique global database name.

The DBNEWID utility does not change global database names.

You can only change a global database name with the SQL ALTER DATABASE statement, for which the syntax is as follows:

```
ALTER DATABASE RENAME GLOBAL_NAME TO newname.domain;
```

The global database name is made up of a database name and a domain, which are determined by the `DB_NAME` and `DB_DOMAIN` initialization parameters when the database is first created.

For example, suppose you use DBNEWID to change a database name to `sales`. To ensure that you also change the global database name to `sales` in the domain `example.com`, you should use `ALTER DATABASE RENAME` as follows:

```
ALTER DATABASE RENAME GLOBAL_NAME TO sales.example.com
```

Related Topics

- Changing a Global Database Name: Scenario in *Oracle Database Administrator's Guide*

> **See Also:**
>
> *Oracle Database Administrator's Guide* for more information about global database names, and My Oracle Support "How to Change the DBID, DBNAME Using NID Utility (Doc ID 863800.1)"

25.4 Changing Both CDB and PDB DBIDs Using DBNEWID

The DBNEWID parameter `PDB` enables you to change the `DBID` on pluggable databases (PDBs).

By default, when you run the DBNEWID utility on a container database (CDB), the utility only changes the `DBID` of the CDB. The `DBID` values for each of the pluggable databases (PDBs) plugged into the CDB remain the same. In some cases, you can find that this default behavior causes problems with duplicate DBID values for PDBs. For example, you can encounter this issue when a CDB is cloned.

With Oracle Database 12c Release 2 (12.2) and later releases, you can use the DBNEWID utility PDB parameter in multitenant databases to change the DBID values for PDBs. You cannot specify a particular PDB; either all of them or none of them are assigned new `DBID` values. The `PDB` parameter has the following format:

```
PDB=[ALL | NONE]
```

- If you specify `ALL`, then in addition to the `DBID` for the CDB changing, the `DBID` values for all PDBs plugged into the CDB are also changed.
- Specifying `NONE` (the default) leaves the PDB `DBID`s the same, even if the CDB `DBID` is changed.

Oracle recommends that you use `PDB=ALL`. For backward compatibility, the default is `PDB=NONE`.

25.5 Changing the DBID and DBNAME of a Database

To change either `DBID` or `DBNAME`, or both the `DBID` and `DBNAME` of your database, select the DBNEWID procedure that you need.

- Changing the DBID and Database Name
  To change the DBID of a database, or both the DBID and DBNAME of a database with DBNEWID, use this procedure.
- Changing Only the Database ID
  To change the database ID (DBID) without changing the database name, use this DBNEWID procedure.
- Changing Only the Database Name
  To change the database name (DBNAME) without changing the DBID, use this DBNEWID procedure.
- Troubleshooting DBNEWID
  If you encounter an error when using DBNEWID to change a database ID, then refer to these troubleshooting hints.

25.5.1 Changing the DBID and Database Name

To change the DBID of a database, or both the DBID and DBNAME of a database with DBNEWID, use this procedure.

The following steps describe how to change the DBID of a database. You also have the option to change the database name as well. Suppose you want to change the ID and name for the database PROD to TEST_DB.

1. Ensure that you have a recoverable whole database backup of the target database.
2. Ensure that the target database is mounted but not open, and that it was shut down consistently before mounting:

   ```
   SHUTDOWN IMMEDIATE
   STARTUP MOUNT
   ```

3. Start the DBNEWID utility on the command line, specifying a valid user (TARGET) that has the SYSDBA privilege (you will be prompted for a password). For example:

   ```
   % nid TARGET=SYS
   ```

   To change the database name in addition to the DBID, also specify the DBNAME parameter on the command line (you will be prompted for a password). The following example changes the database ID, andf also changes the database name from PROD to TEST_DB:

   ```
   % nid TARGET=SYS DBNAME=test_db
   .
   .
   .
   Change database ID and database name PROD to TEST_DB? (Y/[N]) => Y
   ```

   The DBNEWID utility performs validations in the headers of the data files and control files before attempting to modify the files. If validation is successful, then DBNEWID prompts you to confirm the operation (unless you specify a log file, in which case it does not prompt), changes the DBID (and the DBNAME, if specified, as in this example) for each data file, including offline normal and read-only data files, shuts down the database, and then exits. The following is an example of what the output for this would look like:

   ```
   .
   .
   .
   Connected to database PROD (DBID=86997811)
   .
   .
   .
   ```

```
Control Files in database:
    /oracle/TEST_DB/data/cf1.dbf
    /oracle/TEST_DB/data/cf2.dbf

The following datafiles are offline clean:
    /oracle/TEST_DB/data/tbs_61.dbf (23)
    /oracle/TEST_DB/data/tbs_62.dbf (24)
    /oracle/TEST_DB/data/temp3.dbf (3)
These files must be writable by this utility.

The following datafiles are read-only:
    /oracle/TEST_DB/data/tbs_51.dbf (15)
    /oracle/TEST_DB/data/tbs_52.dbf (16)
    /oracle/TEST_DB/data/tbs_53.dbf (22)
These files must be writable by this utility.

Changing database ID from 86997811 to 1250654267
Changing database name from PROD to TEST_DB
    Control File /oracle/TEST_DB/data/cf1.dbf - modified
    Control File /oracle/TEST_DB/data/cf2.dbf - modified
    Datafile /oracle/TEST_DB/data/tbs_01.dbf - dbid changed, wrote new name
    Datafile /oracle/TEST_DB/data/tbs_ax1.dbf - dbid changed, wrote new name
    Datafile /oracle/TEST_DB/data/tbs_02.dbf - dbid changed, wrote new name
    Datafile /oracle/TEST_DB/data/tbs_11.dbf - dbid changed, wrote new name
    Datafile /oracle/TEST_DB/data/tbs_12.dbf - dbid changed, wrote new name
    Datafile /oracle/TEST_DB/data/temp1.dbf - dbid changed, wrote new name
    Control File /oracle/TEST_DB/data/cf1.dbf - dbid changed, wrote new name
    Control File /oracle/TEST_DB/data/cf2.dbf - dbid changed, wrote new name
    Instance shut down

Database name changed to TEST_DB.
Modify parameter file and generate a new password file before restarting.
Database ID for database TEST_DB changed to 1250654267.
All previous backups and archived redo logs for this database are unusable.
Database has been shutdown, open database with RESETLOGS option.
Successfully changed database name and ID.
DBNEWID - Completed successfully.
```

If validation is not successful, then DBNEWID terminates, and leaves the target database intact, as shown in the following example output. You can open the database, fix the error, and then either resume the DBNEWID operation, or continue using the database without changing its `DBID`.

```
.
.
.
Connected to database PROD (DBID=86997811)
.
.
.
Control Files in database:
    /oracle/TEST_DB/data/cf1.dbf
    /oracle/TEST_DB/data/cf2.dbf

The following datafiles are offline clean:
    /oracle/TEST_DB/data/tbs_61.dbf (23)
    /oracle/TEST_DB/data/tbs_62.dbf (24)
    /oracle/TEST_DB/data/temp3.dbf (3)
These files must be writable by this utility.

The following datafiles are read-only:
    /oracle/TEST_DB/data/tbs_51.dbf (15)
    /oracle/TEST_DB/data/tbs_52.dbf (16)
    /oracle/TEST_DB/data/tbs_53.dbf (22)
These files must be writable by this utility.

The following datafiles are offline immediate:
    /oracle/TEST_DB/data/tbs_71.dbf (25)
    /oracle/TEST_DB/data/tbs_72.dbf (26)

NID-00122: Database should have no offline immediate datafiles

Change of database name failed during validation - database is intact.
DBNEWID - Completed with validation errors.
```

4. Mount the database. For example:

   ```
   STARTUP MOUNT
   ```

5. Open the database in RESETLOGS mode, and resume normal use. For example:

   ```
   ALTER DATABASE OPEN RESETLOGS;
   ```

After you reset the logs, create a new database backup. Because you reset the online redo logs, the old backups and archived logs are no longer usable in the current incarnation of the database. New control files also must be created.

Related Topics

- When to Create New Control Files in *Oracle Database Concepts*

25.5.2 Changing Only the Database ID

To change the database ID (DBID) without changing the database name, use this DBNEWID procedure.

Follow the steps in Changing the DBID and Database Name, but in Step 3 do not specify the optional database name (DBNAME). The following is an example of the type of output that is generated when only the database ID is changed.

```
.
.
.
Connected to database PROD (DBID=86997811)
.
.
.
Control Files in database:
    /oracle/TEST_DB/data/cf1.dbf
    /oracle/TEST_DB/data/cf2.dbf

The following datafiles are offline clean:
    /oracle/TEST_DB/data/tbs_61.dbf (23)
    /oracle/TEST_DB/data/tbs_62.dbf (24)
    /oracle/TEST_DB/data/temp3.dbf (3)
These files must be writable by this utility.

The following datafiles are read-only:
    /oracle/TEST_DB/data/tbs_51.dbf (15)
    /oracle/TEST_DB/data/tbs_52.dbf (16)
    /oracle/TEST_DB/data/tbs_53.dbf (22)
These files must be writable by this utility.

Changing database ID from 86997811 to 4004383693
    Control File /oracle/TEST_DB/data/cf1.dbf - modified
```

```
    Control File /oracle/TEST_DB/data/cf2.dbf - modified
    Datafile /oracle/TEST_DB/data/tbs_01.dbf - dbid changed
    Datafile /oracle/TEST_DB/data/tbs_ax1.dbf - dbid changed
    Datafile /oracle/TEST_DB/data/tbs_02.dbf - dbid changed
    Datafile /oracle/TEST_DB/data/tbs_11.dbf - dbid changed
    Datafile /oracle/TEST_DB/data/tbs_12.dbf - dbid changed
    Datafile /oracle/TEST_DB/data/temp1.dbf - dbid changed
    Control File /oracle/TEST_DB/data/cf1.dbf - dbid changed
    Control File /oracle/TEST_DB/data/cf2.dbf - dbid changed
    Instance shut down

Database ID for database TEST_DB changed to 4004383693.
All previous backups and archived redo logs for this database are unusable.
Database has been shutdown, open database with RESETLOGS option.
Succesfully changed database ID.
DBNEWID - Completed succesfully.
```

25.5.3 Changing Only the Database Name

To change the database name (DBNAME) without changing the DBID, use this DBNEWID procedure.

Complete the following steps:

1. Ensure that you have a recoverable whole database backup.
2. Ensure that the target database is mounted but not open, and that it was shut down consistently before mounting. For example:

   ```
   SHUTDOWN IMMEDIATE
   STARTUP MOUNT
   ```

3. Start the utility on the command line, specifying a valid user with the SYSDBA privilege (you will be prompted for a password). You must specify both the DBNAME and SETNAME parameters. This example changes the name to test_db:

   ```
   % nid TARGET=SYS DBNAME=test_db SETNAME=YES
   ```

   DBNEWID performs validations in the headers of the control files (not the data files) before attempting I/O to the files. If validation is successful, then DBNEWID prompts for confirmation, changes the database name in the control files, shuts down the database and exits. The following is an example of what the output for this would look like:

   ```
   .
   .
   .
   Control Files in database:
       /oracle/TEST_DB/data/cf1.dbf
       /oracle/TEST_DB/data/cf2.dbf

   The following datafiles are offline clean:
       /oracle/TEST_DB/data/tbs_61.dbf (23)
       /oracle/TEST_DB/data/tbs_62.dbf (24)
       /oracle/TEST_DB/data/temp3.dbf (3)
   These files must be writable by this utility.

   The following datafiles are read-only:
       /oracle/TEST_DB/data/tbs_51.dbf (15)
       /oracle/TEST_DB/data/tbs_52.dbf (16)
       /oracle/TEST_DB/data/tbs_53.dbf (22)
   These files must be writable by this utility.
   ```

```
Changing database name from PROD to TEST_DB
    Control File /oracle/TEST_DB/data/cf1.dbf - modified
    Control File /oracle/TEST_DB/data/cf2.dbf - modified
    Datafile /oracle/TEST_DB/data/tbs_01.dbf - wrote new name
    Datafile /oracle/TEST_DB/data/tbs_ax1.dbf - wrote new name
    Datafile /oracle/TEST_DB/data/tbs_02.dbf - wrote new name
    Datafile /oracle/TEST_DB/data/tbs_11.dbf - wrote new name
    Datafile /oracle/TEST_DB/data/tbs_12.dbf - wrote new name
    Datafile /oracle/TEST_DB/data/temp1.dbf - wrote new name
    Control File /oracle/TEST_DB/data/cf1.dbf - wrote new name
    Control File /oracle/TEST_DB/data/cf2.dbf - wrote new name
    Instance shut down

Database name changed to TEST_DB.
Modify parameter file and generate a new password file before restarting.
Successfully changed database name.
DBNEWID - Completed successfully.
```

If validation is not successful, then DBNEWID terminates and leaves the target database intact. You can open the database, fix the error, and then either resume the DBNEWID operation or continue using the database without changing the database name. (For an example of what the output looks like for an unsuccessful validation, see Step 3 in Changing the DBID and Database Name.)

4. Set the `DB_NAME` initialization parameter in the initialization parameter file (PFILE) to the new database name.

> **Note:**
>
> The DBNEWID utility does not change the server parameter file (`SPFILE`). Therefore, if you use `SPFILE` to start your Oracle database, then you must re-create the initialization parameter file from the server parameter file, remove the server parameter file, change the `DB_NAME` in the initialization parameter file, and then re-create the server parameter file.

5. Create a new password file.
6. Start up the database and resume normal use. For example:

```
STARTUP
```

Because you have changed only the database name, and not the database ID, it is not necessary to use the `RESETLOGS` option when you open the database. All previous backups are still usable.

25.5.4 Troubleshooting DBNEWID

If you encounter an error when using DBNEWID to change a database ID, then refer to these troubleshooting hints.

If the DBNEWID utility succeeds in its validation stage, but detects an error while performing the requested change, then the utility stops and leaves the database in the middle of the change. In this case, you cannot open the database until the DBNEWID operation is either completed, or it is reverted. DBNEWID displays messages indicating the status of the operation.

Before continuing or reverting, fix the underlying cause of the error. Sometimes the only solution is to restore the whole database from a recent backup and perform recovery to the point in time before DBNEWID was started. This scenario underscores the importance of having a recent backup available before you DBNEWID.

If you choose to continue with the change, then rerun your original command. The DBNEWID utility resumes, and attempts to continue the change until all data files and control files have the new value or values. At this point, the database is shut down. You should mount it before opening it with the `RESETLOGS` option.

If you choose to revert a DBNEWID operation, and if the reversion succeeds, then DBNEWID reverts all performed changes and leaves the database in a mounted state.

If DBNEWID is run against Oracle Database 10g Release 1 (10.1) or a later release Oracle Database, then a summary of the operation is written to the alert file.

Example 25-1   Alert Files for a Database Name and Database ID Change

Suppose you start up the database in MOUNT, and changed a database name and database ID, as described in "Changing the DBID and Database Name":

```
% nid TARGET=SYS DBNAME=TEST_DB
```

. In the alert file, you see something similar to the following:

```
*** DBNEWID utility started ***
DBID will be changed from 86997811 to new DBID of 1250452230 for
database PROD
DBNAME will be changed from PROD to new DBNAME of TEST_DB
Starting datafile conversion
Setting recovery target incarnation to 1
Datafile conversion complete
Database name changed to TEST_DB.
Modify parameter file and generate a new password file before restarting.
Database ID for database TEST_DB changed to 1250452230.
All previous backups and archived redo logs for this database are unusable.
Database has been shutdown, open with RESETLOGS option.
Successfully changed database name and ID.
*** DBNEWID utility finished successfully ***
```

For a change of just the database name, the alert file might show something similar to the following:

```
*** DBNEWID utility started ***
DBNAME will be changed from PROD to new DBNAME of TEST_DB
Starting datafile conversion
Datafile conversion complete
Database name changed to TEST_DB.
Modify parameter file and generate a new password file before restarting.
Successfully changed database name.
*** DBNEWID utility finished successfully ***

In case of failure during DBNEWID the alert will also log the failure:
*** DBNEWID utility started ***
DBID will be changed from 86997811 to new DBID of 86966847 for database
AV3
Change of database ID failed.
Must finish change or REVERT changes before attempting any database
```

```
operation.
*** DBNEWID utility finished with errors ***
```

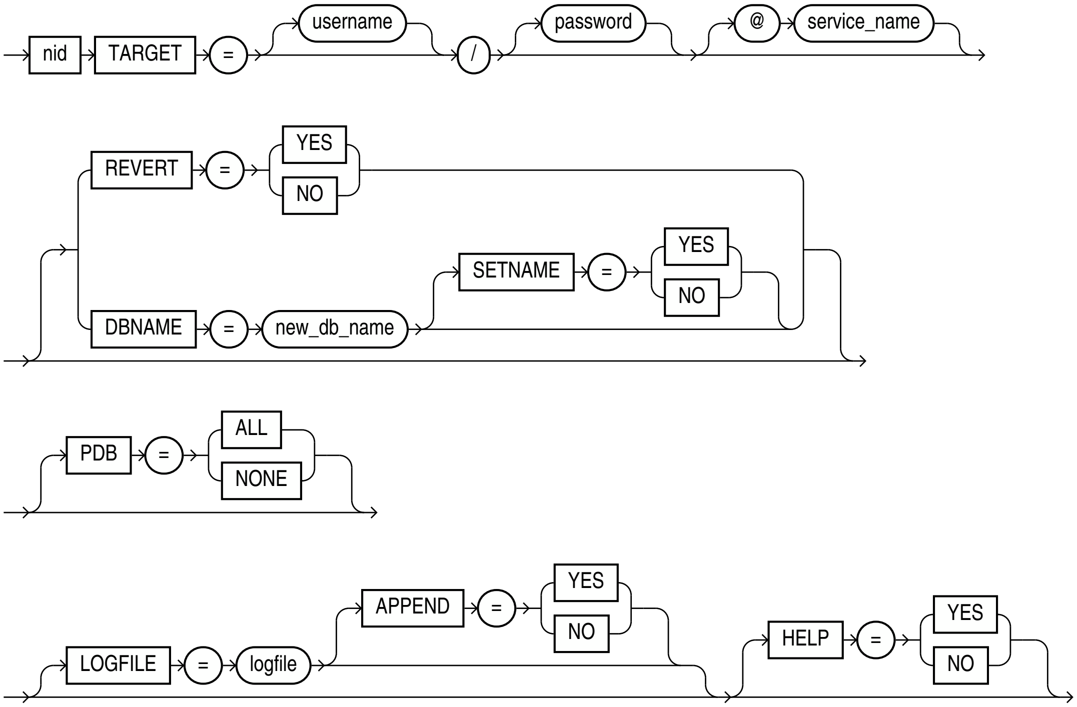
Related Topics

- Changing the DBID and Database Name
- When to Create New Control Files

25.6 DBNEWID Syntax

To change only the DBID, DBNAME, or both the DBID and DBNAME of a database, use DBNEWID.

The following diagrams show the syntax for the DBNEWID utility.



- DBNEWID Parameters
  Describes the parameters for DBNEWID.
- Restrictions and Usage Notes
  Describes restrictions for the DBNEWID utility.
- Additional Restrictions for Releases Earlier Than Oracle Database 10g
  Describes additional restrictions if the DBNEWID utility is run against an Oracle Database release earlier than 10.1.

25.6.1 DBNEWID Parameters

Describes the parameters for DBNEWID.

The following table describes the parameters in the DBNEWID syntax.

Table 25-1 Parameters for the DBNEWID Utility

Parameter	Description
`TARGET`	Specifies the username and password used to connect to the database. The user must have the `SYSDBA` privilege. If you are using operating system authentication, then you can connect with the slash (`/`). If the `$ORACLE_HOME` and `$ORACLE_SID` variables are not set correctly in the environment, then you can specify a secure (IPC or BEQ) service to connect to the target database. A target database must be specified in all invocations of the DBNEWID utility.
`REVERT`	Specify `YES` to indicate that a failed change of DBID should be reverted (default is `NO`). The utility signals an error if no change DBID operation is in progress on the target database. A successfully completed change of DBID cannot be reverted. `REVERT=YES` is valid only when a DBID change failed.
`DBNAME=`*`new_db_name`*	Changes the database name of the database. You can change the DBID and the DBNAME of a database at the same time. To change only the DBNAME, also specify the `SETNAME` parameter.
`SETNAME`	Specify `YES` to indicate that DBNEWID should change the database name of the database but should not change the DBID (default is `NO`). When you specify `SETNAME=YES`, the utility writes only to the target database control files.
`PDB`	Changes the DBID on either all or none of the pluggable databases (PDBs) in a multitenant container database (CDB). (By default, when you run the DBNEWID utility on a container database (CDB) it changes the DBID of only the CDB; the DBIDs of the pluggable databases (PDBs) comprising the CDB remain the same.) The `PDB` parameter is applicable only in a CDB environment.
`LOGFILE=`*`logfile`*	Specifies that DBNEWID should write its messages to the specified file. By default the utility overwrites the previous log. If you specify a log file, then DBNEWID does not prompt for confirmation.
`APPEND`	Specify `YES` to append log output to the existing log file (default is `NO`).
`HELP`	Specify `YES` to print a list of the DBNEWID syntax options (default is `NO`).

25.6.2 Restrictions and Usage Notes

Describes restrictions for the DBNEWID utility.

For example:

- To change the DBID of a database, the database must be mounted and must have been shut down consistently before mounting. In the case of an Oracle Real Application Clusters database, the database must be mounted in `NOPARALLEL` mode.
- You must open the database with the `RESETLOGS` option after changing the DBID. However, you do not have to open with the `RESETLOGS` option after changing only the database name.
- No other process should be running against the database when DBNEWID is executing. If another session shuts down and starts the database, then DBNEWID terminates unsuccessfully.
- All online data files should be consistent without needing recovery.
- Normal offline data files should be accessible and writable. If this is not the case, then you must drop these files before invoking the DBNEWID utility.
- All read-only tablespaces must be accessible and made writable at the operating system level before invoking DBNEWID. If these tablespaces cannot be made writable (for example, they are on a CD-ROM), then you must unplug the tablespaces using the

transportable tablespace feature and then plug them back in the database before invoking the DBNEWID utility.

- The DBNEWID utility does not change global database names. See Considerations for Global Database Names.

25.6.3 Additional Restrictions for Releases Earlier Than Oracle Database 10*g*

Describes additional restrictions if the DBNEWID utility is run against an Oracle Database release earlier than 10.1.

For example:

- The `nid` executable file should be owned and run by the Oracle owner because it needs direct access to the data files and control files. If another user runs the utility, then set the user ID to the owner of the data files and control files.
- The DBNEWID utility must access the data files of the database directly through a local connection. Although DBNEWID can accept a net service name, it cannot change the DBID of a nonlocal database.