【RMAN】RMAN 跨版本恢复(中)--大版本异机恢复

BLOG 文档结构图

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【RMAN】RMAN 跨版本恢复(中)--大版本异机恢复
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```

ORACLE_SID=jiagulun
原机：　OS:Linux x86 64-bit　IP:192.168.59.156　oracle：10.2.0.1.0 归档模式
异机：　OS: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。

注意：　不能成功 upgrade，请看本文的最后的小结部分

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-1561185/
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/

一、　　全备份原数据库并拷贝到异机

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@redhat4 ~]$  sqlplus / as sysdba

SQL*Plus: Release 10.2.0.1.0 - Production on 星期四 4月 9 16:27:13 2015

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连接到:
Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - 64bit Production
With the Partitioning, OLAP and Data Mining options

SQL> create pfile from spfile;

File created.


[oracle@redhat4 ~]$ rman target /

恢复管理器: Release 10.2.0.1.0 - Production on 星期四 4月 9 16:22:07 2015

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连接到目标数据库: JIAGULUN (DBID=2694191837)

RMAN> list backupset;

使用目标数据库控制文件替代恢复目录

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> }

分配的通道: c1
通道 c1: sid=140 devtype=DISK

分配的通道: c2
通道 c2: sid=144 devtype=DISK

启动 backup 于 09-4月 -15
通道 c1: 启动全部数据文件备份集
通道 c1: 正在指定备份集中的数据文件
输入数据文件 fno=00001 name=/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_system_7p5b14xs_.dbf
输入数据文件 fno=00004 name=/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_users_7p5b157q_.dbf
```

通道 c1: 正在启动段 1 于 09-4月 -15
通道 c2: 启动全部数据文件备份集
通道 c2: 正在指定备份集中的数据文件
输入数据文件 fno=00003 name=/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_sysaux_7p5b14yl_.dbf
输入数据文件 fno=00005 name=/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_example_7p5b3r36_.dbf
输入数据文件 fno=00002 name=/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_undotbs1_7p5b155m_.dbf
通道 c2: 正在启动段 1 于 09-4月 -15
通道 c1: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_14_1.bak 标记=TAG20150409T162224 注释=NONE
通道 c1: 备份集已完成，经过时间:00:01:35
通道 c1: 启动全部数据文件备份集
通道 c1: 正在指定备份集中的数据文件
备份集中包括当前控制文件
通道 c1: 正在启动段 1 于 09-4月 -15
通道 c2: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_15_1.bak 标记=TAG20150409T162224 注释=NONE
通道 c2: 备份集已完成，经过时间:00:01:36
通道 c2: 启动全部数据文件备份集
通道 c2: 正在指定备份集中的数据文件
通道 c1: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587040_16_1.bak 标记=TAG20150409T162224 注释=NONE
通道 c1: 备份集已完成，经过时间:00:00:02
在备份集中包含当前的 SPFILE
通道 c2: 正在启动段 1 于 09-4月 -15
通道 c2: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587041_17_1.bak 标记=TAG20150409T162224 注释=NONE
通道 c2: 备份集已完成，经过时间:00:00:02
完成 backup 于 09-4月 -15

启动 backup 于 09-4月 -15
通道 c1: 启动全部数据文件备份集
通道 c1: 正在指定备份集中的数据文件
在备份集中包含当前的 SPFILE
通道 c1: 正在启动段 1 于 09-4月 -15
通道 c1: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak 标记=TAG20150409T162404 注释=NONE
通道 c1: 备份集已完成，经过时间:00:00:02
完成 backup 于 09-4月 -15

sql 语句: alter system archive log current

启动 backup 于 09-4月 -15
当前日志已存档
通道 c1: 正在启动存档日志备份集
通道 c1: 正在指定备份集中的存档日志
输入存档日志线程 =1 序列 =12 记录 ID=5 时间戳=876587046
通道 c1: 正在启动段 1 于 09-4月 -15
通道 c2: 正在启动存档日志备份集
通道 c2: 正在指定备份集中的存档日志
输入存档日志线程 =1 序列 =13 记录 ID=6 时间戳=876587046
通道 c2: 正在启动段 1 于 09-4月 -15
通道 c1: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_19_1.bak 标记=TAG20150409T162406 注释=NONE
通道 c1: 备份集已完成，经过时间:00:00:01
通道 c1: 正在删除存档日志
存档日志文件名 =/u01/app/oracle/flash_recovery_area/JIAGULUN/archivelog/2015_04_09/o1_mf_1_12_bldfs6o6_.arc 记录 ID=5 时间戳 =876587046
通道 c2: 已完成段 1 于 09-4月 -15
段句柄=/home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_20_1.bak 标记=TAG20150409T162406 注释=NONE
通道 c2: 备份集已完成，经过时间:00:00:02
通道 c2: 正在删除存档日志
存档日志文件名 =/u01/app/oracle/flash_recovery_area/JIAGULUN/archivelog/2015_04_09/o1_mf_1_13_bldfs6sp_.arc 记录 ID=6 时间戳 =876587046
完成 backup 于 09-4月 -15

启动 backup 于 09-4月 -15
通道 c1: 启动全部数据文件备份集
通道 c1: 正在指定备份集中的数据文件
备份集中包括当前控制文件

```
通道 c1: 正在启动段 1 于 09-4 月 -15
通道 c1: 已完成段 1 于 09-4 月 -15
段句柄=/home/oracle/oracle_bk/orcl/ctl_JIAGULUN_20150409_21_1.bak 标记=TAG20150409T162410 注释=NONE
通道 c1: 备份集已完成, 经过时间:00:00:01
完成 backup 于 09-4 月 -15

释放的通道: c1

释放的通道: c2

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/
The authenticity of host '192.168.59.10 (192.168.59.10)' can't be established.
RSA key fingerprint is 77:e6:11:1a:7c:c7:81:7c:88:c9:21:18:51:2a:84:d1.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.59.10' (RSA) to the list of known hosts.
oracle@192.168.59.10's password:
ctl_JIAGULUN_20150409_21_1.bak                                          100% 6944KB   6.8MB/s   00:00
full_JIAGULUN_20150409_876586944_14_1.bak                               100%  375MB  19.7MB/s   00:19
arch_JIAGULUN_20150409_20_1.bak                                         100% 2560      2.5KB/s   00:00
full_JIAGULUN_20150409_876587041_17_1.bak                               100%   96KB  96.0KB/s   00:00
arch_JIAGULUN_20150409_19_1.bak                                         100%  102KB 101.5KB/s   00:00
full_JIAGULUN_20150409_876586944_15_1.bak                               100%  249MB  16.6MB/s   00:15
spfile_JIAGULUN_0iq3va14_1_1_20150409.bak                               100%   96KB  96.0KB/s   00:00
full_JIAGULUN_20150409_876587040_16_1.bak                               100% 6944KB   6.8MB/s   00:01
[oracle@redhat4 oracle_bk]$ scp $ORACLE_HOME/dbs/initjiagulun.ora oracle@192.168.59.10:/tmp/orcl/
oracle@192.168.59.10's password:
initjiagulun.ora                                                        100% 1171     1.1KB/s   00:00
[oracle@redhat4 oracle_bk]$
```

二、 在异机的操作

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 initjiagulun.ora $ORACLE_HOME/dbs/
[oracle@testdb orcl]$ vi $ORACLE_HOME/dbs/initjiagulun.ora
```

修改 pfile 文件之后：

```
[oracle@testdb orcl]$ more  $ORACLE_HOME/dbs/initjiagulun.ora
*.audit_file_dest='/u01/app/oracle/admin/jiagulun/adump'
*.compatible='10.2.0.1.0'
*.control_files='/u01/app/oracle/oradata/jiagulun/control01.ctl','/u01/app/oracle/oradata/jiagulun/control02.ctl'
*.db_block_size=8192
*.db_create_file_dest='/u01/app/oracle/oradata'
*.db_domain=''
*.db_file_multiblock_read_count=16
*.db_name='jiagulun'
*.db_recovery_file_dest='/u01/app/oracle/flash_recovery_area'
*.db_recovery_file_dest_size=2147483648
*.dispatchers='(PROTOCOL=TCP) (SERVICE=jiagulunXDB)'
*.job_queue_processes=10
*.open_cursors=300
*.processes=150
*.remote_login_passwordfile='EXCLUSIVE'
*.sessions=170
*.memory_target=500572800
*.undo_management='AUTO'
*.undo_tablespace='UNDOTBS1'
[oracle@testdb orcl]$
[oracle@testdb orcl]$
```

创建相关路径：

```
[oracle@testdb orcl]$ mkdir -p /u01/app/oracle/admin/jiagulun/adump
[oracle@testdb orcl]$ mkdir -p /u01/app/oracle/oradata/jiagulun/
[oracle@testdb orcl]$

---创建原库的相关路径
[oracle@testdb dbs]$ mkdir -p /u01/app/oracle/oradata/JIAGULUN/datafile/
[oracle@testdb dbs]$ mkdir -p /u01/app/oracle/oradata/JIAGULUN/onlinelog/
[oracle@testdb dbs]$ mkdir -p /u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/
[oracle@testdb dbs]$
```

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

SQL*Plus: Release 11.2.0.3.0 Production on Thu Apr 9 16:54:26 2015

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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 dbs]$ rman target /

Recovery Manager: Release 11.2.0.3.0 - Production on Thu Apr 9 16:55:37 2015

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connected to target database: JIAGULUN (not mounted)

RMAN> restore controlfile to '/u01/app/oracle/oradata/jiagulun/control01.ctl' from '/tmp/orcl/ctl_JIAGULUN_20150409_21_1.bak';

Starting restore at 09-APR-15
using target database control file instead of recovery catalog
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=134 device type=DISK

channel ORA_DISK_1: restoring control file
channel ORA_DISK_1: restore complete, elapsed time: 00:00:01
Finished restore at 09-APR-15

RMAN>

Recovery Manager complete.
[oracle@testdb orcl]$ cp  /u01/app/oracle/oradata/jiagulun/control01.ctl  /u01/app/oracle/oradata/jiagulun/control02.ctl
[oracle@testdb dbs]$ rman target /

Recovery Manager: Release 11.2.0.3.0 - Production on Thu Apr 9 16:57:53 2015

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connected to target database: JIAGULUN (not mounted)

RMAN> alter database mount;

using target database control file instead of recovery catalog



database mounted

RMAN>
RMAN>
```

3、 恢复归档文件

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

```
Starting implicit crosscheck backup at 09-APR-15
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=125 device type=DISK
Crosschecked 7 objects
Finished implicit crosscheck backup at 09-APR-15

Starting implicit crosscheck copy at 09-APR-15
using channel ORA_DISK_1
Finished implicit crosscheck copy at 09-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/arch_JIAGULUN_20150409_20_1.bak
File Name: /tmp/orcl/initjiagulun.ora
File Name: /tmp/orcl/full_JIAGULUN_20150409_876587040_16_1.bak
File Name: /tmp/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876587041_17_1.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876586944_15_1.bak
File Name: /tmp/orcl/arch_JIAGULUN_20150409_19_1.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876586944_14_1.bak
File Name: /tmp/orcl/ctl_JIAGULUN_20150409_21_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/arch_JIAGULUN_20150409_20_1.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876587040_16_1.bak
File Name: /tmp/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876587041_17_1.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876586944_15_1.bak
File Name: /tmp/orcl/arch_JIAGULUN_20150409_19_1.bak
File Name: /tmp/orcl/full_JIAGULUN_20150409_876586944_14_1.bak
File Name: /tmp/orcl/ctl_JIAGULUN_20150409_21_1.bak

List of Files Which Where Not Cataloged
=======================================
File Name: /tmp/orcl/initjiagulun.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>
using channel ORA_DISK_1
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_15_1.bak RECID=14 STAMP=876586944
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/full_JIAGULUN_20150409_876586944_15_1.bak RECID=25 STAMP=876589228
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_14_1.bak RECID=15 STAMP=876586944
crosschecked backup piece: found to be 'AVAILABLE'
```

```
backup piece handle=/tmp/orcl/full_JIAGULUN_20150409_876586944_14_1.bak RECID=27 STAMP=876589228
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587040_16_1.bak RECID=16 STAMP=876587040
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/full_JIAGULUN_20150409_876587040_16_1.bak RECID=22 STAMP=876589228
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587041_17_1.bak RECID=17 STAMP=876587042
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/full_JIAGULUN_20150409_876587041_17_1.bak RECID=24 STAMP=876589228
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak RECID=18 STAMP=876587045
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak RECID=23 STAMP=876589228
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_19_1.bak RECID=19 STAMP=876587048
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/arch_JIAGULUN_20150409_19_1.bak RECID=26 STAMP=876589228
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_20_1.bak RECID=20 STAMP=876587048
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/arch_JIAGULUN_20150409_20_1.bak RECID=21 STAMP=876589228
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/tmp/orcl/ctl_JIAGULUN_20150409_21_1.bak RECID=28 STAMP=876589228
Crosschecked 15 objects


RMAN> delete noprompt obsolete;

RMAN retention policy will be applied to the command
RMAN retention policy is set to redundancy 1
using channel ORA_DISK_1
Deleting the following obsolete backups and copies:
Type                 Key    Completion Time    Filename/Handle
-------------------- ------ ------------------ --------------------
Backup Set           16     09-APR-15
  Backup Piece       16     09-APR-15          /home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587040_16_1.bak
Backup Set           17     09-APR-15
  Backup Piece       17     09-APR-15          /home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587041_17_1.bak
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587040_16_1.bak RECID=16 STAMP=876587040
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876587041_17_1.bak RECID=17 STAMP=876587042
Deleted 2 objects


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>

RMAN> delete EXPIRED backupset;

using channel ORA_DISK_1

List of Backup Pieces
BP Key  BS Key  Pc# Cp# Status      Device Type Piece Name
------- ------- --- --- ----------- ----------- ----------
14      14      1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_15_1.bak
15      15      1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_14_1.bak
18      18      1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak
19      19      1   1   EXPIRED     DISK        /home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_19_1.bak
```

```
20       20      1  1   EXPIRED    DISK        /home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_20_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_JIAGULUN_20150409_876586944_15_1.bak RECID=14 STAMP=876586944
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/full_JIAGULUN_20150409_876586944_14_1.bak RECID=15 STAMP=876586944
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/spfile_JIAGULUN_0iq3va14_1_1_20150409.bak RECID=18 STAMP=876587045
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_19_1.bak RECID=19 STAMP=876587048
deleted backup piece
backup piece handle=/home/oracle/oracle_bk/orcl/arch_JIAGULUN_20150409_20_1.bak RECID=20 STAMP=876587048
Deleted 5 EXPIRED objects


RMAN>

RMAN> list backup of archivelog all;


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


BS Key  Size        Device Type Elapsed Time Completion Time
------- ----------- ----------- ------------ ---------------
19      101.00K     DISK        00:00:01     09-APR-15
        BP Key: 26   Status: AVAILABLE  Compressed: NO  Tag: TAG20150409T162406
        Piece Name: /tmp/orcl/arch_JIAGULUN_20150409_19_1.bak

  List of Archived Logs in backup set 19
  Thrd Seq     Low SCN    Low Time  Next SCN   Next Time
  ---- ------- ---------- --------- ---------- ---------
  1    12      694289     09-APR-15 694583     09-APR-15

BS Key  Size        Device Type Elapsed Time Completion Time
------- ----------- ----------- ------------ ---------------
20      2.00K       DISK        00:00:01     09-APR-15
        BP Key: 21   Status: AVAILABLE  Compressed: NO  Tag: TAG20150409T162406
        Piece Name: /tmp/orcl/arch_JIAGULUN_20150409_20_1.bak

  List of Archived Logs in backup set 20
  Thrd Seq     Low SCN    Low Time  Next SCN   Next Time
  ---- ------- ---------- --------- ---------- ---------
  1    13      694583     09-APR-15 694588     09-APR-15

RMAN>
RMAN> restore archivelog sequence between 12 and 13;

Starting restore at 09-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=12
channel ORA_DISK_1: reading from backup piece /tmp/orcl/arch_JIAGULUN_20150409_19_1.bak
channel ORA_DISK_1: piece handle=/tmp/orcl/arch_JIAGULUN_20150409_19_1.bak tag=TAG20150409T162406
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:00:01
channel ORA_DISK_1: starting archived log restore to default destination
channel ORA_DISK_1: restoring archived log
archived log thread=1 sequence=13
channel ORA_DISK_1: reading from backup piece /tmp/orcl/arch_JIAGULUN_20150409_20_1.bak
channel ORA_DISK_1: piece handle=/tmp/orcl/arch_JIAGULUN_20150409_20_1.bak tag=TAG20150409T162406
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:00:01
```

```
Finished restore at 09-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;
```

```
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 "/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_system_7p5bl4xs_.dbf";
set newname for datafile 2 to "/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_undotbs1_7p5b155m_.dbf";
set newname for datafile 3 to "/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_sysaux_7p5bl4yl_.dbf";
set newname for datafile 4 to "/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_users_7p5b157q_.dbf";
set newname for datafile 5 to "/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_example_7p5b3r36_.dbf";
set newname for tempfile 1 to "/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_temp_7p5b3loz_.tmp";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_3_7p5b35yp_.log''  to  ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_3_7p5b35yp_.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_3_7p5b36x4_.log''  to  ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_3_7p5b36x4_.log'' "
;

SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_2_7p5b33sx_.log''  to  ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_2_7p5b33sx_.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_2_7p5b34v6_.log''  to  ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_2_7p5b34v6_.log'' "
;

SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_1_7p5b30lb_.log''  to  ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_1_7p5b30lb_.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_1_7p5b31mg_.log''  to  ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_1_7p5b31mg_.log'' "
;


已选择 12 行。
SQL>
```

修改脚本：

```
RUN
{
  ALLOCATE CHANNEL c1 DEVICE TYPE DISK;
set newname for datafile 1 to "/u01/app/oracle/oradata/jiagulun/system01.dbf";
set newname for datafile 2 to "/u01/app/oracle/oradata/jiagulun/undotbs01.dbf";
set newname for datafile 3 to "/u01/app/oracle/oradata/jiagulun/sysaux01.dbf";
set newname for datafile 4 to "/u01/app/oracle/oradata/jiagulun/users01.dbf";
set newname for datafile 5 to "/u01/app/oracle/oradata/jiagulun/example01.dbf";
set newname for tempfile 1 to "/u01/app/oracle/oradata/jiagulun/temp01.dbf";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_3_7p5b35yp_.log''   to   ''/u01/app/oracle/oradata/jiagulun/redo03.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_3_7p5b36x4_.log''   to   ''/u01/app/oracle/oradata/jiagulun/redo03_1.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_2_7p5b33sx_.log''   to   ''/u01/app/oracle/oradata/jiagulun/redo02.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_2_7p5b34v6_.log''   to   ''/u01/app/oracle/oradata/jiagulun/redo02_1.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_1_7p5b30lb_.log''   to   ''/u01/app/oracle/oradata/jiagulun/redo01.log'' ";
SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_1_7p5b31mg_.log''   to   ''/u01/app/oracle/oradata/jiagulun/redo01_1.log'' ";

  SET UNTIL sequence 13 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;
4> set newname for datafile 1 to "/u01/app/oracle/oradata/jiagulun/system01.dbf";
5> set newname for datafile 2 to "/u01/app/oracle/oradata/jiagulun/undotbs01.dbf";
6> set newname for datafile 3 to "/u01/app/oracle/oradata/jiagulun/sysaux01.dbf";
7> set newname for datafile 4 to "/u01/app/oracle/oradata/jiagulun/users01.dbf";
```

```
8> set newname for datafile 5 to "/u01/app/oracle/oradata/jiagulun/example01.dbf";
9> set newname for tempfile 1 to "/u01/app/oracle/oradata/jiagulun/temp01.dbf";
10> SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/ol_mf_3_7p5b35yp_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo03.log'' ";
11> SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/ol_mf_3_7p5b36x4_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo03_1.log'' ";
12> SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/ol_mf_2_7p5b33sx_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo02.log'' ";
13> SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/ol_mf_2_7p5b34v6_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo02_1.log'' ";
14> SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/ol_mf_1_7p5b30lb_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo01.log'' ";
15> SQL "ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/ol_mf_1_7p5b31mg_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo01_1.log'' ";
16>
17>   SET UNTIL sequence 13 thread 1;
18>   RESTORE DATABASE;
19>   SWITCH DATAFILE ALL;
20>   RECOVER DATABASE;
21> }

released channel: ORA_DISK_1
allocated channel: c1
channel c1: SID=133 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

sql statement: ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/ol_mf_3_7p5b35yp_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo03.log''

sql statement: ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/ol_mf_3_7p5b36x4_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo03_1.log''

sql statement: ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/ol_mf_2_7p5b33sx_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo02.log''

sql statement: ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/ol_mf_2_7p5b34v6_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo02_1.log''

sql statement: ALTER DATABASE RENAME FILE ''/u01/app/oracle/oradata/JIAGULUN/onlinelog/ol_mf_1_7p5b30lb_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo01.log''

sql statement: ALTER DATABASE RENAME FILE ''/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/ol_mf_1_7p5b31mg_.log''  to ''/u01/app/oracle/oradata/jiagulun/redo01_1.log''

executing command: SET until clause

Starting restore at 09-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/jiagulun/undotbs01.dbf
channel c1: restoring datafile 00003 to /u01/app/oracle/oradata/jiagulun/sysaux01.dbf
channel c1: restoring datafile 00005 to /u01/app/oracle/oradata/jiagulun/example01.dbf
channel c1: reading from backup piece /tmp/orcl/full_JIAGULUN_20150409_876586944_15_1.bak
channel c1: piece handle=/tmp/orcl/full_JIAGULUN_20150409_876586944_15_1.bak tag=TAG20150409T162224
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/jiagulun/system01.dbf
channel c1: restoring datafile 00004 to /u01/app/oracle/oradata/jiagulun/users01.dbf
channel c1: reading from backup piece /tmp/orcl/full_JIAGULUN_20150409_876586944_14_1.bak
channel c1: piece handle=/tmp/orcl/full_JIAGULUN_20150409_876586944_14_1.bak tag=TAG20150409T162224
channel c1: restored backup piece 1
channel c1: restore complete, elapsed time: 00:00:15
Finished restore at 09-APR-15

datafile 1 switched to datafile copy
```

```
input datafile copy RECID=7 STAMP=876591796 file name=/u01/app/oracle/oradata/jiagulun/system01.dbf
datafile 2 switched to datafile copy
input datafile copy RECID=8 STAMP=876591796 file name=/u01/app/oracle/oradata/jiagulun/undotbs01.dbf
datafile 3 switched to datafile copy
input datafile copy RECID=9 STAMP=876591796 file name=/u01/app/oracle/oradata/jiagulun/sysaux01.dbf
datafile 4 switched to datafile copy
input datafile copy RECID=10 STAMP=876591796 file name=/u01/app/oracle/oradata/jiagulun/users01.dbf
datafile 5 switched to datafile copy
input datafile copy RECID=11 STAMP=876591796 file name=/u01/app/oracle/oradata/jiagulun/example01.dbf

Starting recover at 09-APR-15

starting media recovery

archived log for thread 1 with sequence 12 is already on disk as file /u01/app/oracle/flash_recovery_area/JIAGULUN/archivelog/2015_04_09/o1_mf_1_12_bldjk2wt_.arc
archived log file name=/u01/app/oracle/flash_recovery_area/JIAGULUN/archivelog/2015_04_09/o1_mf_1_12_bldjk2wt_.arc thread=1 sequence=12
media recovery complete, elapsed time: 00:00:01
Finished recover at 09-APR-15
released channel: c1

RMAN>
```

告警日志：

```
Thu Apr 09 17:42:45 2015

ALTER DATABASE RENAME FILE '/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_3_7p5b35yp_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo03.log'

Deleted Oracle managed file /u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_3_7p5b35yp_.log

Completed: ALTER DATABASE RENAME FILE '/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_3_7p5b35yp_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo03.log'

ALTER DATABASE RENAME FILE '/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_3_7p5b36x4_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo03_1.log'

Deleted Oracle managed file /u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_3_7p5b36x4_.log

Completed: ALTER DATABASE RENAME FILE '/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_3_7p5b36x4_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo03_1.log'

ALTER DATABASE RENAME FILE '/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_2_7p5b33sx_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo02.log'

Deleted Oracle managed file /u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_2_7p5b33sx_.log

Completed: ALTER DATABASE RENAME FILE '/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_2_7p5b33sx_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo02.log'

ALTER DATABASE RENAME FILE '/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_2_7p5b34v6_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo02_1.log'

Deleted Oracle managed file /u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_2_7p5b34v6_.log

Completed: ALTER DATABASE RENAME FILE '/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_2_7p5b34v6_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo02_1.log'

ALTER DATABASE RENAME FILE '/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_1_7p5b30lb_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo01.log'

Deleted Oracle managed file /u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_1_7p5b30lb_.log

Completed: ALTER DATABASE RENAME FILE '/u01/app/oracle/oradata/JIAGULUN/onlinelog/o1_mf_1_7p5b30lb_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo01.log'

ALTER DATABASE RENAME FILE '/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_1_7p5b31mg_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo01_1.log'

Deleted Oracle managed file /u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_1_7p5b31mg_.log

Completed: ALTER DATABASE RENAME FILE '/u01/app/oracle/flash_recovery_area/JIAGULUN/onlinelog/o1_mf_1_7p5b31mg_.log'  to  '/u01/app/oracle/oradata/jiagulun/redo01_1.log'

Thu Apr 09 17:42:47 2015

Full restore complete of datafile 2 to datafile copy /u01/app/oracle/oradata/jiagulun/undotbs01.dbf.  Elapsed time: 0:00:00

  checkpoint is 694528

Full restore complete of datafile 5 to datafile copy /u01/app/oracle/oradata/jiagulun/example01.dbf.  Elapsed time: 0:00:02

  checkpoint is 694528

Full restore complete of datafile 3 to datafile copy /u01/app/oracle/oradata/jiagulun/sysaux01.dbf.  Elapsed time: 0:00:05

  checkpoint is 694528
```

```
Thu Apr 09 17:43:01 2015
Full restore complete of datafile 4 to datafile copy /u01/app/oracle/oradata/jiagulun/users01.dbf.  Elapsed time: 0:00:00
  checkpoint is 694529
Thu Apr 09 17:43:04 2015
Time drift detected. Please check VKTM trace file for more details.
Thu Apr 09 17:43:15 2015
Full restore complete of datafile 1 to datafile copy /u01/app/oracle/oradata/jiagulun/system01.dbf.  Elapsed time: 0:00:13
  checkpoint is 694529
Thu Apr 09 17:43:17 2015
Errors in file /u01/app/oracle/diag/rdbms/jiagulun/jiagulun/trace/jiagulun_ora_13658.trc:
ORA-19625: error identifying file /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_system_7p5b14xs_.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 694529
Errors in file /u01/app/oracle/diag/rdbms/jiagulun/jiagulun/trace/jiagulun_ora_13658.trc:
ORA-19625: error identifying file /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_undotbs1_7p5b155m_.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 694528
Errors in file /u01/app/oracle/diag/rdbms/jiagulun/jiagulun/trace/jiagulun_ora_13658.trc:
ORA-19625: error identifying file /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_sysaux_7p5b14yl_.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 694528
Errors in file /u01/app/oracle/diag/rdbms/jiagulun/jiagulun/trace/jiagulun_ora_13658.trc:
ORA-19625: error identifying file /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_users_7p5b157q_.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 694529
Errors in file /u01/app/oracle/diag/rdbms/jiagulun/jiagulun/trace/jiagulun_ora_13658.trc:
ORA-19625: error identifying file /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_example_7p5b3r36_.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 694528
alter database recover datafile list clear
Completed: alter database recover datafile list clear
alter database recover datafile list
```

```
 1 , 2 , 3 , 4 , 5
Completed: alter database recover datafile list
 1 , 2 , 3 , 4 , 5
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/JIAGULUN/archivelog/2015_04_09/o1_mf_1_12_bldjk2wt_.arc'
Media Recovery Log /u01/app/oracle/flash_recovery_area/JIAGULUN/archivelog/2015_04_09/o1_mf_1_12_bldjk2wt_.arc
ORA-279 signalled during: alter database recover logfile '/u01/app/oracle/flash_recovery_area/JIAGULUN/archivelog/2015_04_09/o1_mf_1_12_bldjk2wt_.arc'...
alter database recover cancel
Media Recovery Canceled
Completed: alter database recover cancel
```

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 dbs]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.3.0 Production on Thu Apr 9 17:44:46 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> select open_mode from v$database;

OPEN_MODE
--------------------
MOUNTED

SQL> alter database open resetlogs;
 alter database open resetlogs
*
ERROR at line 1:
ORA-01092: ORACLE instance terminated. Disconnection forced
ORA-00704: bootstrap process failure
ORA-39700: database must be opened with UPGRADE option
Process ID: 11035
Session ID: 59 Serial number: 29


SQL>
SQL> shutdown abort;
ORA-24324: service handle not initialized
```

```
ORA-01041: internal error. hostdef extension doesn't exist
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
```

--因为相同平台的数据库软件版本不一样，所以需要 upgrade 选项打开。

--shutdown 数据库用 upgrade 选项打开数据库：

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


SQL*Plus: Release 11.2.0.3.0 Production on Thu Apr 9 17:47:31 2015

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


Connected to an idle instance.


SQL> startup upgrade;
ORACLE instance started.

Total System Global Area  313159680 bytes
Fixed Size                  2227944 bytes
Variable Size             230687000 bytes
Database Buffers           75497472 bytes
Redo Buffers                4747264 bytes
Database mounted.
Database opened.
SQL>
```

告警日志：
ALTER DATABASE   MOUNT

Successful mount of redo thread 1, with mount id 2792694741

Database mounted in Exclusive Mode

Lost write protection disabled

Completed: ALTER DATABASE   MOUNT

Thu Apr 09 17:48:09 2015

ALTER DATABASE OPEN MIGRATE

Beginning crash recovery of 1 threads

 parallel recovery started with 2 processes

Started redo scan

Completed redo scan

 read 0 KB redo, 0 data blocks need recovery

Started redo application at

 Thread 1: logseq 1, block 2, scn 694587

Recovery of Online Redo Log: Thread 1 Group 1 Seq 1 Reading mem 0

  Mem# 0: /u01/app/oracle/oradata/jiagulun/redo01.log

  Mem# 1: /u01/app/oracle/oradata/jiagulun/redo01_1.log

Completed redo application of 0.00MB

Completed crash recovery at

 Thread 1: logseq 1, block 3, scn 714589

0 data blocks read, 0 data blocks written, 0 redo k-bytes read

LGWR: STARTING ARCH PROCESSES

Thu Apr 09 17:48:09 2015

ARC0 started with pid=20, OS id=14074

ARC0: Archival started

LGWR: STARTING ARCH PROCESSES COMPLETE

ARC0: STARTING ARCH PROCESSES

Thu Apr 09 17:48:10 2015

ARC1 started with pid=23, OS id=14076

Thread 1 advanced to log sequence 2 (thread open)

Thu Apr 09 17:48:10 2015

ARC2 started with pid=24, OS id=14078

Thread 1 opened at log sequence 2

  Current log# 2 seq# 2 mem# 0: /u01/app/oracle/oradata/jiagulun/redo02.log

  Current log# 2 seq# 2 mem# 1: /u01/app/oracle/oradata/jiagulun/redo02_1.log

Successful open of redo thread 1

MTTR advisory is disabled because FAST_START_MTTR_TARGET is not set

SMON: enabling cache recovery

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ARC1: Archival started

ARC3 started with pid=25, OS id=14080

ARC2: Archival started

ARC2: Becoming the 'no FAL' ARCH

ARC2: Becoming the 'no SRL' ARCH

ARC1: Becoming the heartbeat ARCH

Archived Log entry 9 added for thread 1 sequence 1 ID 0xa67589a0 dest 1:

[14064] Successfully onlined Undo Tablespace 1.

Undo initialization finished serial:0 start:62795144 end:62795464 diff:320 (3 seconds)

Dictionary check beginning

Errors in file /u01/app/oracle/diag/rdbms/jiagulun/jiagulun/trace/jiagulun_dbw0_14007.trc:

ORA-01157: cannot identify/lock data file 201 - see DBWR trace file

ORA-01110: data file 201: '/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_temp_7p5b3loz_.tmp'

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/jiagulun/jiagulun/trace/jiagulun_dbw0_14007.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: '/u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_temp_7p5b3loz_.tmp'

File 201 not verified due to error ORA-01157

Dictionary check complete

SMON: enabling tx recovery

Re-creating tempfile /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_temp_7p5b3loz_.tmp as /u01/app/oracle/oradata/JIAGULUN/datafile/o1_mf_temp_bldlptwz_.tmp

Database Characterset is ZHS16GBK

Updating 10.2.0.1.0 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

Stopping background process MMON

Starting background process MMON

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MMON started with pid=15, OS id=14082

Starting background process MMNL

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MMNL started with pid=16, OS id=14084

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 MIGRATE

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Starting background process CJQ0

Thu Apr 09 17:48:17 2015

CJQ0 started with pid=26, OS id=14087
```

6、 执行升级脚本 catupgrd.sql 并编译失效对象

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

OWNER                          COUNT(1)
------------------------------ ----------
PUBLIC                              396
CTXSYS                                1
SYS                                  93

SQL>

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

INSTANCE_NAME    VERSION           STATUS
---------------- ----------------- ------------
```

jiagulun	11.2.0.3.0	OPEN MIGRATE

$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

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.

但是这里执行的时候就报错了，不能完整的执行升级脚本，后来网上查了下是因为 10.2.0.1 不能直接升级到 11g 的版本，10g 的版本必须大于 10.2.0.2.，晕死人，╮(╯▽╰)╭，，，，不过回想一下这样的数据库可以作为找回一些由于误操作导致丢失了的数据，其实也是一种办法。

SELECT TO_NUMBER('MUST_HAVE_RUN_PRE-UPGRADE_TOOL_FOR_TIMEZONE')

    * ERROR at line 1:

    ORA-01722: invalid number

算了，再找个高版本实验吧，请看下一篇文章。。。。。

7、 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.

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

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