【RMAN】RMAN 跨版本恢复(下)--大版本异机恢复

BLOG 文档结构图

ORACLE_SID=ORA1024G

原机： OS: RHEL Linux x86 64-bit IP:192.168.59.130 oracle：10.2.0.4.0 归档模式
异机： OS: RHEL Linux x86 64-bit IP:192.168.59.10 oracle：11.2.0.3.0 归档模式
目的：利用原机的 rman 备份集将原库恢复到异机。

关于 10g 的跨小版本恢复参考：http://blog.chinaunix.net/uid-26736162-id-4942816.html
关于 11g 的跨小版本恢复参考：http://blog.itpub.net/26736162/viewspace-1565655/
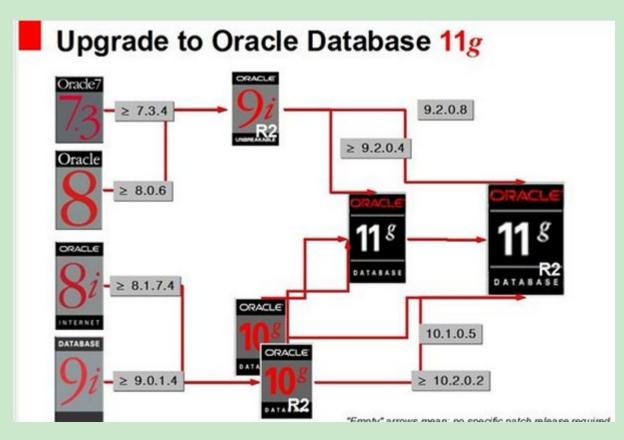关于在不同版本和平台之间进行还原或复制的常见问题 ：http://blog.itpub.net/26736162/viewspace-1549041/

前言：
　　在上一篇 blog 中（【RMAN】RMAN 跨版本恢复(中)：http://blog.itpub.net/26736162/viewspace-1561352/ ）中由 10.2.0.1.0 的备份集恢复到 11.2.0.3.0 的时候失败了，今天又用 10.2.0.4.0 的版本来实验了下，虽然坎坷，但是还是成功了。

简单的来说就是 2 个步骤：

1. 将 10g 数据库 还原 11g 上
2. 升级还原的 10g 数据库到 11g。

一、 迁移前需要注意的地方

随着 Oracle 版本的升级，RMAN 也得到增强，在 Oracle11g 中的 RMAN 支持不同操作系统和不同 DB 之前的使用，但是 Oracle 10.2.0.1 不能直接升级到 11gR2，至少需要先升级到 10.2.0.2 以后才可以升级到 11gR2，也就是需要遵循 oracle 的升级路线图，由下图可以看出升级到 11gR2 必须是 10.2.0.2 以上，或者是 10.1.0.5 版本。

二、 rman 全备份 source 数据库并拷贝到异机

①、 在 Source 库上执行 utlu112i.sql 脚本

在 Source 备份之前，需要执行一下 utlu112i.sql 脚本，如果不执行，那么在升级时执行 @?/rdbms/admin/catupgrd.sql 脚本时可能会报如下错误：

```
DOC>    The following error is generated if the pre-upgrade tool has not been
DOC>    run in the old ORACLE_HOME home prior to upgrading a pre-11.2 database:
```

```
DOC>
DOC>     SELECT TO_NUMBER('MUST_HAVE_RUN_PRE-UPGRADE_TOOL_FOR_TIMEZONE')
DOC>                                           *
DOC>        ERROR at line 1:
DOC>        ORA-01722: invalid number
DOC>
DOC>     o Action:
DOC>         Shutdown database ("alter systemcheckpoint" and then "shutdown abort").
DOC>         Revert to the original oracle home andstart the database.
DOC>         Run pre-upgrade tool against thedatabase.
DOC>         Review and take appropriate actionsbased on the pre-upgrade
DOC>         output before opening the datatabase inthe new software version.
DOC>
```

将 11g $ORACLE_HOME/rdbms/admin 下的 utlu112i.sql 脚本 copy 到 10g 的$ORACLE_HOME/rdbms/admin 下，并在 10g 上执行，这个脚本可以检查升级前的一些信息。

如果不满足条件，会列出。

target 库操作：

```
[oracle@testdb dbs]$ scp $ORACLE_HOME/rdbms/admin/utlu112i.sql oracle@192.168.59.130:/tmp/utlu112i.sql
The authenticity of host '192.168.59.130 (192.168.59.130)' can't be established.
RSA key fingerprint is e5:3a:87:f2:a8:5a:a7:80:da:b3:63:b9:72:92:5a:a9.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.59.130' (RSA) to the list of known hosts.
oracle@192.168.59.130's password:
utlu112i.sql
100%  209KB 208.9KB/s    00:00
[oracle@testdb dbs]$
```

source 库操作：

```
[oracle@rhel6_lhr dbs]$ sqlplus / as sysdba

SQL*Plus: Release 10.2.0.4.0 - Production on Fri Apr 10 10:45:47 2015

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Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> @/tmp/utlu112i.sql;
Oracle Database 11.2 Pre-Upgrade Information Tool 04-10-2015 10:48:23
Script Version: 11.2.0.3.0 Build: 001
.
**********************************************************************
Database:
**********************************************************************
--> name:          ORA1024G
--> version:       10.2.0.4.0
--> compatible:    10.2.0.3.0
--> blocksize:     8192
--> platform:      Linux x86 64-bit
--> timezone file: V4
.
**********************************************************************
Tablespaces: [make adjustments in the current environment]
**********************************************************************
--> SYSTEM tablespace is adequate for the upgrade.
.... minimum required size: 725 MB
--> UNDOTBS1 tablespace is adequate for the upgrade.
```

```
.... minimum required size: 400 MB
--> SYSAUX tablespace is adequate for the upgrade.
.... minimum required size: 463 MB
--> TEMP tablespace is adequate for the upgrade.
.... minimum required size: 60 MB
--> EXAMPLE tablespace is adequate for the upgrade.
.... minimum required size: 69 MB
.
**********************************************************
Flashback: OFF
**********************************************************
**********************************************************
Update Parameters: [Update Oracle Database 11.2 init.ora or spfile]
Note: Pre-upgrade tool was run on a lower version 64-bit database.
**********************************************************
--> If Target Oracle is 32-Bit, refer here for Update Parameters:
-- No update parameter changes are required.
.

--> If Target Oracle is 64-Bit, refer here for Update Parameters:
WARNING: --> "sga_target" needs to be increased to at least 596 MB
.
**********************************************************
Renamed Parameters: [Update Oracle Database 11.2 init.ora or spfile]
**********************************************************
-- No renamed parameters found. No changes are required.
.
**********************************************************
Obsolete/Deprecated Parameters: [Update Oracle Database 11.2 init.ora or spfile]
**********************************************************
--> user_dump_dest              11.1       DEPRECATED   replaced by "diagnostic_dest"
.

**********************************************************
Components: [The following database components will be upgraded or installed]
**********************************************************
--> Oracle Catalog Views          [upgrade]  VALID
--> Oracle Packages and Types      [upgrade]  VALID
--> JServer JAVA Virtual Machine   [upgrade]  VALID
--> Oracle XDK for Java            [upgrade]  VALID
--> Oracle Workspace Manager       [upgrade]  VALID
--> OLAP Analytic Workspace        [upgrade]  VALID
--> OLAP Catalog                   [upgrade]  VALID
--> EM Repository                  [upgrade]  VALID
--> Oracle Text                    [upgrade]  VALID
--> Oracle XML Database            [upgrade]  VALID
--> Oracle Java Packages           [upgrade]  VALID
--> Oracle interMedia              [upgrade]  VALID
--> Spatial                        [upgrade]  VALID
--> Data Mining                    [upgrade]  VALID
--> Expression Filter              [upgrade]  VALID
--> Rule Manager                   [upgrade]  VALID
--> Oracle OLAP API                [upgrade]  VALID
.
**********************************************************
Miscellaneous Warnings
**********************************************************
WARNING: --> Database is using a timezone file older than version 14.
.... After the release migration, it is recommended that DBMS_DST package
.... be used to upgrade the 10.2.0.4.0 database timezone version
.... to the latest version which comes with the new release.
WARNING: --> EM Database Control Repository exists in the database.
.... Direct downgrade of EM Database Control is not supported. Refer to the
.... Upgrade Guide for instructions to save the EM data prior to upgrade.
WARNING: --> Your recycle bin is turned on and currently contains no objects.
.... Because it is REQUIRED that the recycle bin be empty prior to upgrading
.... and your recycle bin is turned on, you may need to execute the command:
```

```
        PURGE DBA_RECYCLEBIN
.... prior to executing your upgrade to confirm the recycle bin is empty.
.
**********************************************************************
Recommendations
**********************************************************************
Oracle recommends gathering dictionary statistics prior to
upgrading the database.
To gather dictionary statistics execute the following command
while connected as SYSDBA:

    EXECUTE dbms_stats.gather_dictionary_stats;

**********************************************************************
Oracle recommends reviewing any defined events prior to upgrading.

To view existing non-default events execute the following commands
while connected AS SYSDBA:
  Events:
    SELECT (translate(value,chr(13)||chr(10),' ')) FROM sys.v$parameter2
      WHERE  UPPER(name) ='EVENT' AND  isdefault='FALSE'

  Trace Events:
    SELECT (translate(value,chr(13)||chr(10),' ')) from sys.v$parameter2
      WHERE UPPER(name) = '_TRACE_EVENTS' AND isdefault='FALSE'

Changes will need to be made in the init.ora or spfile.

**********************************************************************
SQL>
```

②、 source 库执行备份

备份脚本如下：
[oracle@redhat4 ~]$ mkdir -p /home/oracle/oracle_bk/orcl/

```
run{
 allocate channel c1 type disk;
 allocate channel c2 type disk;
 backup database filesperset 4 format   '/home/oracle/oracle_bk/orcl/full_%n_%T_%t_%s_%p.bak';
 backup spfile format='/home/oracle/oracle_bk/orcl/spfile_%n_%U_%T.bak';
 sql 'alter system archive log current';
 backup archivelog all format '/home/oracle/oracle_bk/orcl/arch_%d_%T_%s_%p.bak' delete input;
 backup current controlfile format '/home/oracle/oracle_bk/orcl/ctl_%d_%T_%s_%p.bak';
release channel c1;
release channel c2;
}
```

```
[oracle@rhel6_lhr dbs]$ sqlplus / as sysdba
```

```
SQL*Plus: Release 10.2.0.4.0 - Production on Fri Apr 10 11:00:40 2015

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Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> create pfile from spfile;

File created.

SQL>


[oracle@rhel6_lhr dbs]$ rman target /

Recovery Manager: Release 10.2.0.4.0 - Production on Fri Apr 10 10:55:56 2015

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connected to target database: ORA1024G (DBID=2698093861)

RMAN> run{
2>  allocate channel c1 type disk;
3>  allocate channel c2 type disk;
4>  backup database filesperset 4 format  '/home/oracle/oracle_bk/orcl/full_%n_%T_%t_%s_%p.bak';
5>  backup spfile format='/home/oracle/oracle_bk/orcl/spfile_%n_%U_%T.bak';
6>  sql 'alter system archive log current';
7>  backup archivelog all format '/home/oracle/oracle_bk/orcl/arch_%d_%T_%s_%p.bak' delete input;
8>  backup current controlfile format '/home/oracle/oracle_bk/orcl/ctl_%d_%T_%s_%p.bak';
9> release channel c1;
10> release channel c2;
11> }

using target database control file instead of recovery catalog
allocated channel: c1
channel c1: sid=147 devtype=DISK

allocated channel: c2
channel c2: sid=145 devtype=DISK


Starting backup at 2015-04-10 10:56:04
channel c1: starting full datafile backupset
channel c1: specifying datafile(s) in backupset
input datafile fno=00001 name=/u03/app/oracle/oradata/ora1024g/system01.dbf
input datafile fno=00004 name=/u03/app/oracle/oradata/ora1024g/users01.dbf
input datafile fno=00006 name=/u03/app/oracle/oradata/ora1024g/undotbs02.dbf
channel c1: starting piece 1 at 2015-04-10 10:56:04
channel c2: starting full datafile backupset
channel c2: specifying datafile(s) in backupset
input datafile fno=00003 name=/u03/app/oracle/oradata/ora1024g/sysaux01.dbf
input datafile fno=00005 name=/u03/app/oracle/oradata/ora1024g/example01.dbf
input datafile fno=00002 name=/u03/app/oracle/oradata/ora1024g/undotbs01.dbf
channel c2: starting piece 1 at 2015-04-10 10:56:04
channel c1: finished piece 1 at 2015-04-10 10:57:30
piece handle=/home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653764_4_1.bak tag=TAG20150410T105604 comment=NONE
channel c1: backup set complete, elapsed time: 00:01:26
channel c1: starting full datafile backupset
channel c1: specifying datafile(s) in backupset
including current control file in backupset
channel c1: starting piece 1 at 2015-04-10 10:57:31
channel c2: finished piece 1 at 2015-04-10 10:57:31
piece handle=/home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653764_5_1.bak tag=TAG20150410T105604 comment=NONE
channel c2: backup set complete, elapsed time: 00:01:27
channel c2: starting full datafile backupset
```

```
channel c2: specifying datafile(s) in backupset
including current SPFILE in backupset
channel c2: starting piece 1 at 2015-04-10 10:57:31
channel c1: finished piece 1 at 2015-04-10 10:57:32
piece handle=/home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653850_6_1.bak tag=TAG20150410T105604 comment=NONE
channel c1: backup set complete, elapsed time: 00:00:02
channel c2: finished piece 1 at 2015-04-10 10:57:32
piece handle=/home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653851_7_1.bak tag=TAG20150410T105604 comment=NONE
channel c2: backup set complete, elapsed time: 00:00:01
Finished backup at 2015-04-10 10:57:32

Starting backup at 2015-04-10 10:57:33
channel c1: starting full datafile backupset
channel c1: specifying datafile(s) in backupset
including current SPFILE in backupset
channel c1: starting piece 1 at 2015-04-10 10:57:33
channel c1: finished piece 1 at 2015-04-10 10:57:34
piece handle=/home/oracle/oracle_bk/orcl/spfile_ORA1024G_08q41b8t_1_1_20150410.bak tag=TAG20150410T105733 comment=NONE
channel c1: backup set complete, elapsed time: 00:00:01
Finished backup at 2015-04-10 10:57:34

sql statement: alter system archive log current

Starting backup at 2015-04-10 10:57:35
current log archived
channel c1: starting archive log backupset
channel c1: specifying archive log(s) in backup set
input archive log thread=1 sequence=28 recid=30 stamp=874180665
input archive log thread=1 sequence=29 recid=31 stamp=874181151
input archive log thread=1 sequence=30 recid=32 stamp=874181383
input archive log thread=1 sequence=31 recid=33 stamp=874182798
input archive log thread=1 sequence=32 recid=34 stamp=874182798
input archive log thread=1 sequence=33 recid=35 stamp=874182839
input archive log thread=1 sequence=34 recid=36 stamp=874182920
input archive log thread=1 sequence=35 recid=37 stamp=874182980
input archive log thread=1 sequence=36 recid=38 stamp=874183040
input archive log thread=1 sequence=37 recid=39 stamp=874183248
input archive log thread=1 sequence=38 recid=40 stamp=874183429
input archive log thread=1 sequence=39 recid=41 stamp=874183550
input archive log thread=1 sequence=40 recid=42 stamp=874183707
input archive log thread=1 sequence=41 recid=43 stamp=874183933
input archive log thread=1 sequence=42 recid=44 stamp=874229749
input archive log thread=1 sequence=43 recid=45 stamp=874231410
input archive log thread=1 sequence=44 recid=46 stamp=874232006
input archive log thread=1 sequence=45 recid=47 stamp=874232523
input archive log thread=1 sequence=46 recid=48 stamp=874232539
input archive log thread=1 sequence=47 recid=49 stamp=874232587
input archive log thread=1 sequence=48 recid=50 stamp=874257695
input archive log thread=1 sequence=49 recid=51 stamp=876653024
channel c1: starting piece 1 at 2015-04-10 10:57:37
channel c2: starting archive log backupset
channel c2: specifying archive log(s) in backup set
input archive log thread=1 sequence=1 recid=3 stamp=874146061
input archive log thread=1 sequence=2 recid=4 stamp=874173997
input archive log thread=1 sequence=3 recid=5 stamp=874174578
input archive log thread=1 sequence=4 recid=6 stamp=874174964
input archive log thread=1 sequence=5 recid=7 stamp=874175135
input archive log thread=1 sequence=6 recid=8 stamp=874176567
input archive log thread=1 sequence=7 recid=9 stamp=874176642
input archive log thread=1 sequence=8 recid=10 stamp=874176813
input archive log thread=1 sequence=9 recid=11 stamp=874176891
input archive log thread=1 sequence=10 recid=12 stamp=874176944
input archive log thread=1 sequence=11 recid=13 stamp=874177001
input archive log thread=1 sequence=12 recid=14 stamp=874177192
input archive log thread=1 sequence=13 recid=15 stamp=874177339
input archive log thread=1 sequence=14 recid=16 stamp=874178193
input archive log thread=1 sequence=15 recid=17 stamp=874178220
```

```
input archive log thread=1 sequence=16 recid=18 stamp=874178248
input archive log thread=1 sequence=17 recid=19 stamp=874178514
input archive log thread=1 sequence=18 recid=20 stamp=874178629
input archive log thread=1 sequence=19 recid=21 stamp=874179234
input archive log thread=1 sequence=20 recid=22 stamp=874179587
input archive log thread=1 sequence=21 recid=23 stamp=874179818
input archive log thread=1 sequence=22 recid=24 stamp=874179946
input archive log thread=1 sequence=23 recid=25 stamp=874180013
input archive log thread=1 sequence=24 recid=26 stamp=874180045
input archive log thread=1 sequence=25 recid=27 stamp=874180177
input archive log thread=1 sequence=26 recid=28 stamp=874180387
input archive log thread=1 sequence=27 recid=29 stamp=874180624
channel c2: starting piece 1 at 2015-04-10 10:57:37
channel c1: finished piece 1 at 2015-04-10 10:57:44
piece handle=/home/oracle/oracle_bk/orcl/arch_ORA1024G_20150410_9_1.bak tag=TAG20150410T105735 comment=NONE
channel c1: backup set complete, elapsed time: 00:00:08
channel c1: deleting archive log(s)
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_28_bj2zss27_.arc recid=30 stamp=874180665
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_29_bj308z6m_.arc recid=31 stamp=874181151
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_30_bj30j7f0_.arc recid=32 stamp=874181383
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_31_bj31wg6x_.arc recid=33 stamp=874182798
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_32_bj31wg77_.arc recid=34 stamp=874182798
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_33_bj31xqc4_.arc recid=35 stamp=874182839
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_34_bj3208q4_.arc recid=36 stamp=874182920
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_35_bj3224vc_.arc recid=37 stamp=874182980
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_36_bj32409g_.arc recid=38 stamp=874183040
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_37_bj32bj52_.arc recid=39 stamp=874183248
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_38_bj32j54p_.arc recid=40 stamp=874183429
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_39_bj32mygp_.arc recid=41 stamp=874183550
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_40_bj32rv2k_.arc recid=42 stamp=874183707
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_41_bj32zxom_.arc recid=43 stamp=874183933
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_42_bj4hqoty_.arc recid=44 stamp=874229749
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_43_bj4kclm5_.arc recid=45 stamp=874231410
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_44_bj4ky6mw_.arc recid=46 stamp=874232006
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_45_bj4lgc2k_.arc recid=47 stamp=874232523
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_46_bj4lgv0o_.arc recid=48 stamp=874232539
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_47_bj4ljcwg_.arc recid=49 stamp=874232587
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_13/o1_mf_1_48_bj5c0zgc_.arc recid=50 stamp=874257695
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_49_blgg6r3m_.arc recid=51 stamp=876653024
channel c2: finished piece 1 at 2015-04-10 10:57:45
piece handle=/home/oracle/oracle_bk/orcl/arch_ORA1024G_20150410_10_1.bak tag=TAG20150410T105735 comment=NONE
channel c2: backup set complete, elapsed time: 00:00:09
channel c2: deleting archive log(s)
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_1_bj1y0f28_.arc recid=3 stamp=874146061
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_2_bj2s9d1c_.arc recid=4 stamp=874173997
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_3_bj2svl3x_.arc recid=5 stamp=874174578
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_4_bj2t7nct_.arc recid=6 stamp=874174964
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_5_bj2tdz19_.arc recid=7 stamp=874175135
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_6_bj2vsqt9_.arc recid=8 stamp=874176567
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_7_bj2vw23p_.arc recid=9 stamp=874176642
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_8_bj2w1f3m_.arc recid=10 stamp=874176813
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_9_bj2w3vmf_.arc recid=11 stamp=874176891
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_10_bj2w5jv7_.arc recid=12 stamp=874176944
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_11_bj2w7962_.arc recid=13 stamp=874177001
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_12_bj2wf8gp_.arc recid=14 stamp=874177192
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_13_bj2wkvtv_.arc recid=15 stamp=874177339
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_14_bj2xdk7j_.arc recid=16 stamp=874178193
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_15_bj2xfd82_.arc recid=17 stamp=874178220
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_16_bj2xg8c2_.arc recid=18 stamp=874178248
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_17_bj2xplw4_.arc recid=19 stamp=874178514
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_18_bj2xt5rh_.arc recid=20 stamp=874178629
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_19_bj2yf26n_.arc recid=21 stamp=874179234
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_20_bj2yr3c1_.arc recid=22 stamp=874179587
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_21_bj2yzb76_.arc recid=23 stamp=874179818
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_22_bj2z3b9g_.arc recid=24 stamp=874179946
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_23_bj2z5f1y_.arc recid=25 stamp=874180013
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_24_bj2z6fmq_.arc recid=26 stamp=874180045
```

```
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_25_bj2zbk8g_.arc recid=27 stamp=874180177
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_26_bj2zk3dy_.arc recid=28 stamp=874180387
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_27_bj2zrjg9_.arc recid=29 stamp=874180624
channel c1: starting archive log backupset
channel c1: specifying archive log(s) in backup set
input archive log thread=1 sequence=50 recid=52 stamp=876653855
input archive log thread=1 sequence=51 recid=53 stamp=876653855
channel c1: starting piece 1 at 2015-04-10 10:57:45
channel c2: starting archive log backupset
channel c2: specifying archive log(s) in backup set
input archive log thread=1 sequence=5 recid=1 stamp=874145991
input archive log thread=1 sequence=6 recid=2 stamp=874145991
channel c2: starting piece 1 at 2015-04-10 10:57:45
channel c1: finished piece 1 at 2015-04-10 10:57:46
piece handle=/home/oracle/oracle_bk/orcl/arch_ORA1024G_20150410_11_1.bak tag=TAG20150410T105735 comment=NONE
channel c1: backup set complete, elapsed time: 00:00:01
channel c1: deleting archive log(s)
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_50_blgh0z1n_.arc recid=52 stamp=876653855
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_51_blgh0z4q_.arc recid=53 stamp=876653855
channel c2: finished piece 1 at 2015-04-10 10:57:46
piece handle=/home/oracle/oracle_bk/orcl/arch_ORA1024G_20150410_12_1.bak tag=TAG20150410T105735 comment=NONE
channel c2: backup set complete, elapsed time: 00:00:01
channel c2: deleting archive log(s)
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_5_bj1xy7cd_.arc recid=1 stamp=874145991
archive log filename=/u03/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_03_12/o1_mf_1_6_bj1xy7ff_.arc recid=2 stamp=874145991
Finished backup at 2015-04-10 10:57:46

Starting backup at 2015-04-10 10:57:49
channel c1: starting full datafile backupset
channel c1: specifying datafile(s) in backupset
including current control file in backupset
channel c1: starting piece 1 at 2015-04-10 10:57:49
channel c1: finished piece 1 at 2015-04-10 10:57:50
piece handle=/home/oracle/oracle_bk/orcl/ctl_ORA1024G_20150410_13_1.bak tag=TAG20150410T105749 comment=NONE
channel c1: backup set complete, elapsed time: 00:00:01
Finished backup at 2015-04-10 10:57:50

released channel: c1

released channel: c2



RMAN> list backup summary;


List of Backups
===============
Key     TY LV S Device Type Completion Time      #Pieces #Copies Compressed Tag
------- -- -- - ----------- -------------------- ------- ------- ---------- ---
4       B  F  A DISK        2015-04-10 10:57:24 1       1       NO         TAG20150410T105604
5       B  F  A DISK        2015-04-10 10:57:27 1       1       NO         TAG20150410T105604
6       B  F  A DISK        2015-04-10 10:57:31 1       1       NO         TAG20150410T105604
7       B  F  A DISK        2015-04-10 10:57:31 1       1       NO         TAG20150410T105604
8       B  F  A DISK        2015-04-10 10:57:33 1       1       NO         TAG20150410T105733
9       B  A  A DISK        2015-04-10 10:57:40 1       1       NO         TAG20150410T105735
10      B  A  A DISK        2015-04-10 10:57:43 1       1       NO         TAG20150410T105735
11      B  A  A DISK        2015-04-10 10:57:45 1       1       NO         TAG20150410T105735
12      B  A  A DISK        2015-04-10 10:57:45 1       1       NO         TAG20150410T105735
13      B  F  A DISK        2015-04-10 10:57:49 1       1       NO         TAG20150410T105749

RMAN>
```

```
[root@redhat4 ~]# cd /home/oracle/oracle_bk/orcl/
[root@redhat4 orcl]# ll
总用量 653796
-rw-r-----  1 oracle oinstall    103936  4月   9 16:24 arch_JIAGULUN_20150409_19_1.bak
-rw-r-----  1 oracle oinstall      2560  4月   9 16:24 arch_JIAGULUN_20150409_20_1.bak
-rw-r-----  1 oracle oinstall   7110656  4月   9 16:24 ctl_JIAGULUN_20150409_21_1.bak
-rw-r-----  1 oracle oinstall 392822784  4月   9 16:23 full_JIAGULUN_20150409_876586944_14_1.bak
-rw-r-----  1 oracle oinstall 261447680  4月   9 16:23 full_JIAGULUN_20150409_876586944_15_1.bak
-rw-r-----  1 oracle oinstall   7110656  4月   9 16:24 full_JIAGULUN_20150409_876587040_16_1.bak
-rw-r-----  1 oracle oinstall     98304  4月   9 16:24 full_JIAGULUN_20150409_876587041_17_1.bak
-rw-r-----  1 oracle oinstall     98304  4月   9 16:24 spfile_JIAGULUN_0iq3va14_1_1_20150409.bak
[root@redhat4 orcl]#

[root@redhat4 orcl]# su - oracle
[oracle@redhat4 ~]$ cd /home/oracle/oracle_bk/
[oracle@redhat4 oracle_bk]$ scp -r orcl oracle@192.168.59.10:/tmp/
oracle@192.168.59.10's password:
spfile_ORA1024G_08q41b8t_1_1_20150410.bak
100%   96KB  96.0KB/s   00:00
full_ORA1024G_20150410_876653764_5_1.bak
100%  223MB  31.9MB/s   00:07
arch_ORA1024G_20150410_12_1.bak
100% 3584      3.5KB/s   00:00
full_ORA1024G_20150410_876653764_4_1.bak
100%  367MB  16.7MB/s   00:22
arch_ORA1024G_20150410_9_1.bak
100%   38MB   4.7MB/s   00:08
arch_ORA1024G_20150410_11_1.bak
100% 1849KB   1.8MB/s   00:00
full_ORA1024G_20150410_876653850_6_1.bak
100% 7232KB   7.1MB/s   00:01
ctl_ORA1024G_20150410_13_1.bak
100% 7232KB   2.4MB/s   00:03
full_ORA1024G_20150410_876653851_7_1.bak
100%   96KB  96.0KB/s   00:00
arch_ORA1024G_20150410_10_1.bak
100% 8300KB   8.1MB/s   00:00
[oracle@rhel6_1hr oracle_bk]$ [oracle@redhat4 oracle_bk]$ scp $ORACLE_HOME/dbs/initora1024g oracle@192.168.59.10:/tmp/orcl/
oracle@192.168.59.10's password:
initjiagulun.ora
100% 1171      1.1KB/s   00:00
[oracle@redhat4 oracle_bk]$
```

三、   在 target 异机的操作

1、 恢复 spfile

这里不采用 rman 恢复了，因为要实验异机不同路径的恢复，所以直接修改 pfile 文件吧。

```
[oracle@testdb orcl]$ cd /tmp/orcl
[oracle@testdb orcl]$ cp initora1024g.ora $ORACLE_HOME/dbs/
[oracle@testdb orcl]$ vi $ORACLE_HOME/dbs/initora1024g.ora
```

修改 pfile 文件之后：

```
[oracle@testdb orcl]$ more $ORACLE_HOME/dbs/initora1024g.ora
*.audit_file_dest='/u01/app/oracle/admin/ora1024g/adump'
*.compatible='10.2.0.3.0'
*.control_files='/u01/app/oracle/oradata/ora1024g/control01.ctl','/u01/app/oracle/oradata/ora1024g/control02.ctl','/u01/app/oracle/oradata/ora1024g/control
03.ctl'
*.db_block_size=8192
*.db_domain=''
*.db_file_multiblock_read_count=16
*.db_name='ora1024g'
*.db_recovery_file_dest='/u01/app/oracle/flash_recovery_area'
*.db_recovery_file_dest_size=2147483648
*.dispatchers='(PROTOCOL=TCP) (SERVICE=ora1024gXDB)'
*.job_queue_processes=10
*.nls_date_format='yyyy-mm-dd hh24:mi:ss'
*.open_cursors=300
*.processes=150
*.remote_login_passwordfile='EXCLUSIVE'
*.memory_target=800790528
*.java_pool_size=300720256
*.shared_pool_size=300103808
*.undo_management='AUTO'
*.undo_tablespace='UNDOTBS1'
[oracle@testdb orcl]$
```

创建相关路径：
```
[oracle@testdb orcl]$ mkdir -p /u01/app/oracle/admin/ora1024g/adump
[oracle@testdb orcl]$ mkdir -p /u01/app/oracle/oradata/ora1024g/
[oracle@testdb orcl]$
```

```
[oracle@testdb dbs]$ ORACLE_SID=ora1024g
[oracle@testdb dbs]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.3.0 Production on Fri Apr 10 12:38:29 2015

Copyright (c) 1982, 2011, Oracle.  All rights reserved.

Connected to an idle instance.

SQL>  create spfile from pfile;

File created.

SQL>


SQL> startup nomount;
ORACLE instance started.

Total System Global Area  501059584 bytes
Fixed Size                  2229744 bytes
Variable Size             310381072 bytes
Database Buffers          180355072 bytes
Redo Buffers                8093696 bytes
SQL>
```

2、 恢复控制文件

```
[oracle@testdb orcl]$ rman target /

Recovery Manager: Release 11.2.0.3.0 - Production on Fri Apr 10 12:39:19 2015

Copyright (c) 1982, 2011, Oracle and/or its affiliates.  All rights reserved.

connected to target database: ORA1024G (not mounted)

RMAN> restore controlfile to '/u01/app/oracle/oradata/ora1024g/control01.ctl' from '/tmp/orcl/ctl_ORA1024G_20150410_13_1.bak';

Starting restore at 10-APR-15
using target database control file instead of recovery catalog
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=136 device type=DISK

channel ORA_DISK_1: restoring control file
channel ORA_DISK_1: restore complete, elapsed time: 00:00:01
Finished restore at 10-APR-15

RMAN>

RMAN> host;

[oracle@testdb orcl]$ cp /u01/app/oracle/oradata/ora1024g/control01.ctl /u01/app/oracle/oradata/ora1024g/control02.ctl
[oracle@testdb orcl]$ cp /u01/app/oracle/oradata/ora1024g/control01.ctl /u01/app/oracle/oradata/ora1024g/control03.ctl
[oracle@testdb orcl]$ exit
exit
host command complete

RMAN>

RMAN> alter database mount;

using target database control file instead of recovery catalog

database mounted

RMAN>
RMAN>
```

告警日志：
Fri Apr 10 12:43:54 2015
alter database mount
Control file expanded from 448 to 610 blocks for upgrade.
Set as converted control file due to db_unique_name mismatch

```
Changing di2dbun from  to ora1024g
Expanded controlfile section 32 from 10 to 31 records
The number of logical blocks in section 32 remains the same
Fri Apr 10 12:43:58 2015
Successful mount of redo thread 1, with mount id 2700660298
Database mounted in Exclusive Mode
Lost write protection disabled
Create Relation IPS_PACKAGE_UNPACK_HISTORY
Completed: alter database mount
```

3、恢复归档文件

```
RMAN> catalog start with '/tmp/orcl/';

Starting implicit crosscheck backup at 10-APR-15
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=136 device type=DISK
Crosschecked 12 objects
Finished implicit crosscheck backup at 10-APR-15

Starting implicit crosscheck copy at 10-APR-15
using channel ORA_DISK_1
Finished implicit crosscheck copy at 10-APR-15

searching for all files in the recovery area
cataloging files...
no files cataloged

searching for all files that match the pattern /tmp/orcl/

List of Files Unknown to the Database
=====================================
File Name: /tmp/orcl/spfile_ORA1024G_08q41b8t_1_1_20150410.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653764_5_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_12_1.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653764_4_1.bak
File Name: /tmp/orcl/initora1024g.ora
File Name: /tmp/orcl/arch_ORA1024G_20150410_9_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_11_1.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653850_6_1.bak
File Name: /tmp/orcl/ctl_ORA1024G_20150410_13_1.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653851_7_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_10_1.bak

Do you really want to catalog the above files (enter YES or NO)? yes
cataloging files...
cataloging done

List of Cataloged Files
=======================
File Name: /tmp/orcl/spfile_ORA1024G_08q41b8t_1_1_20150410.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653764_5_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_12_1.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653764_4_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_9_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_11_1.bak
File Name: /tmp/orcl/full_ORA1024G_20150410_876653850_6_1.bak
File Name: /tmp/orcl/ctl_ORA1024G_20150410_13_1.bak
```

```
File Name: /tmp/orcl/full_ORA1024G_20150410_876653851_7_1.bak
File Name: /tmp/orcl/arch_ORA1024G_20150410_10_1.bak

List of Files Which Where Not Cataloged
=======================================
File Name: /tmp/orcl/initora1024g.ora
  RMAN-07517: Reason: The file header is corrupted

RMAN>

RMAN> crosscheck archivelog all;

released channel: ORA_DISK_1
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=125 device type=DISK
specification does not match any archived log in the repository


RMAN> delete EXPIRED backupset;

using channel ORA_DISK_1

List of Backup Pieces
BP Key  BS Key  Pc# Cp# Status      Device Type Piece Name
------- ------- --- --- ----------- ----------- ----------
4       4       1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653764_5_1.bak
5       5       1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653764_4_1.bak
8       8       1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/spfile_ORA1024G_08q41b8t_1_1_20150410.bak
12      12      1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/arch_ORA1024G_20150410_11_1.bak

Do you really want to delete the above objects (enter YES or NO)? yes
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653764_5_1.bak RECID=4 STAMP=876653765
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/full_ORA1024G_20150410_876653764_4_1.bak RECID=5 STAMP=876653764
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/spfile_ORA1024G_08q41b8t_1_1_20150410.bak RECID=8 STAMP=876653853
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/arch_ORA1024G_20150410_11_1.bak RECID=12 STAMP=876653865
Deleted 4 EXPIRED objects


RMAN> list backup of archivelog all;


List of Backup Sets
===================


BS Key  Size       Device Type Elapsed Time Completion Time
------- ---------- ----------- ------------ ---------------
9       8.10M      DISK        00:00:04     10-APR-15
        BP Key: 27   Status: AVAILABLE  Compressed: NO  Tag: TAG20150410T105735
        Piece Name: /tmp/orcl/arch_ORA1024G_20150410_10_1.bak

  List of Archived Logs in backup set 9
  Thrd Seq     Low SCN    Low Time  Next SCN   Next Time
  ---- ------- ---------- --------- ---------- ---------
  1    1       662208     12-MAR-15 682213     12-MAR-15
  1    2       682213     12-MAR-15 713813     12-MAR-15
  1    3       713813     12-MAR-15 734293     12-MAR-15
  1    4       734293     12-MAR-15 754316     12-MAR-15
  1    5       754316     12-MAR-15 774339     12-MAR-15
  1    6       774339     12-MAR-15 795060     12-MAR-15
  1    7       795060     12-MAR-15 815180     12-MAR-15
  1    8       815180     12-MAR-15 835296     12-MAR-15
```

```
  1      9       835296      12-MAR-15 855340      12-MAR-15
  1      10      855340      12-MAR-15 875374      12-MAR-15
  1      11      875374      12-MAR-15 895414      12-MAR-15
  1      12      895414      12-MAR-15 915452      12-MAR-15
  1      13      915452      12-MAR-15 935521      12-MAR-15
  1      14      935521      12-MAR-15 957213      12-MAR-15
  1      15      957213      12-MAR-15 977241      12-MAR-15
  1      16      977241      12-MAR-15 997285      12-MAR-15
  1      17      997285      12-MAR-15 1017323     12-MAR-15
  1      18      1017323     12-MAR-15 1037360     12-MAR-15
  1      19      1037360     12-MAR-15 1057400     12-MAR-15
  1      20      1057400     12-MAR-15 1077441     12-MAR-15
  1      21      1077441     12-MAR-15 1097482     12-MAR-15
  1      22      1097482     12-MAR-15 1117523     12-MAR-15
  1      23      1117523     12-MAR-15 1137558     12-MAR-15
  1      24      1137558     12-MAR-15 1157586     12-MAR-15
  1      25      1157586     12-MAR-15 1177622     12-MAR-15
  1      26      1177622     12-MAR-15 1197725     12-MAR-15
  1      27      1197725     12-MAR-15 1217762     12-MAR-15

BS Key  Size        Device Type Elapsed Time Completion Time
------- ----------- ----------- ------------ ---------------
10      37.62M      DISK           00:00:07     10-APR-15
        BP Key: 24   Status: AVAILABLE  Compressed: NO  Tag: TAG20150410T105735
        Piece Name: /tmp/orcl/arch_ORA1024G_20150410_9_1.bak

  List of Archived Logs in backup set 10
  Thrd Seq      Low SCN    Low Time    Next SCN    Next Time
  ---- ------   ---------- ---------   ---------- ---------
  1      28      1217762     12-MAR-15 1237794     12-MAR-15
  1      29      1237794     12-MAR-15 1257829     12-MAR-15
  1      30      1257829     12-MAR-15 1277869     12-MAR-15
  1      31      1277869     12-MAR-15 1299920     12-MAR-15
  1      32      1299920     12-MAR-15 1319924     12-MAR-15
  1      33      1319924     12-MAR-15 1339928     12-MAR-15
  1      34      1339928     12-MAR-15 1359932     12-MAR-15
  1      35      1359932     12-MAR-15 1379936     12-MAR-15
  1      36      1379936     12-MAR-15 1399940     12-MAR-15
  1      37      1399940     12-MAR-15 1419945     12-MAR-15
  1      38      1419945     12-MAR-15 1439949     12-MAR-15
  1      39      1439949     12-MAR-15 1459953     12-MAR-15
  1      40      1459953     12-MAR-15 1479957     12-MAR-15
  1      41      1479957     12-MAR-15 1500098     12-MAR-15
  1      42      1500098     12-MAR-15 1520201     13-MAR-15
  1      43      1520201     13-MAR-15 1540685     13-MAR-15
  1      44      1540685     13-MAR-15 1561012     13-MAR-15
  1      45      1561012     13-MAR-15 1581158     13-MAR-15
  1      46      1581158     13-MAR-15 1601197     13-MAR-15
  1      47      1601197     13-MAR-15 1621238     13-MAR-15
  1      48      1621238     13-MAR-15 1647550     13-MAR-15
  1      49      1647550     13-MAR-15 1694275     10-APR-15

BS Key  Size        Device Type Elapsed Time Completion Time
------- ----------- ----------- ------------ ---------------
11      3.00K       DISK           00:00:00     10-APR-15
        BP Key: 23    Status: AVAILABLE  Compressed: NO  Tag: TAG20150410T105735
        Piece Name: /tmp/orcl/arch_ORA1024G_20150410_12_1.bak

  List of Archived Logs in backup set 11
  Thrd Seq      Low SCN    Low Time    Next SCN    Next Time
  ---- ------   ---------- ---------   ---------- ---------
  1      5       660997      11-MAR-15 660999      11-MAR-15
  1      6       660999      11-MAR-15 661005      11-MAR-15

BS Key  Size        Device Type Elapsed Time Completion Time
------- ----------- ----------- ------------ ---------------
12      1.80M       DISK           00:00:00     10-APR-15
```

```
        BP Key: 18    Status: AVAILABLE  Compressed: NO  Tag: TAG20150410T105735
        Piece Name: /tmp/orcl/arch_ORA1024G_20150410_11_1.bak

  List of Archived Logs in backup set 12
  Thrd Seq      Low SCN    Low Time   Next SCN   Next Time
  ---- -------  ---------- ---------- ---------- ---------
  1    50       1694275    10-APR-15 1694970     10-APR-15
  1    51       1694970    10-APR-15 1694975     10-APR-15

RMAN>


RMAN>
RMAN> restore archivelog sequence between 41 and 51;

Starting restore at 10-APR-15
using channel ORA_DISK_1

channel ORA_DISK_1: starting archived log restore to default destination
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=41
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=42
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=43
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=44
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=45
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=46
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=47
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=48
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=49
channel ORA_DISK_1: reading from backup piece /tmp/orcl/arch_ORA1024G_20150410_9_1.bak
channel ORA_DISK_1: piece handle=/tmp/orcl/arch_ORA1024G_20150410_9_1.bak tag=TAG20150410T105735
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:00:03
channel ORA_DISK_1: starting archived log restore to default destination
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=50
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=51
channel ORA_DISK_1: reading from backup piece /tmp/orcl/arch_ORA1024G_20150410_11_1.bak
channel ORA_DISK_1: piece handle=/tmp/orcl/arch_ORA1024G_20150410_11_1.bak tag=TAG20150410T105735
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:00:01
Finished restore at 10-APR-15

RMAN>
```

4、 恢复数据文件

由于恢复路径不同，所以需要 set newname。

set pagesize   200 linesize 200
select 'set newname for datafile ' || a.FILE# || ' to ''' || a.NAME || ''';'

```
    from v$datafile a
union all
select 'set newname for tempfile ' || a.FILE# || ' to "' || a.NAME || '";'
    from v$tempfile a
union all
SELECT 'SQL "ALTER DATABASE RENAME FILE ''' || a.MEMBER || '''   to   ''' ||
        a.MEMBER || ''' ";'
    FROM v$logfile a;
```

```
RMAN> host
2> ;

[oracle@testdb orcl]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.3.0 Production on Fri Apr 10 12:56:08 2015

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> set pagesize  200 linesize 200
SQL> select 'set newname for datafile ' || a.FILE# || ' to "' || a.NAME || '";'
  2     from v$datafile a
  3  union all
  4  select 'set newname for tempfile ' || a.FILE# || ' to "' || a.NAME || '";'
  5     from v$tempfile a
  6  union all
  7  SELECT 'SQL "ALTER DATABASE RENAME FILE ''''' || a.MEMBER || '''''   to  ''''' ||
  8          a.MEMBER || ''''' ";'
  9     FROM v$logfile a;

'SETNEWNAMEFORDATAFILE'||A.FILE#||'TO"'||A.NAME||'";'
--------------------------------------------------------------------------------------------------------------------------------------------------------
----------------------------------------------------
set newname for datafile 1 to "/u03/app/oracle/oradata/ora1024g/system01.dbf";
set newname for datafile 2 to "/u03/app/oracle/oradata/ora1024g/undotbs01.dbf";
set newname for datafile 3 to "/u03/app/oracle/oradata/ora1024g/sysaux01.dbf";
set newname for datafile 4 to "/u03/app/oracle/oradata/ora1024g/users01.dbf";
set newname for datafile 5 to "/u03/app/oracle/oradata/ora1024g/example01.dbf";
set newname for datafile 6 to "/u03/app/oracle/oradata/ora1024g/undotbs02.dbf";
set newname for tempfile 1 to "/u03/app/oracle/oradata/ora1024g/temp01.dbf";
SQL "ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo03.log''   to  ''/u03/app/oracle/oradata/ora1024g/redo03.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo02.log''   to  ''/u03/app/oracle/oradata/ora1024g/redo02.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo01.log''   to  ''/u03/app/oracle/oradata/ora1024g/redo01.log'' ";

10 rows selected.

SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[oracle@testdb orcl]$ exit
exit
host command complete

RMAN>
```

修改脚本：

```
RUN
{
   ALLOCATE CHANNEL c1 DEVICE TYPE DISK;
set newname for datafile 1 to "/u01/app/oracle/oradata/ora1024g/system01.dbf";
set newname for datafile 2 to "/u01/app/oracle/oradata/ora1024g/undotbs01.dbf";
set newname for datafile 3 to "/u01/app/oracle/oradata/ora1024g/sysaux01.dbf";
set newname for datafile 4 to "/u01/app/oracle/oradata/ora1024g/users01.dbf";
set newname for datafile 5 to "/u01/app/oracle/oradata/ora1024g/example01.dbf";
set newname for datafile 6 to "/u01/app/oracle/oradata/ora1024g/undotbs02.dbf";
set newname for tempfile 1 to "/u01/app/oracle/oradata/ora1024g/temp01.dbf";
SQL "ALTER DATABASE RENAME FILE "/u03/app/oracle/oradata/ora1024g/redo03.log"   to   "/u01/app/oracle/oradata/ora1024g/redo03.log" ";
SQL "ALTER DATABASE RENAME FILE "/u03/app/oracle/oradata/ora1024g/redo02.log"   to   "/u01/app/oracle/oradata/ora1024g/redo02.log" ";
SQL "ALTER DATABASE RENAME FILE "/u03/app/oracle/oradata/ora1024g/redo01.log"   to   "/u01/app/oracle/oradata/ora1024g/redo01.log" ";

   SET UNTIL sequence 51 thread 1;
   RESTORE DATABASE;
   SWITCH DATAFILE ALL;
   RECOVER DATABASE;
}
```

启动数据库到 mount 状态：

```
RMAN> shutdown abort;

Oracle instance shut down

RMAN> startup mount;

connected to target database (not started)
Oracle instance started
database mounted

Total System Global Area      501059584 bytes

Fixed Size                      2229744 bytes
Variable Size                 310381072 bytes
Database Buffers              180355072 bytes
Redo Buffers                    8093696 bytes

RMAN>

RMAN> RUN
2> {
3>   ALLOCATE CHANNEL c1 DEVICE TYPE DISK;
set newname for datafile 1 to "/u01/app/oracle/oradata/ora1024g/system01.dbf";
5> set newname for datafile 2 to "/u01/app/oracle/oradata/ora1024g/undotbs01.dbf";
6> set newname for datafile 3 to "/u01/app/oracle/oradata/ora1024g/sysaux01.dbf";
7> set newname for datafile 4 to "/u01/app/oracle/oradata/ora1024g/users01.dbf";
8> set newname for datafile 5 to "/u01/app/oracle/oradata/ora1024g/example01.dbf";
9> set newname for datafile 6 to "/u01/app/oracle/oradata/ora1024g/undotbs02.dbf";
```

```
10> set newname for tempfile 1 to "/u01/app/oracle/oradata/ora1024g/temp01.dbf";
11> SQL "ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo03.log''  to  ''/u01/app/oracle/oradata/ora1024g/redo03.log'' ";
12> SQL "ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo02.log''  to  ''/u01/app/oracle/oradata/ora1024g/redo02.log'' ";
13> SQL "ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo01.log''  to  ''/u01/app/oracle/oradata/ora1024g/redo01.log'' ";
14>
15>   SET UNTIL sequence 51 thread 1;
16>   RESTORE DATABASE;
17>   SWITCH DATAFILE ALL;
18>   RECOVER DATABASE;
19> }

released channel: ORA_DISK_1
allocated channel: c1
channel c1: SID=136 device type=DISK

executing command: SET NEWNAME

executing command: SET NEWNAME

executing command: SET NEWNAME

executing command: SET NEWNAME

executing command: SET NEWNAME

executing command: SET NEWNAME

executing command: SET NEWNAME

sql statement: ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo03.log''  to  ''/u01/app/oracle/oradata/ora1024g/redo03.log''

sql statement: ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo02.log''  to  ''/u01/app/oracle/oradata/ora1024g/redo02.log''

sql statement: ALTER DATABASE RENAME FILE ''/u03/app/oracle/oradata/ora1024g/redo01.log''  to  ''/u01/app/oracle/oradata/ora1024g/redo01.log''

executing command: SET until clause

Starting restore at 10-APR-15

channel c1: starting datafile backup set restore
channel c1: specifying datafile(s) to restore from backup set
channel c1: restoring datafile 00002 to /u01/app/oracle/oradata/ora1024g/undotbs01.dbf
channel c1: restoring datafile 00003 to /u01/app/oracle/oradata/ora1024g/sysaux01.dbf
channel c1: restoring datafile 00005 to /u01/app/oracle/oradata/ora1024g/example01.dbf
channel c1: reading from backup piece /tmp/orcl/full_ORA1024G_20150410_876653764_5_1.bak
channel c1: piece handle=/tmp/orcl/full_ORA1024G_20150410_876653764_5_1.bak tag=TAG20150410T105604
channel c1: restored backup piece 1
channel c1: restore complete, elapsed time: 00:00:15
channel c1: starting datafile backup set restore
channel c1: specifying datafile(s) to restore from backup set
channel c1: restoring datafile 00001 to /u01/app/oracle/oradata/ora1024g/system01.dbf
channel c1: restoring datafile 00004 to /u01/app/oracle/oradata/ora1024g/users01.dbf
channel c1: restoring datafile 00006 to /u01/app/oracle/oradata/ora1024g/undotbs02.dbf
channel c1: reading from backup piece /tmp/orcl/full_ORA1024G_20150410_876653764_4_1.bak
channel c1: piece handle=/tmp/orcl/full_ORA1024G_20150410_876653764_4_1.bak tag=TAG20150410T105604
channel c1: restored backup piece 1
channel c1: restore complete, elapsed time: 00:00:25
Finished restore at 10-APR-15

datafile 1 switched to datafile copy
input datafile copy RECID=12 STAMP=876661203 file name=/u01/app/oracle/oradata/ora1024g/system01.dbf
datafile 2 switched to datafile copy
input datafile copy RECID=13 STAMP=876661203 file name=/u01/app/oracle/oradata/ora1024g/undotbs01.dbf
datafile 3 switched to datafile copy
input datafile copy RECID=14 STAMP=876661203 file name=/u01/app/oracle/oradata/ora1024g/sysaux01.dbf
datafile 4 switched to datafile copy
input datafile copy RECID=15 STAMP=876661203 file name=/u01/app/oracle/oradata/ora1024g/users01.dbf
```

```
datafile 5 switched to datafile copy
input datafile copy RECID=16 STAMP=876661203 file name=/u01/app/oracle/oradata/ora1024g/example01.dbf
datafile 6 switched to datafile copy
input datafile copy RECID=17 STAMP=876661203 file name=/u01/app/oracle/oradata/ora1024g/undotbs02.dbf

Starting recover at 10-APR-15

starting media recovery

archived log for thread 1 with sequence 50 is already on disk as file /u01/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_50_blgoy1k2_.arc
archived log file name=/u01/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_50_blgoy1k2_.arc thread=1 sequence=50
media recovery complete, elapsed time: 00:00:01
Finished recover at 10-APR-15
released channel: c1

RMAN>
```

告警日志：

```
Fri Apr 10 12:59:20 2015
ALTER DATABASE RENAME FILE '/u03/app/oracle/oradata/ora1024g/redo03.log'  to  '/u01/app/oracle/oradata/ora1024g/redo03.log'
Completed:      ALTER      DATABASE      RENAME      FILE      '/u03/app/oracle/oradata/ora1024g/redo03.log'      to
'/u01/app/oracle/oradata/ora1024g/redo03.log'
ALTER DATABASE RENAME FILE '/u03/app/oracle/oradata/ora1024g/redo02.log'  to  '/u01/app/oracle/oradata/ora1024g/redo02.log'
Completed:      ALTER      DATABASE      RENAME      FILE      '/u03/app/oracle/oradata/ora1024g/redo02.log'      to
'/u01/app/oracle/oradata/ora1024g/redo02.log'
ALTER DATABASE RENAME FILE '/u03/app/oracle/oradata/ora1024g/redo01.log'  to  '/u01/app/oracle/oradata/ora1024g/redo01.log'
Completed:      ALTER      DATABASE      RENAME      FILE      '/u03/app/oracle/oradata/ora1024g/redo01.log'      to
'/u01/app/oracle/oradata/ora1024g/redo01.log'
Fri Apr 10 12:59:23 2015
Full restore complete of datafile 2 to datafile copy /u01/app/oracle/oradata/ora1024g/undotbs01.dbf.  Elapsed time: 0:00:02
  checkpoint is 1694926
  last deallocation scn is 1666404
Full restore complete of datafile 5 to datafile copy /u01/app/oracle/oradata/ora1024g/example01.dbf.  Elapsed time: 0:00:03
  checkpoint is 1694926
  last deallocation scn is 617217
Fri Apr 10 12:59:34 2015
Full restore complete of datafile 3 to datafile copy /u01/app/oracle/oradata/ora1024g/sysaux01.dbf.  Elapsed time: 0:00:13
  checkpoint is 1694926
  last deallocation scn is 638890
Full restore complete of datafile 6 to datafile copy /u01/app/oracle/oradata/ora1024g/undotbs02.dbf.  Elapsed time: 0:00:00
  checkpoint is 1694925
Full restore complete of datafile 4 to datafile copy /u01/app/oracle/oradata/ora1024g/users01.dbf.  Elapsed time: 0:00:01
  checkpoint is 1694925
Fri Apr 10 12:59:56 2015
Full restore complete of datafile 1 to datafile copy /u01/app/oracle/oradata/ora1024g/system01.dbf.  Elapsed time: 0:00:17
  checkpoint is 1694925
  last deallocation scn is 1540959
Fri Apr 10 13:00:03 2015
```

```
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_3982.trc:
ORA-19625: error identifying file /u03/app/oracle/oradata/ora1024g/system01.dbf
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Switch of datafile 1 complete to datafile copy
  checkpoint is 1694925
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_3982.trc:
ORA-19625: error identifying file /u03/app/oracle/oradata/ora1024g/undotbs01.dbf
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Switch of datafile 2 complete to datafile copy
  checkpoint is 1694926
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_3982.trc:
ORA-19625: error identifying file /u03/app/oracle/oradata/ora1024g/sysaux01.dbf
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Switch of datafile 3 complete to datafile copy
  checkpoint is 1694926
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_3982.trc:
ORA-19625: error identifying file /u03/app/oracle/oradata/ora1024g/users01.dbf
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Switch of datafile 4 complete to datafile copy
  checkpoint is 1694925
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_3982.trc:
ORA-19625: error identifying file /u03/app/oracle/oradata/ora1024g/example01.dbf
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Switch of datafile 5 complete to datafile copy
  checkpoint is 1694926
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_3982.trc:
ORA-19625: error identifying file /u03/app/oracle/oradata/ora1024g/undotbs02.dbf
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Switch of datafile 6 complete to datafile copy
  checkpoint is 1694925
alter database recover datafile list clear
Completed: alter database recover datafile list clear
alter database recover datafile list
 1 , 2 , 3 , 4 , 5 , 6
Completed: alter database recover datafile list
```

```
 1 , 2 , 3 , 4 , 5 , 6
alter database recover if needed
 start until cancel using backup controlfile
Media Recovery Start
 started logmerger process
Parallel Media Recovery started with 2 slaves
ORA-279 signalled during: alter database recover if needed
 start until cancel using backup controlfile
...
alter database recover logfile '/u01/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_50_blgoy1k2_.arc'
Media Recovery Log /u01/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_50_blgoy1k2_.arc
ORA-279 signalled during: alter database recover logfile
'/u01/app/oracle/flash_recovery_area/ORA1024G/archivelog/2015_04_10/o1_mf_1_50_blgoy1k2_.arc'...
alter database recover cancel
Media Recovery Canceled
Completed: alter database recover cancel
```

重建 TEMP 表空间

--这一步很重要，做恢复，迁移，重建控制文件，都需要做这一步操作。

```
SQL> alter tablespace temp add tempfile'/u01/app/oracle/oradata/ora1024g/temp01.dbf' size 100m reuse autoextend on next 10m maxsize 1000m;

Tablespace altered.

SQL> select name from v$tempfile;

NAME
--------------------------------------------------------------------------------
/u03/app/oracle/oradata/ora1024g/temp01.dbf
/u01/app/oracle/oradata/ora1024g/temp01.dbf

SQL> alter tablespace temp drop tempfile '/u03/app/oracle/oradata/ora1024g/temp01.dbf';

Tablespace altered.

SQL>
```

5、 startup upgrade 打开数据库

注意：startup upgrade 打开数据库之前应该首先采用 alter database open resetlogs;打开数据库一次，然后执行 startup upgrade 重新打开数据库，或者直接运行 alter database open resetlogs upgrade;。

```
[oracle@testdb orcl]$ sqlplus / as sysdba
SQL*Plus: Release 11.2.0.3.0 Production on Fri Apr 10 13:01:54 2015
```

```
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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> alter database open resetlogs upgrade;

Database altered.

SQL>
```

告警日志：

```
Fri Apr 10 13:02:07 2015
alter database open resetlogs upgrade
RESETLOGS after incomplete recovery UNTIL CHANGE 1694970
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 1 of thread 1
ORA-00312: online log 1 thread 1: '/u01/app/oracle/oradata/ora1024g/redo01.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 2 of thread 1
ORA-00312: online log 2 thread 1: '/u01/app/oracle/oradata/ora1024g/redo02.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 3 of thread 1
ORA-00312: online log 3 thread 1: '/u01/app/oracle/oradata/ora1024g/redo03.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 1 of thread 1
ORA-00312: online log 1 thread 1: '/u01/app/oracle/oradata/ora1024g/redo01.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Clearing online redo logfile 1 /u01/app/oracle/oradata/ora1024g/redo01.log
Clearing online log 1 of thread 1 sequence number 52
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 1 of thread 1
ORA-00312: online log 1 thread 1: '/u01/app/oracle/oradata/ora1024g/redo01.log'
```

```
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 1 of thread 1
ORA-00312: online log 1 thread 1: '/u01/app/oracle/oradata/ora1024g/redo01.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Clearing online redo logfile 1 complete
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 2 of thread 1
ORA-00312: online log 2 thread 1: '/u01/app/oracle/oradata/ora1024g/redo02.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Clearing online redo logfile 2 /u01/app/oracle/oradata/ora1024g/redo02.log
Clearing online log 2 of thread 1 sequence number 50
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 2 of thread 1
ORA-00312: online log 2 thread 1: '/u01/app/oracle/oradata/ora1024g/redo02.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 2 of thread 1
ORA-00312: online log 2 thread 1: '/u01/app/oracle/oradata/ora1024g/redo02.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Clearing online redo logfile 2 complete
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 3 of thread 1
ORA-00312: online log 3 thread 1: '/u01/app/oracle/oradata/ora1024g/redo03.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Clearing online redo logfile 3 /u01/app/oracle/oradata/ora1024g/redo03.log
Clearing online log 3 of thread 1 sequence number 51
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 3 of thread 1
ORA-00312: online log 3 thread 1: '/u01/app/oracle/oradata/ora1024g/redo03.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc:
ORA-00313: open failed for members of log group 3 of thread 1
```

```
ORA-00312: online log 3 thread 1: '/u01/app/oracle/oradata/ora1024g/redo03.log'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Fri Apr 10 13:02:12 2015
Time drift detected. Please check VKTM trace file for more details.
Clearing online redo logfile 3 complete
Resetting resetlogs activation ID 2698192627 (0xa0d326f3)
Online log /u01/app/oracle/oradata/ora1024g/redo01.log: Thread 1 Group 1 was previously cleared
Online log /u01/app/oracle/oradata/ora1024g/redo02.log: Thread 1 Group 2 was previously cleared
Online log /u01/app/oracle/oradata/ora1024g/redo03.log: Thread 1 Group 3 was previously cleared
Fri Apr 10 13:02:12 2015
Setting recovery target incarnation to 4
Fri Apr 10 13:02:12 2015
Assigning activation ID 2700660298 (0xa0f8ce4a)
LGWR: STARTING ARCH PROCESSES
Fri Apr 10 13:02:12 2015
ARC0 started with pid=20, OS id=4160
ARC0: Archival started
LGWR: STARTING ARCH PROCESSES COMPLETE
ARC0: STARTING ARCH PROCESSES
Fri Apr 10 13:02:13 2015
ARC1 started with pid=21, OS id=4162
Fri Apr 10 13:02:13 2015
ARC2 started with pid=22, OS id=4164
Thread 1 opened at log sequence 1
  Current log# 1 seq# 1 mem# 0: /u01/app/oracle/oradata/ora1024g/redo01.log
Successful open of redo thread 1
MTTR advisory is disabled because FAST_START_MTTR_TARGET is not set
Fri Apr 10 13:02:13 2015
SMON: enabling cache recovery
Fri Apr 10 13:02:13 2015
ARC3 started with pid=23, OS id=4166
ARC1: Archival started
ARC2: Archival started
ARC1: Becoming the 'no FAL' ARCH
ARC1: Becoming the 'no SRL' ARCH
ARC2: Becoming the heartbeat ARCH
[4153] Successfully onlined Undo Tablespace 1.
Undo initialization finished serial:0 start:9999934 end:10000464 diff:530 (5 seconds)
Dictionary check beginning
Fri Apr 10 13:02:14 2015
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_dbw0_3820.trc:
ORA-01157: cannot identify/lock data file 201 - see DBWR trace file
ORA-01110: data file 201: '/u03/app/oracle/oradata/ora1024g/temp01.dbf'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
```

```
Additional information: 3
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_dbw0_3820.trc:
ORA-01186: file 201 failed verification tests
ORA-01157: cannot identify/lock data file 201 - see DBWR trace file
ORA-01110: data file 201: '/u03/app/oracle/oradata/ora1024g/temp01.dbf'
File 201 not verified due to error ORA-01157
Dictionary check complete
SMON: enabling tx recovery
Cannot re-create tempfile /u03/app/oracle/oradata/ora1024g/temp01.dbf, the same name file exists
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_dbw0_3820.trc:
ORA-01157: cannot identify/lock data file 201 - see DBWR trace file
ORA-01110: data file 201: '/u03/app/oracle/oradata/ora1024g/temp01.dbf'
ORA-27037: unable to obtain file status
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
Database Characterset is ZHS16GBK
Updating 10.2.0.4.0 NLS parameters in sys.props$
-- adding 11.2.0.3.0 NLS parameters.
ARC3: Archival started
ARC0: STARTING ARCH PROCESSES COMPLETE
Stopping background process MMNL
Fri Apr 10 13:02:18 2015
Stopping background process MMON
Starting background process MMON
Fri Apr 10 13:02:19 2015
Starting background process MMNLMMON started with pid=15, OS id=4169

Fri Apr 10 13:02:19 2015
MMNL started with pid=16, OS id=4171
ALTER SYSTEM enable restricted session;
ALTER SYSTEM SET _system_trig_enabled=FALSE SCOPE=MEMORY;
Autotune of undo retention is turned off.
ALTER SYSTEM SET _undo_autotune=FALSE SCOPE=MEMORY;
ALTER SYSTEM SET undo_retention=900 SCOPE=MEMORY;
ALTER SYSTEM SET aq_tm_processes=0 SCOPE=MEMORY;
ALTER SYSTEM SET enable_ddl_logging=FALSE SCOPE=MEMORY;
Resource Manager disabled during database migration: plan '' not set
ALTER SYSTEM SET resource_manager_plan='' SCOPE=MEMORY;
ALTER SYSTEM SET recyclebin='OFF' DEFERRED SCOPE=MEMORY;
Resource Manager disabled during database migration
replication_dependency_tracking turned off (no async multimaster replication found)
 XDB UNINITIALIZED: XDB$SCHEMA not accessible
LOGSTDBY: Validating controlfile with logical metadata
LOGSTDBY: Validation complete
Completed: alter database open resetlogs upgrade
```

6、 upgrade 模式下执行升级脚本 catupgrd.sql

SELECT d.owner, count(1) FROM dba_objects d where status = 'INVALID' GROUP BY d.owner;

```
SQL>  SELECT   count(1) FROM dba_objects d where status = 'INVALID'  ;

  COUNT(1)
----------
       811

SQL>

SQL>  SELECT d.owner,  count(1) FROM dba_objects d where status = 'INVALID' GROUP BY d.owner;

OWNER                          COUNT(1)
------------------------------ ----------
MDSYS                                16
DMSYS                                 2
PUBLIC                              334
CTXSYS                                1
ORACLE_OCM                            2
EXFSYS                                8
DBSNMP                                4
SYSMAN                                3
XDB                                   4
SYS                                 413
WMSYS                                24

11 rows selected.

SQL> select   INSTANCE_NAME,version,status from  v$instance;

INSTANCE_NAME    VERSION           STATUS
---------------- ----------------- ------------
ora1024g         11.2.0.3.0        OPEN MIGRATE

SQL>
```

$ORACLE_HOME\RDBMS\ADMIN\catupgrd.sql
--执行这个脚本。这个脚本调用 catlog.sql 和 catproc.sql 来重建字典对象等，在执行完这个脚本之后，我们可以关闭数据库后，正常打开数据库：

```
spool /tmp/upgrade.log
set echo on
@$ORACLE_HOME/rdbms/admin/catupgrd.sql;
spool off
Shutdown immediate
```

```
SQL> spool /tmp/upgrade.log
SQL> set echo on
SQL> @$ORACLE_HOME/rdbms/admin/catupgrd.sql;



。。。。。。。。。。。。省略
SQL>
SQL>
SQL> /*****************************************************************************/
SQL> /* Step 10 - SHUTDOWN THE DATABASE..!!!!!
SQL> */
SQL> /*****************************************************************************/
SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL>
SQL>
SQL>
SQL> DOC
DOC>#######################################################################
DOC>#######################################################################
DOC>
DOC>    The above sql script is the final step of the upgrade. Please
DOC>    review any errors in the spool log file. If there are any errors in
DOC>    the spool file, consult the Oracle Database Upgrade Guide for
DOC>    troubleshooting recommendations.
DOC>
DOC>    Next restart for normal operation, and then run utlrp.sql to
DOC>    recompile any invalid application objects.
DOC>
DOC>    If the source database had an older time zone version prior to
DOC>    upgrade, then please run the DBMS_DST package.  DBMS_DST will upgrade
DOC>    TIMESTAMP WITH TIME ZONE data to use the latest time zone file shipped
DOC>    with Oracle.
DOC>
DOC>#######################################################################
DOC>#######################################################################
DOC>#
SQL>
SQL> Rem Set errorlogging off
SQL> SET ERRORLOGGING OFF;
SQL>
SQL> REM END OF CATUPGRD.SQL
SQL>
SQL> REM bug 12337546 - Exit current sqlplus session at end of catupgrd.sql.
SQL> REM                      This forces user to start a new sqlplus session in order
SQL> REM                      to connect to the upgraded db.
SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

-----------  终于完了，，，，，，
```

<mark>注意以下问题：</mark>

1. 执行之前可以把以下参数设置大点,否则可能导致升级脚本不能正常执行，如果脚本执行失败可以关闭数据库重新 **startup upgrade** 后再重新执行该脚本：

```
*.memory_target=1024M
java_pool_size=250M
shared_pool_size=250M
```

Thu Apr 09 14:40:46 2015
Errors in file /u01/app/oracle/diag/rdbms/orcl/orcl/trace/orcl_ora_11151.trc   (incident=2870):
ORA-04031: unable to allocate 4096 bytes of shared memory ("java pool","unknown object","JOXLE^5e8bb91c",":SGAClass")
Use ADRCI or Support Workbench to package the incident.
See Note 411.1 at My Oracle Support for error and packaging details.
Errors in file /u01/app/oracle/diag/rdbms/orcl/orcl/trace/orcl_ora_11151.trc   (incident=2871):
ORA-04031: unable to allocate 4096 bytes of shared memory ("java pool","unknown object","JOXLE^5e8bb91c",":SGAClass")
Use ADRCI or Support Workbench to package the incident.
See Note 411.1 at My Oracle Support for error and packaging details.

Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc   (incident=159):
ORA-04031: unable to allocate 280 bytes of shared memory ("shared pool","CCOL$","PLDIA^4db547a0","PAR.C:parchk:init")
Use ADRCI or Support Workbench to package the incident.
See Note 411.1 at My Oracle Support for error and packaging details.
Errors in file /u01/app/oracle/diag/rdbms/ora1024g/ora1024g/trace/ora1024g_ora_4153.trc   (incident=160):
ORA-04031: unable to allocate 280 bytes of shared memory ("shared pool","CCOL$","PLDIA^4db547a0","PAR.C:parchk:init")
Use ADRCI or Support Workbench to package the incident.
See Note 411.1 at My Oracle Support for error and packaging details.

这个脚本运行了整个 2 个小时，之前直接从 11.2.0.1 升级到 11.2.0.3 运行了 80 分钟。而在 Oracle10g 下，运行该脚本在 40 分钟左右。

导致执行占用这么长时间的原因如下：
1. 使用的是虚拟机
2. 之前没有注意到归档的问题，后面才看到 <mark>checkpoint not complete</mark>，导致等待时间。
3. 运行脚本之前忘记修改 java_pool_size 和 shared_pool_size. 增加这 2 个值，可以减少运行时间。
SQL>alter   system   setjava_pool_size=512M;
SQL>alter system set shared_pool_size=800M;

The upgrade scriptcreates and alters certain data dictionary tables. It also upgrades orinstallsthe following database components in the new Oracle Database11g Release 2(11.2) database:
（1） OracleDatabase Catalog Views
（2） OracleDatabase Packages andTypes
（3） JServerJAVA Virtual Machine
（4） OracleDatabase Java Packages
（5） OracleXDK
（6） OracleReal ApplicationClusters
（7） OracleWorkspace Manager
（8） OracleMultimedia
（9） OracleXML Database
（10） OLAP AnalyticWorkspace

（11） Oracle OLAP API

（12） OLAP Catalog

（13） Oracle Text

（14） Spatial

（15） Oracle DataMining

（16） Oracle LabelSecurity

（17） MessagingGateway

（18） OracleExpression Filter

（19） Oracle RulesManager

（20） OracleEnterprise Manager Repository

（21） Oracle DatabaseVault

（22） OracleApplication Express

2. 执行这个脚本会产生大量的归档文件，**50M** 的 **online redo log**，切换时间在 **2** 分钟左右，所以要增加 **online redo group**，从而保证足够的切换时间，不能让其出现 **Checkpoint not**

complete。

如果告警日志中出现了 Checkpoint not complete 的问题，我们可以多添加几组日志：
 alter database add logfile group 4 '/u01/app/oracle/oradata/ora1024g/redo04.log' size 50m;
 alter database add logfile group 5 '/u01/app/oracle/oradata/ora1024g/redo05.log' size 50m;
 alter database add logfile group 6 '/u01/app/oracle/oradata/ora1024g/redo06.log' size 50m;
在脚本运行期间还可能会调用之前的归档文件，所以也不要删除之前的归档。

7、 执行 catuppst.sql 脚本，不需要在 upgrade 模式下执行

```
SQL> @?/rdbms/admin/catuppst.sql

。。。。。。

SQL> SPOOL &spool_file
SQL> exec dbms_registry.set_session_namespace('SERVER')

PL/SQL procedure successfully completed.

SQL> ALTER SESSION SET current_schema = SYS;

Session altered.

SQL> PROMPT Updating registry...
Updating registry...
SQL> INSERT INTO registry$history
  2    (action_time, action,
  3     namespace, version, id,
  4     bundle_series, comments)
  5  VALUES
  6    (SYSTIMESTAMP, 'APPLY',
```

```
   7      SYS_CONTEXT('REGISTRY$CTX','NAMESPACE'),
   8      '11.2.0.3',
   9      0,
  10      'PSU',
  11      'Patchset 11.2.0.2.0');

1 row created.

SQL> COMMIT;

Commit complete.

SQL> SPOOL off
SQL> SET echo off
Check the following log file for errors:
/u01/app/oracle/cfgtoollogs/catbundle/catbundle_PSU_ORA1024G_APPLY_2015Apr10_16_06_00.log
SQL>
```

This script will migrate the Baseline dataon a pre-11g database to the 11g database.
--这个脚本用来迁移一些 Baseline 数据到 11g 数据库中。

8、　　　编译无效对象

```
[oracle@testdb dbs]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.3.0 Production on Thu Apr 9 15:14:26 2015

Copyright (c) 1982, 2011, Oracle.  All rights reserved.

Connected to an idle instance.

SQL> startup
ORACLE instance started.

Total System Global Area  501059584 bytes
Fixed Size                  2229744 bytes
Variable Size             444598800 bytes
Database Buffers           46137344 bytes
Redo Buffers                8093696 bytes

Database mounted.
Database opened.

SQL>  select count(*) from dba_invalid_objects;

  COUNT(*)
----------
      5959

SQL>
SQL> select count(*) from dba_objects where status='INVALID';

  COUNT(*)
----------
      5959

SQL> @$ORACLE_HOME/rdbms/admin/utlrp.sql

TIMESTAMP
--------------------------------------------------------------------
COMP_TIMESTAMP UTLRP_BGN   2015-04-09 15:16:49
```

```
DOC>    The following PL/SQL block invokes UTL_RECOMP to recompile invalid
DOC>    objects in the database. Recompilation time is proportional to the
DOC>    number of invalid objects in the database, so this command may take
DOC>    a long time to execute on a database with a large number of invalid
DOC>    objects.
DOC>
DOC>    Use the following queries to track recompilation progress:
DOC>
DOC>    1. Query returning the number of invalid objects remaining. This
DOC>       number should decrease with time.
DOC>          SELECT COUNT(*) FROM obj$ WHERE status IN (4, 5, 6);
DOC>
DOC>    2. Query returning the number of objects compiled so far. This number
DOC>       should increase with time.
DOC>          SELECT COUNT(*) FROM UTL_RECOMP_COMPILED;
DOC>
DOC>    This script automatically chooses serial or parallel recompilation
DOC>    based on the number of CPUs available (parameter cpu_count) multiplied
DOC>    by the number of threads per CPU (parameter parallel_threads_per_cpu).
DOC>    On RAC, this number is added across all RAC nodes.
DOC>
DOC>    UTL_RECOMP uses DBMS_SCHEDULER to create jobs for parallel
DOC>    recompilation. Jobs are created without instance affinity so that they
DOC>    can migrate across RAC nodes. Use the following queries to verify
DOC>    whether UTL_RECOMP jobs are being created and run correctly:
DOC>
DOC>    1. Query showing jobs created by UTL_RECOMP
DOC>          SELECT job_name FROM dba_scheduler_jobs
DOC>             WHERE job_name like 'UTL_RECOMP_SLAVE_%';
DOC>
DOC>    2. Query showing UTL_RECOMP jobs that are running
DOC>          SELECT job_name FROM dba_scheduler_running_jobs
DOC>             WHERE job_name like 'UTL_RECOMP_SLAVE_%';
DOC>#


PL/SQL procedure successfully completed.


TIMESTAMP
--------------------------------------------------------------------------------
COMP_TIMESTAMP UTLRP_END  2015-04-09 15:22:21

DOC> The following query reports the number of objects that have compiled
DOC> with errors (objects that compile with errors have status set to 3 in
DOC> obj$). If the number is higher than expected, please examine the error
DOC> messages reported with each object (using SHOW ERRORS) to see if they
DOC> point to system misconfiguration or resource constraints that must be
DOC> fixed before attempting to recompile these objects.
DOC>#

OBJECTS WITH ERRORS
-------------------
                  0

DOC> The following query reports the number of errors caught during
DOC> recompilation. If this number is non-zero, please query the error
DOC> messages in the table UTL_RECOMP_ERRORS to see if any of these errors
DOC> are due to misconfiguration or resource constraints that must be
DOC> fixed before objects can compile successfully.
DOC>#

ERRORS DURING RECOMPILATION
---------------------------
```

```
                         0

Function created.

PL/SQL procedure successfully completed.

Function dropped.
PL/SQL procedure successfully completed.
SQL>


SQL> select count(*) from dba_objects where status='INVALID';

  COUNT(*)
----------
         4

SQL>


SQL>  select count(*) from dba_invalid_objects;

  COUNT(*)
----------
         4

1 row selected.
SQL> SELECT d.owner, count(1) FROM dba_objects d where status = 'INVALID' GROUP BY d.owner;

OWNER                            COUNT(1)
------------------------------ ----------
OE                                      4

1 row selected.

SQL>
```

根据脚本提示，我们可以在重新编译的过程中，重开一个窗口执行 SELECT COUNT(*) FROM obj$ WHERE status IN (4, 5, 6); 来判断未编译的对象数量。
最后查询 INVALID 的对象消失，说明还原成功，剩下的就是其它一些 tns 及监听的配置等等后续操作，这里就不演示了。

9、   检查组件状态

```
col comp_name for a40
set wrap off
set line 9999 pagesize 9999
select   comp_id,comp_name,version, status from dba_registry;
```

```
SQL> col comp_name for a40
SQL> set wrap off
SQL> set line 9999 pagesize 9999
SQL> select comp_id,comp_name,version,status from dba_registry;

COMP_ID                        COMP_NAME                                VERSION                        STATUS
------------------------------ ---------------------------------------- ------------------------------ ---------------------------
XDB                            Oracle XML Database                      11.2.0.3.0                     VALID
EM                             Oracle Enterprise Manager                11.2.0.3.0                     VALID
AMD                            OLAP Catalog                             11.2.0.3.0                     VALID
SDO                            Spatial                                  11.2.0.3.0                     VALID
ORDIM                          Oracle Multimedia                        11.2.0.3.0                     INVALID
CONTEXT                        Oracle Text                              11.2.0.3.0                     VALID
ODM                            Oracle Data Mining                       11.2.0.3.0                     VALID
EXF                            Oracle Expression Filter                 11.2.0.3.0                     VALID
RUL                            Oracle Rules Manager                     11.2.0.3.0                     VALID
OWM                            Oracle Workspace Manager                 11.2.0.3.0                     VALID
CATALOG                        Oracle Database Catalog Views            11.2.0.3.0                     VALID
CATPROC                        Oracle Database Packages and Types       11.2.0.3.0                     VALID
JAVAVM                         JServer JAVA Virtual Machine             11.2.0.3.0                     VALID
XML                            Oracle XDK                               11.2.0.3.0                     VALID
CATJAVA                        Oracle Database Java Packages            11.2.0.3.0                     VALID
APS                            OLAP Analytic Workspace                  11.2.0.3.0                     VALID
XOQ                            Oracle OLAP API                          11.2.0.3.0                     VALID

17 rows selected.

SQL>
SQL>

SQL> select count(*) from dba_invalid_objects;

  COUNT(*)
----------
         4

1 row selected.

SQL>


SQL> @$ORACLE_HOME/rdbms/admin/utlu112s.sql
SQL> @$ORACLE_HOME/rdbms/admin/utlu112s.sql
.
Oracle Database 11.2 Post-Upgrade Status Tool           04-10-2015 16:09:34
.
Component                                Current      Version      Elapsed Time
Name                                     Status       Number       HH:MM:SS
.
Oracle Server
.     ORA-00001: unique constraint (SYS.I_SMB$CONFIG_PKEY) violated
.     ORA-00001: unique constraint (SYS.I_AUDIT_ACTIONS) violated
.     ORA-00001: unique constraint (SYS.I_AUDIT_ACTIONS) violated
.     ORA-00001: unique constraint (SYS.I_AUDIT_ACTIONS) violated
.     ORA-00001: unique constraint (SYS.I_AUDIT_ACTIONS) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.     ORA-00001: unique constraint (SYS.I_SMB$CONFIG_PKEY) violated
.     ORA-00001: unique constraint (SYS.I_SYSTEM_PRIVILEGE_MAP) violated
.     ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
```

```
.    ORA-00001: unique constraint (SYS.WRM$_BASELINE_PK) violated
.    ORA-06512: at line 23
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.    ORA-00001: unique constraint (SYS.I_STMT_AUDIT_OPTION_MAP) violated
.                                       VALID      11.2.0.3.0  00:09:10
JServer JAVA Virtual Machine
.                                       VALID      11.2.0.3.0  00:00:00
Oracle Workspace Manager
.                                       VALID      11.2.0.3.0  00:00:26
OLAP Analytic Workspace
.                                       VALID      11.2.0.3.0  00:00:39
OLAP Catalog
.                                       VALID      11.2.0.3.0  00:00:30
Oracle OLAP API
.                                       VALID      11.2.0.3.0  00:00:19
Oracle Enterprise Manager
.                                       VALID      11.2.0.3.0  00:00:00
Oracle XDK
.                                       VALID      11.2.0.3.0  00:00:42
Oracle Text
.                                       VALID      11.2.0.3.0  00:00:21
Oracle XML Database
.                                       VALID      11.2.0.3.0  00:00:00
Oracle Database Java Packages
.                                       VALID      11.2.0.3.0  00:00:16
Oracle Multimedia
.    ORA-31085: schema "XDh1jUheYAR5PgNAgAILJCxg==" already registered
.    ORA-06512: at "SYS.XMLTYPE", line 310
.    ORA-06512: at line 4
.    ORA-31085: schema "XDh1jUheYAR5PgNAgAILJCxg==" already registered
.    ORA-06512: at "SYS.XMLTYPE", line 310
.    ORA-06512: at line 4
.                                       INVALID    11.2.0.3.0  00:02:24
Spatial
.                                       VALID      11.2.0.3.0  00:04:06
Oracle Expression Filter
.                                       VALID      11.2.0.3.0  00:00:07
Oracle Rules Manager
.                                       VALID      11.2.0.3.0  00:00:07
Gathering Statistics
.                                                             00:02:16
Total Upgrade Time: 00:21:52

PL/SQL procedure successfully completed.

SQL>


SQL>
```

Oracle Multimedia 是 Oracle 标准版和企业版里的一个特性，其可以用来管理 images, audio, and video，这个暂时用不到可以不用管，如果要解决这个问题我们可以重新 reloadxdb 组件即可解决这个问题。关于 oracle 的更多组件我们可以参考 http://blog.csdn.net/tianlesoftware/article/details/7339998 。

附： **Oracle 10.1 and above(10g 以上版本) - XDBReload**

```
SQL> spool xdbreload.log
SQL> connect / as sysdba
```

SQL> set echo on;
SQL> shutdown immediate;
SQL> startup upgrade;
SQL> @?/rdbms/admin/xdbrelod.sql
SQL> shutdown immediate;
SQL> startup;
SQL> @?/rdbms/admin/utlrp.sql
SQL> spool off

ORDIM RELOAD

SQL> alter session set current_schema="ORDSYS";
SQL> @?/ord/im/admin/imxreg.sql;
SQL> @?/ord/im/admin/impbs.sql;
SQL> @?/ord/im/admin/impvs.sql;
SQL> @?/ord/im/admin/imtyb.sql;
SQL> @?/ord/im/admin/implb.sql;
SQL> @?/ord/im/admin/imxrepos.sql;

10、 小结

将 10g Restore 到 11g 的 2 个关键内容：

1. 必须在 10g 库上先执行@?/rdbms/admin/utlu112i.sql 脚本，然后在备份，否则 Restore 之后的升级将失败。

2. 10g 的版本必须大于 10.2.0.2.

3. 如果在升级过程中遇到问题，可以重新执行升级脚本，具体步骤如下：

1.Shut down the database as follows:
SQL>SHUTDOWNIMMEDIATE

2.Restart thedatabasein UPGRADE mode:
   SQL> STARTUPUPGRADE

3.Rerun catupgrd.sql: --升级 DB
   SQL> SPOOLupgrade.log
   SQL>@catupgrd.sql
Note:
You can rerun the catupgrd.sql script as many times as necessary. The first time you run the script, there should be no error messages returned. If you rerun the script, then the ORA-00001 message is displayed. You can safely ignore this message.
--脚本执行结束会自动 shutdown immediate db，所以下面的操作在 normal 状态执行即可。

4.Rerun utlu112s.sql: --报告升级的过程的摘要
   SQL>@utlu112s.sql

5.迁移 10g 的 Baseline 到 11g
SQL> @?/rdbms/admin/catuppst.sql

6.编译无效对象：
SQL> @?/rdbms/admin/utlrp.sql

参考文档：http://blog.csdn.net/tianlesoftware/article/details/7311352#t13

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