

RAC on Linux with ASM Crash Scenario 4 Voting Disk Loss

Alejandro Vargas
Principal Support Consultant
Oracle Advanced Support Services

INDEX

Scenario 4: Voting Disk loss	1
Backup Voting Disk.....	2
Script 1	2
Main Script, crash4_del_voting	3
Execution Log	3
Check RAC status.....	3
Recovery Log and Steps.....	5
Check Raw Devices Status	5
Check Raw Devices Mapping.....	5
Check available backups	6
Restore Voting Disk.....	6
Restart CRS	6
Check and Restart all Cluster components	6
Check Database	8
End of the Document.....	10

Scenario 4: Voting Disk loss

Voting Disk file accidentally dropped
RAC and databases crash

Servers crash

Backup Voting Disk

Before running the Scenario Backup the Voting Disk!

The Voting Disk is backed up using the **dd** command, check the [RAC 10g R2 online Documentation](#) for a complete reference.

```
[root@vmractest1 VOTING]# dd if= /dev/raw/votingdisk  
of= /vmasmtest/BACKUP/VOTING/votingdisk_06_may_07  
dd: reading `/dev/raw/votingdisk': No such device or address  
305172+0 records in  
305172+0 records out
```

```
[root@vmractest1 VOTING]# ls -l  
total 152744  
-rw-r--r-- 1 oracle dba 156248064 May 6 16:40 votingdisk_06_may_07
```

Script 1

Main Script, crash4_del_voting

```
----- script start on next line -----  
#!/usr/bin/ksh  
# crash4_del_voting  
# Crash scenario, wipe out voting disk raw device by overwriting it  
# run this script as root  
  
v_votdev=`cat /etc/sysconfig/rawdevices | grep voting | awk '{print $1}'`  
dd if=/dev/zero of= $v_votdev  
  
# eof crash3_del_ocr  
----- script finish on previous line -----
```

Execution Log

```
{oracle} /oradisk/app01/oracle/CRASH_SCENARIOS [vmractest1] > ./crash4_del_voting
```

```
dd if=/dev/zero of=/dev/raw/votingdisk
```

Check RAC status

Both servers became stuck, and need to be rebooted.
After reboot CRS does not come up, all RAC component are down:

```
{oracle} /home/oracle [vmractest1] > crs_stat -t  
CRS-0184: Cannot communicate with the CRS daemon.
```

```
{oracle} /home/oracle [vmractest1] > chkcrs  
HA Resource                                Target    State  
-----  
error connecting to CRSD at [(ADDRESS=(PROTOCOL=ipc)(KEY=ora_crsqs))] clsccon 184
```

From Alert.log on 1st instance

```
Sun May  6 17:06:08 2007  
Trace dumping is performing id=[cdmp_20070506170528]  
Sun May  6 17:06:10 2007  
Error: KGXGN aborts the instance (6)  
Sun May  6 17:06:10 2007  
Errors in file /oradisk/app01/oracle/admin/racdbtst/bdump/racdbtst1_lmon_20184.trc:  
ORA-29702: error occurred in Cluster Group Service operation  
LMON: terminating instance due to error 29702  
Instance terminated by LMON, pid = 20184
```

From alert.log on 2nd instance

```
Sun May  6 17:05:28 2007  
Error: KGXGN aborts the instance (6)  
Sun May  6 17:05:28 2007  
Errors in file /oradisk/app01/oracle/admin/racdbtst/bdump/racdbtst2_lmon_4120.trc:
```

ORA-29702: error occurred in Cluster Group Service operation

LMON: terminating instance due to error 29702

Sun May 6 17:05:28 2007

System state dump is made for local instance

System State dumped to trace file /oradisk/app01/oracle/admin/racdbtst/bdump/racdbtst2_diag_4108.trc

Sun May 6 17:05:33 2007

Instance terminated by LMON, pid = 4120

Note: Because CRS has no repository to work with both instances remained up. This may lead to corruption, the database should be shut down immediately

Recovery Log and Steps

Check Raw Devices Status

```
[root@vmractest1 vmasmtest]# service rawdevices status
```

```
/dev/raw/raw1: bound to major 8, minor 33
```

```
/dev/raw/raw2: bound to major 8, minor 34
```

```
/dev/raw/raw3: bound to major 8, minor 35
```

Check Raw Devices Mapping

```
[root@vmractest1 vmasmtest]# cat /etc/sysconfig/rawdevices
```

```
# raw device bindings
```

```
# format: <rawdev> <major> <minor>
```

```
#          <rawdev> <blockdev>
```

```
# example: /dev/raw/raw1 /dev/sda1
#           /dev/raw/raw2 8 5
/dev/raw/votingdisk      /dev/sdc1
/dev/raw/ocr.dbf          /dev/sdc2
/dev/raw/spfile+ASM.ora   /dev/sdc3
```

Check available backups

```
[root@vmrctest1 ]# cd /vmasmtest/BACKUP/VOTING
[root@vmrctest1 VOTING]# ls -l
total 152744
-rw-r--r--  1 oracle  dba      156248064 May  6 16:40 votingdisk_06_may_07
```

Restore Voting Disk

```
[root@vmrctest1 VOTING]# dd if= /vmasmtest/BACKUP/VOTING/votingdisk_06_may_07 of= /dev/raw/votingdisk
305172+0 records in
305172+0 records out
```

Restart CRS

```
[root@vmrctest1 VOTING]# /etc/init.d/init.crs start
Startup will be queued to init within 90 seconds.
```

Check and Restart all Cluster components

```
[root@vmrctest1 bin]# ./crsctl check crs
CSS appears healthy
```

CRS appears healthy
EVM appears healthy

```
[root@vmrctest1 bin]# ./crsctl query css votedisk
0.          0          /dev/raw/votingdisk
```

```
[root@vmrctest1 bin]# ./crsctl start resources
Starting resources.
Successfully started CRS resources
```

```
{oracle} / [vmractest1] > chkcrs
```

HA Resource

```
ora.racdbtst.db
ora.racdbtst.racdbtst1.inst
ora.racdbtst.racdbtst2.inst
ora.racdbtst.ractest1.cs
ora.racdbtst.ractest1.racdbtst1.srv
ora.racdbtst.ractest1.racdbtst2.srv
ora.racdbtst.ractest2.cs
ora.racdbtst.ractest2.racdbtst1.srv
ora.racdbtst.ractest3.cs
ora.racdbtst.ractest3.racdbtst2.srv
ora.vmractest1ASM1.asm
ora.vmractest1LISTENER_VMRATEST1lsnr
ora.vmractest1gsd
ora.vmractest1ons
ora.vmractest1vip
ora.vmractest2.ASM2.asm
```

Target

— — — — —

State

— — — — —

```

ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest2
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest1
ONLINE      ONLINE on vmractest2

```

ora.vmractest2.LISTENER_VMRATEST2.lsnr	ONLINE	ONLINE on vmractest2
ora.vmractest2.gsd	ONLINE	ONLINE on vmractest2
ora.vmractest2.ons	ONLINE	ONLINE on vmractest2
ora.vmractest2.vip	ONLINE	ONLINE on vmractest2

Check Database

```
{oracle} /home/oracle [vmractest1] > 10db  
{oracle} /home/oracle [vmractest1] > sts racdbtst1  
{oracle} /home/oracle [vmractest1] > sql
```

SQL*Plus: Release 10.2.0.1.0 - Production on Sun May 6 15:22:18 2007

Copyright (c) 1982, 2005, Oracle. All rights reserved.

Connected to:

Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - Production
With the Partitioning, Real Application Clusters, OLAP and Data Mining options

```
SQL> select name from v$database;
```

NAME

RACDBTST

```
SQL> conn /@racdbtst2
```

Connected.

```
SQL> /
```

FILE_NAME

```
-----  
+DATADG/racdbtst/datafile/on_asm.288.621519721  
+DATADG/racdbtst/datafile/tbs_auto.272.621519707  
+DATADG/racdbtst/datafile/tbs_manual.287.621519689  
+DATADG/racdbtst/datafile/recop1.261.621519675  
+DATADG/racdbtst/datafile/users.266.621519497  
+DATADG/racdbtst/datafile/undotbs2.265.621519461  
+DATADG/racdbtst/datafile/sysaux.258.621519347  
+DATADG/racdbtst/datafile/undotbs1.257.621519099  
+DATADG/racdbtst/datafile/system.256.621519033
```

9 rows selected.

SQL> conn /@racdbtst1

Connected.

SQL> /

FILE_NAME

```
-----  
+DATADG/racdbtst/datafile/on_asm.288.621519721  
+DATADG/racdbtst/datafile/tbs_auto.272.621519707  
+DATADG/racdbtst/datafile/tbs_manual.287.621519689  
+DATADG/racdbtst/datafile/recop1.261.621519675  
+DATADG/racdbtst/datafile/users.266.621519497  
+DATADG/racdbtst/datafile/undotbs2.265.621519461  
+DATADG/racdbtst/datafile/sysaux.258.621519347  
+DATADG/racdbtst/datafile/undotbs1.257.621519099  
+DATADG/racdbtst/datafile/system.256.621519033
```

9 rows selected.

End of the Document