

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Alejandro Vargas
Principal Support Consultant
Oracle Advanced Customer Services

INDEX

- Summary.....3

- NODE 1.....4
- Parameter Files.....4
 - Listener.ora.....4
 - Tnsnames.ora.....5
 - init.ora.....6
- DGMGRL CONFIGURATION.....8
 - Show configuration.....8
 - Show database verbose dgedb.....8
 - Show instance verbose dgedb.....10

- NODE 2.....12
- Parameter files.....12
 - Listener.ora.....12
 - Tnsnames.ora.....12
 - init.ora.....13
- DGMGRL CONFIGURATION.....16
 - Show configuration.....16
 - Show database verbose dgfdb.....16
 - Show instance verbose dgfdb.....18

- Switchover Test.....20
 - Start Observer.....20
 - Execute Switchover.....20

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

- Checkup from New Primary Database.....22
- Checkup from New Standby Database.....22
- Switchover Tail of Primary and Standby alert logs.....23
- Fast Start Failover Test.....24
 - Checkup the environment before testing.....24
 - Shutdown abort the Primary.....25
 - Observer Process Output.....25
 - Databases Status after the Fast Start Failover.....26
 - Tail of Primary and Standby alert logs during FSFO.....26
- ANNEXES.....27
 - Monitor of the Switchover process using the Primary and Standby Alert logs.....27
 - Monitor of the Fast Start Failover Process using the Primary and Standby Alert logs.....43

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Summary

This document contains the details of a data guard configuration that worked successfully for both switchover and fast start failover tests.

Despite that the task of configuring correctly a FSFO environment is relatively simple, it is also sometimes difficult to get it working smoothly consistently.

The idea behind this document is to provide a reference of configuration files and parameters used on a healthy environment where all Switchover and FSFO tests were executed with success in a consistent way.

The environment was configured on 2 nodes with Oracle Enterprise Linux 2.6.9-55.0.0.2.EL #1 i686 i686 i386 GNU/Linux with a 10.2.0.3 single instance database.

The document does not include implementation steps, they can be found on these posts:

[Data Guard Physical Standby Implementation, step-by-step](#)

[Data Guard Broker and FSFO implementation, step-by-step](#)

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

NODE 1

Parameter Files

Listener.ora

```
LISTENER_RAC1 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = rac1.av.com)(PORT = 1521))
    )
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC))
    )
  )

SID_LIST_LISTENER_RAC1 =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = dgedb)
      (GLOBAL_DBNAME = dgedb_DGMGRL)
      (ORACLE_HOME = /u01/app/oracle/product/10.2.0/db_1)
    )
  )
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Tnsnames.ora

```
DGEDB =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = rac1.av.com)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = dgedb_DGMGRL)
    )
  )

DGFDB =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = rac2.av.com)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = dgfdb_DGMGRL)
    )
  )

LISTENER_RAC1 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = rac1.av.com)(PORT = 1521))
    )
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = 192.168.2.131)(PORT = 1521))
    )
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC))
    )
  )
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

init.ora

```
dgedb.__db_cache_size=234881024
dgedb.__java_pool_size=4194304
dgedb.__large_pool_size=4194304
dgedb.__shared_pool_size=171966464
dgedb.__streams_pool_size=0
*.archive_lag_target=0
*.audit_file_dest='/u01/app/oracle/admin/dgedb/adump'
*.background_dump_dest='/u01/app/oracle/admin/dgedb/bdump'
*.compatible='10.2.0.3.0'
*.control_files='/u01/app/oracle/oradata/dgedb/control01.ctl',
                '/u01/app/oracle/oradata/dgedb/control02.ctl',
                '/u01/app/oracle/oradata/dgedb/control03.ctl'
*.core_dump_dest='/u01/app/oracle/admin/dgedb/cdump'
*.db_block_size=8192
*.db_domain=''
*.db_file_multiblock_read_count=16
*.db_file_name_convert='dbfdb','dbedb'
*.db_name='dgedb'
*.db_recovery_file_dest_size=2147483648
*.db_recovery_file_dest='/u01/app/oracle/flashback'
*.db_unique_name='dgedb'
*.dg_broker_start=TRUE
*.fal_client='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(PORT=1521)))
(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(INSTANCE_NAME=dgedb)(SERVER=dedicated)))'
*.fal_server='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521)))
(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(SERVER=dedicated)))'
*.job_queue_processes=10
*.local_listener='(ADDRESS = (PROTOCOL = TCP)(HOST = rac1.av.com)(PORT = 1521))'
*.log_archive_config='DG_CONFIG=(dgedb,dgfdb)'
*.log_archive_dest_1='LOCATION=/u01/app/oracle/oradata/dgedb/archive/'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
VALID_FOR=(ALL_LOGFILES,ALL_ROLES)
DB_UNIQUE_NAME=dgedb'
dgedb.log_archive_dest_1='location="/u01/app/oracle/oradata/dgedb/archive/"', 'valid_for=(ALL
_LOGFILES,ALL_ROLES) '
*.log_archive_dest_2=''
*.log_archive_dest_state_1='enable'
dgedb.log_archive_dest_state_1='ENABLE'
*.log_archive_dest_state_2='ENABLE'
*.log_archive_format='%t_%s_%r.dbf'
dgedb.log_archive_format='%t_%s_%r.dbf'
*.log_archive_max_processes=2
*.log_archive_min_succeed_dest=1
dgedb.log_archive_trace=0
*.log_file_name_convert='/u01/app/oracle/oradata/dgfdb/', '/u01/app/oracle/oradata/dgedb/'
*.open_cursors=300
*.pga_aggregate_target=71303168
*.processes=150
*.remote_login_passwordfile='EXCLUSIVE'
*.sga_max_size=419430400
*.sga_target=419430400
dgedb.standby_archive_dest='/u01/app/oracle/oradata/dgedb/archive/'
*.standby_file_management='auto'
*.undo_management='AUTO'
*.undo_tablespace='UNDOTBS1'
*.user_dump_dest='/u01/app/oracle/admin/dgedb/udump'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

DGMGRL CONFIGURATION

Show configuration

```
DGMGRL> show configuration
```

```
Configuration
```

```
Name:                DRSolution
Enabled:             YES
Protection Mode:     MaxAvailability
Fast-Start Failover: ENABLED
Databases:
  dgedb - Physical standby database
         - Fast-Start Failover target
  dgfdb - Primary database
```

```
Current status for "DRSolution":
SUCCESS
```

Show database verbose dgedb

```
DGMGRL> Show database verbose dgedb
```

```
Database
```

```
Name:                dgedb
Role:                PHYSICAL STANDBY
Enabled:             YES
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Intended State: ONLINE

Instance(s):

dgedb

Properties:

```
InitialConnectIdentifier      = 'dgedb'
LogXptMode                    = 'SYNC'
Dependency                     = ''
DelayMins                     = '0'
Binding                       = 'OPTIONAL'
MaxFailure                    = '0'
MaxConnections                = '1'
ReopenSecs                    = '300'
NetTimeout                    = '180'
LogShipping                   = 'ON'
PreferredApplyInstance        = ''
ApplyInstanceTimeout          = '0'
ApplyParallel                 = 'AUTO'
StandbyFileManagement         = 'auto'
ArchiveLagTarget              = '0'
LogArchiveMaxProcesses        = '2'
LogArchiveMinSucceedDest      = '1'
DbFileNameConvert             = 'dbfdb, dbedb'
LogFileNameConvert            = '/u01/app/oracle/oradata/dgfdb/,
/u01/app/oracle/oradata/dgedb/'
FastStartFailoverTarget       = 'dgfdb'
StatusReport                   = '(monitor)'
InconsistentProperties         = '(monitor)'
InconsistentLogXptProps       = '(monitor)'
SendQEntries                   = '(monitor)'
LogXptStatus                   = '(monitor)'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
RecvQEntries          = '(monitor)'  
HostName              = 'rac1.av.com'  
SidName               = 'dgedb'  
LocalListenerAddress =  
'(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(PORT=1521))'  
StandbyArchiveLocation = '/u01/app/oracle/oradata/dgedb/archive/'  
AlternateLocation     = ''  
LogArchiveTrace       = '0'  
LogArchiveFormat      = '%t_%s_%r.dbf'  
LatestLog             = '(monitor)'  
TopWaitEvents         = '(monitor)'
```

Current status for "dgedb":
SUCCESS

Show instance verbose dgedb

```
DGMGRL> show instance verbose dgedb
```

Instance 'dgedb' of database 'dgedb'

```
Host Name:          rac1.av.com  
PFILE:
```

Properties:

```
HostName            = 'rac1.av.com'  
SidName             = 'dgedb'  
LocalListenerAddress =  
'(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(PORT=1521))'  
StandbyArchiveLocation = '/u01/app/oracle/oradata/dgedb/archive/'  
AlternateLocation   = ''  
LogArchiveTrace     = '0'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
LogArchiveFormat      = '%t_%s_%r.dbf'  
LatestLog             = '(monitor)'  
TopWaitEvents         = '(monitor)'
```

```
Current status for "dgedb":  
SUCCESS
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

NODE 2

Parameter files

Listener.ora

```
LISTENER_RAC2 =  
  (DESCRIPTION_LIST =  
    (DESCRIPTION =  
      (ADDRESS_LIST =  
        (ADDRESS = (PROTOCOL = TCP)(HOST = rac2.av.com)(PORT = 1521)(IP = FIRST))  
      )  
      (ADDRESS_LIST =  
        (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC))  
      )  
    )  
  )  
)
```

```
SID_LIST_LISTENER_RAC2 =  
  (SID_LIST =  
    (SID_DESC =  
      (SID_NAME = dgfdb)  
      (GLOBAL_DBNAME = dgfdb_DGMGRL)  
      (ORACLE_HOME = /u01/app/oracle/product/10.2.0/db_1)  
    )  
  )  
)
```

Tnsnames.ora

```
DGEDB =
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(HOST = rac1.av.com)(PORT = 1521))
  (CONNECT_DATA =
    (SERVER = DEDICATED)
    (SERVICE_NAME = dgedb_DGMGRL)
  )
)

DGFDB =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = rac2.av.com)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = dgfdb_DGMGRL)
    )
  )

LISTENER_RAC2 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = rac2.av.com)(PORT = 1521))
    )
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC))
    )
  )
)
```

init.ora

```
dgfdb.__db_cache_size=243269632
dgfdb.__java_pool_size=4194304
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
dgfdb.__large_pool_size=4194304
dgfdb.__shared_pool_size=163577856
dgfdb.__streams_pool_size=0
*.archive_lag_target=0
*.audit_file_dest='/u01/app/oracle/admin/dgfdb/adump'
*.background_dump_dest='/u01/app/oracle/admin/dgfdb/bdump'
*.compatible='10.2.0.3.0'
*.control_files='/u01/app/oracle/oradata/dgfdb/control01ctl',
                '/u01/app/oracle/oradata/dgfdb/control02ctl',
                '/u01/app/oracle/oradata/dgfdb/control03ctl'
*.core_dump_dest='/u01/app/oracle/admin/dgfdb/cdump'
*.db_block_size=8192
*.db_domain=''
*.db_file_multiblock_read_count=16
*.db_file_name_convert='/u01/app/oracle/oradata/dgedb/', '/u01/app/oracle/oradata/dgfd
b/'
*.db_name='dgedb'
*.db_recovery_file_dest_size=2147483648
*.db_recovery_file_dest='/u01/app/oracle/flashback'
*.db_unique_name='dgfdb'
*.dg_broker_start=TRUE
*.fal_client='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PO
RT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(INSTANCE_NAME=dgfdb)(SERVER=dedicate
d)))'
*.fal_server='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(PO
RT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(SERVER=dedicated)))'
*.job_queue_processes=10
*.local_listener='(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521))'
*.log_archive_config='DG_CONFIG=(dgedb,dgfdb)'
*.log_archive_dest_1='LOCATION=/u01/app/oracle/oradata/dgfdb/archive/
                    VALID_FOR=(ALL_LOGFILES,ALL_ROLES)'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
DB_UNIQUE_NAME=dgfdb'  
dgfdb.log_archive_dest_1='location="/u01/app/oracle/oradata/dgfdb/archive/"', 'valid_f  
or=(ONLINE_LOGFILE,ALL_ROLES)'  
*.log_archive_dest_2='service="(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOS  
T=rac1.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(INSTANCE_NAME=dgedb  
) (SERVER=dedicated))"'', 'LGWR SYNC AFFIRM delay=0 OPTIONAL max_failure=0  
max_connections=1 reopen=300 db_unique_name="dgedb" register net_timeout=180  
valid_for=(online_logfile,primary_role)'  
*.log_archive_dest_state_1='enable'  
dgfdb.log_archive_dest_state_1='ENABLE'  
*.log_archive_dest_state_2='ENABLE'  
*.log_archive_format='%t_%s_%r.dbf'  
dgfdb.log_archive_format='%t_%s_%r.dbf'  
*.log_archive_max_processes=2  
*.log_archive_min_succeed_dest=1  
dgfdb.log_archive_trace=0  
*.log_file_name_convert='/u01/app/oracle/oradata/dgedb/', '/u01/app/oracle/oradata/dgf  
db/'  
*.open_cursors=300  
*.pga_aggregate_target=71303168  
*.processes=150  
*.remote_login_passwordfile='EXCLUSIVE'  
*.sga_max_size=419430400  
*.sga_target=419430400  
dgfdb.standby_archive_dest=' '  
*.standby_file_management='auto'  
*.undo_management='AUTO'  
*.undo_tablespace='UNDOTBS1'  
*.user_dump_dest='/u01/app/oracle/admin/dgfdb/udump'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

DGMGRL CONFIGURATION

Show configuration

```
DGMGRL> Show configuration
```

```
Configuration
```

```
Name:                DRSolution
Enabled:             YES
Protection Mode:    MaxAvailability
Fast-Start Failover: ENABLED
Databases:
  dgedb - Physical standby database
         - Fast-Start Failover target
  dgfdb - Primary database
```

```
Current status for "DRSolution":
SUCCESS
```

Show database verbose dgfdb

```
DGMGRL> Show database verbose dgfdb
```

```
Database
```

```
Name:                dgfdb
Role:                PRIMARY
Enabled:             YES
Intended State:    ONLINE
Instance(s):
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

dgfdb

Properties:

```
InitialConnectIdentifier      = 'dgfdb'  
LogXptMode                   = 'SYNC'  
Dependency                   = ''  
DelayMins                    = '0'  
Binding                      = 'OPTIONAL'  
MaxFailure                   = '0'  
MaxConnections               = '1'  
ReopenSecs                   = '300'  
NetTimeout                   = '180'  
LogShipping                  = 'ON'  
PreferredApplyInstance      = ''  
ApplyInstanceTimeout        = '0'  
ApplyParallel                = 'AUTO'  
StandbyFileManagement       = 'auto'  
ArchiveLagTarget             = '0'  
LogArchiveMaxProcesses      = '2'  
LogArchiveMinSucceedDest    = '1'  
DbFileNameConvert           = '/u01/app/oracle/oradata/dgedb/  
/u01/app/oracle/oradata/dgfdb/'  
LogFileNameConvert          = '/u01/app/oracle/oradata/dgedb/  
/u01/app/oracle/oradata/dgfdb/'  
FastStartFailoverTarget     = 'dgedb'  
StatusReport                 = '(monitor)'  
InconsistentProperties       = '(monitor)'  
InconsistentLogXptProps     = '(monitor)'  
SendQEntries                 = '(monitor)'  
LogXptStatus                 = '(monitor)'  
RecvQEntries                 = '(monitor)'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
HostName                = 'rac2.av.com'  
SidName                  = 'dgfdb'  
LocalListenerAddress    =  
'(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521))'  
StandbyArchiveLocation  = '/u01/app/oracle/oradata/dgfdb/archive/'  
AlternateLocation       = ''  
LogArchiveTrace         = '0'  
LogArchiveFormat        = '%t_%s_%r.dbf'  
LatestLog               = '(monitor)'  
TopWaitEvents           = '(monitor)'
```

Current status for "dgfdb":
SUCCESS

Show instance verbose dgfdb

DGMGRL> Show instance verbose dgfdb

Instance 'dgfdb' of database 'dgfdb'

Host Name: rac2.av.com
PFIL:

Properties:

```
HostName                = 'rac2.av.com'  
SidName                  = 'dgfdb'  
LocalListenerAddress    =  
'(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521))'  
StandbyArchiveLocation  = '/u01/app/oracle/oradata/dgfdb/archive/'  
AlternateLocation       = ''  
LogArchiveTrace         = '0'  
LogArchiveFormat        = '%t_%s_%r.dbf'
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
LatestLog           = '(monitor)'  
TopWaitEvents      = '(monitor)'
```

```
Current status for "dgfdb":  
SUCCESS
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Switchover Test

Start Observer

```
DGMGRL> connect sys/oracle@dgedb
Connected.
DGMGRL> start observer
Observer started
```

Execute Switchover

```
DGMGRL> connect sys/oracle@dgfdb
Connected.
DGMGRL> show configuration
```

Configuration

```
Name:                DRSolution
Enabled:             YES
Protection Mode:     MaxAvailability
Fast-Start Failover: ENABLED
Databases:
  dgedb - Physical standby database
         - Fast-Start Failover target
  dgfdb - Primary database
```

```
Current status for "DRSolution":
SUCCESS
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
DGMGRL> show database dgedb
```

```
Database
Name:          dgedb
Role:          PHYSICAL STANDBY
Enabled:       YES
Intended State: ONLINE
Instance(s):  dgedb
```

```
Current status for "dgedb":
SUCCESS
```

```
DGMGRL> show database dgfdb
```

```
Database
Name:          dgfdb
Role:          PRIMARY
Enabled:       YES
Intended State: ONLINE
Instance(s):  dgfdb
```

```
Current status for "dgfdb":
SUCCESS
```

```
DGMGRL> switchover to dgedb
```

```
Performing switchover NOW, please wait...
Operation requires shutdown of instance "dgfdb" on database "dgfdb"
Shutting down instance "dgfdb"...
ORA-01109: database not open
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Database dismounted.  
ORACLE instance shut down.  
Operation requires shutdown of instance "dgedb" on database "dgedb"  
Shutting down instance "dgedb"...  
ORA-01109: database not open
```

```
Database dismounted.  
ORACLE instance shut down.  
Operation requires startup of instance "dgfdb" on database "dgfdb"  
Starting instance "dgfdb"...  
ORACLE instance started.  
Database mounted.  
Operation requires startup of instance "dgedb" on database "dgedb"  
Starting instance "dgedb"...  
ORACLE instance started.  
Database mounted.  
Switchover succeeded, new primary is "dgedb"
```

Checkup from New Primary Database

```
SQL> select DB_UNIQUE_NAME, DATABASE_ROLE, CURRENT_SCN, OPEN_MODE, FS_FAILOVER_STATUS  
FSFO_STATUS, FS_FAILOVER_CURRENT_TARGET FSFO_CURR_TARGET from v$database;
```

DB_UNIQUE_NAME	DATABASE_ROLE	CURRENT_SCN	OPEN_MODE	FSFO_STATUS	FSFO_CURR_TARGET
dgedb	PRIMARY	830043	READ WRITE	SYNCHRONIZED	dgfdb

Checkup from New Standby Database

```
DB_UNIQUE_NAME DATABASE_ROLE CURRENT_SCN OPEN_MODE FSFO_STATUS FSFO_CURR_TARGET
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

dgfdb PHYSICAL STANDBY 829954 MOUNTED SYNCHRONIZED dgfdb

Switchover Tail of Primary and Standby alert logs

On the Annexes sections it is possible to see the whole alertlogs for both databases during the time of the switchover, they are arranged to make the timings coincide.

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Fast Start Failover Test

The Fast Start Failover configuration enables fast transition to the standby database in case of failure, and an automatic reinstate of the failed database when it is again available. The reinstate can be triggered from within DGMGRL console or by mounting the failed database.

In this test the primary database was shutdown abort at 12:12:45, the failover was completed at 12:13:32 and the New primary database was open and available at 12:14:39.

After that I did mount the aborted database that was automatically reinstated by the Dataguard Broker. The steps of the reinstate process can be seen on the Observer process window, the database alert log and broker log.

Checkup the environment before testing

```
DGMGRL> connect sys/oracle@dgfdb
Connected.
DGMGRL> show configuration

Configuration
Name:                DRSolution
Enabled:              YES
Protection Mode:     MaxAvailability
Fast-Start Failover: ENABLED
Databases:
  dgedb - Primary database
  dgfdb - Physical standby database
         - Fast-Start Failover target

Current status for "DRSolution":
SUCCESS

DGMGRL> show database dgedb
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Database
Name:          dgedb
Role:          PRIMARY
Enabled:       YES
Intended State: ONLINE
Instance(s):
  dgedb
```

```
Current status for "dgedb":
SUCCESS
```

```
DGMGRL> show database dgfdb
```

```
Database
Name:          dgfdb
Role:          PHYSICAL STANDBY
Enabled:       YES
Intended State: ONLINE
Instance(s):
  dgfdb
```

```
Current status for "dgfdb":
SUCCESS
```

Shutdown abort the Primary

```
SQL> shutdown abort
ORACLE instance shut down
```

Observer Process Output

This output was captured from the DGMGRL session where the Observer process was running

```
12:13:22.82 Saturday, December 06, 2008
Initiating fast-start failover to database "dgfdb" ...
Performing failover NOW, please wait...
Failover succeeded, new primary is "dgfdb"
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

12:13:32.47 Saturday, December 06, 2008

12:16:39.32 Saturday, December 06, 2008

Initiating reinstatement for database "dgedb"...

Reinstating database "dgedb", please wait...
Operation requires shutdown of instance "dgedb" on
database "dgedb"
Shutting down instance "dgedb"...
ORA-01109: database not open

Database dismounted.
ORACLE instance shut down.
Operation requires startup of instance "dgedb" on
database "dgedb"
Starting instance "dgedb"...
ORACLE instance started.
Database mounted.
Continuing to reinstate database "dgedb" ...

Reinstatement of database "dgedb" succeeded

12:18:03.73 Saturday, December 06, 2008

Databases Status after the Fast Start Failover

DB_UNIQUE_NAME	DATABASE_ROLE	CURRENT_SCN	OPEN_MODE	FSFO_STATUS	FSFO_CURR_TARGET
dgfdb	PRIMARY	834637	READ WRITE	SYNCHRONIZED	dgedb
dgedb	PHYSICAL STANDBY	832961	MOUNTED	SYNCHRONIZED	dgedb

Tail of Primary and Standby alert logs during FSFO

On the Annexes sections it is possible to see the whole alertlogs for both databases during the time of the FSFO, they are arranged to make the timings coincide.

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

ANNEXES

Monitor of the Switchover process using the Primary and Standby Alert logs

DGEDB, Standby Switching to Primary Database	DGFDB, Primary Switching to Standby Database
<pre> Sat Dec 6 11:00:27 2008 ALTER DATABASE RECOVER MANAGED STANDBY DATABASE CANCEL MRP0: Background Media Recovery cancelled with status 16037 Sat Dec 6 11:00:27 2008 Errors in file /u01/app/oracle/admin/dgedb/bdump/dgedb_mrp0_13101.trc: ORA-16037: user requested cancel of managed recovery operation Managed Standby Recovery not using Real Time Apply Recovery interrupted! Sat Dec 6 11:00:28 2008 Errors in file /u01/app/oracle/admin/dgedb/bdump/dgedb_mrp0_13101.trc: ORA-16037: user requested cancel of managed recovery operation Sat Dec 6 11:00:28 2008 MRP0: Background Media Recovery process shutdown (dgedb) Sat Dec 6 11:00:29 2008 Managed Standby Recovery Canceled (dgedb) Sat Dec 6 11:00:29 2008 Completed: ALTER DATABASE RECOVER MANAGED STANDBY DATABASE CANCEL Sat Dec 6 11:00:29 2008 ALTER DATABASE COMMIT TO SWITCHOVER TO PRIMARY WAIT WITH SESSION SHUTDOWN Sat Dec 6 11:00:29 2008 ALTER DATABASE SWITCHOVER TO PRIMARY (dgedb) If media recovery active, switchover will wait 900 seconds SwitchOver after complete recovery through change 829132 Online log /u01/app/oracle/oradata/dgedb/redo01.log: Thread 1 Group 1 was previously cleared Online log /u01/app/oracle/oradata/dgedb/redo02.log: Thread 1 Group 2 was previously cleared Online log /u01/app/oracle/oradata/dgedb/redo03.log: Thread 1 Group 3 was previously cleared Standby became primary SCN: 829130 Converting standby mount to primary mount. Sat Dec 6 11:00:29 2008 Switchover: Complete - Database mounted as primary (dgedb) Completed: ALTER DATABASE COMMIT TO SWITCHOVER TO PRIMARY WAIT </pre>	

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
WITH SESSION SHUTDOWN
Sat Dec 6 11:00:29 2008
ARC0: STARTING ARCH PROCESSES
ARC2: Archival started
ARC0: STARTING ARCH PROCESSES COMPLETE
ARC0: Becoming the 'no SRL' ARCH
ARC2 started with pid=25, OS id=24615
Sat Dec 6 11:00:42 2008
Shutting down instance: further logons disabled
Sat Dec 6 11:00:42 2008
Stopping background process CJQ0
Sat Dec 6 11:00:42 2008
Stopping background process MMNL
Sat Dec 6 11:00:42 2008
Stopping background process MMON
Sat Dec 6 11:00:42 2008
Shutting down instance (immediate)
License high water mark = 9
Sat Dec 6 11:00:42 2008
Stopping Job queue slave processes
Sat Dec 6 11:00:42 2008
Job queue slave processes stopped
Sat Dec 6 11:00:42 2008
alter database CLOSE NORMAL
ORA-1109 signalled during: alter database CLOSE NORMAL...
Sat Dec 6 11:00:42 2008
alter database DISMOUNT
Completed: alter database DISMOUNT
ARCH: Archival disabled due to shutdown: 1089
Shutting down archive processes
Archiving is disabled
Sat Dec 6 11:00:44 2008
ARC2: Archival disabled due to shutdown: 1089
Shutting down archive processes
Sat Dec 6 11:00:52 2008
ARCH shutting down
ARC1: Archival stopped
Sat Dec 6 11:00:57 2008
ARCH shutting down
ARC0: Archival stopped
Sat Dec 6 11:00:57 2008
Archiving is disabled
Archive process shutdown avoided: 0 active
ARCH shutting down
ARC2: Archival stopped
Sat Dec 6 11:00:58 2008
Shutting down Data Guard Broker processes

Sat Dec 6 11:00:39 2008
ALTER DATABASE COMMIT TO SWITCHOVER TO PHYSICAL STANDBY WITH SESSION
SHUTDOWN
Sat Dec 6 11:00:39 2008
ALTER DATABASE COMMIT TO SWITCHOVER TO PHYSICAL STANDBY (dgfdb)
*****
LGWR: Resetting 'active' archival for destination LOG_ARCHIVE_DEST_2
*****

Sat Dec 6 11:00:44 2008
Destination LOG_ARCHIVE_DEST_2 no longer supports SYNCHRONIZATION
Thread 1 advanced to log sequence 5
Current log# 1 seq# 5 mem# 0:
/u01/app/oracle/oradata/dgfdb/redo01.log
Sat Dec 6 11:00:44 2008
Stopping background process CJQ0
Sat Dec 6 11:00:44 2008
SMON: disabling tx recovery
Sat Dec 6 11:00:44 2008
Stopping background process QMNC
Sat Dec 6 11:00:46 2008
Stopping Job queue slave processes
Sat Dec 6 11:00:49 2008
Waiting for Job queue slaves to complete
Sat Dec 6 11:01:11 2008
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Sat Dec 6 11:01:02 2008
Completed: Data Guard Broker shutdown
Sat Dec 6 11:01:04 2008
ARCH: Archival disabled due to shutdown: 1089
Shutting down archive processes
Archiving is disabled
Archive process shutdown avoided: 0 active
Sat Dec 6 11:01:05 2008
freeing rdom 0

Sat Dec 6 11:01:13 2008
Thread 1 cannot allocate new log, sequence 6
Checkpoint not complete
Current log# 1 seq# 5 mem# 0:
/u01/app/oracle/oradata/dgfdb/redo01.log
Sat Dec 6 11:01:13 2008
Job queue slave processes stopped
Active process 6026 user 'oracle' program 'oracledgfdb@rac2.av.com'
Active process 6782 user 'oracle' program 'oracle@rac2.av.com (TNS
V1-V3) '
CLOSE: waiting for server sessions to complete.
Sat Dec 6 11:01:13 2008
Process OS id : 18301 alive after kill
Errors in file /u01/app/oracle/admin/dgfdb/bdump/dgfdb_rsm0_27386.trc
Sat Dec 6 11:01:14 2008
Thread 1 advanced to log sequence 6
Current log# 2 seq# 6 mem# 0:
/u01/app/oracle/oradata/dgfdb/redo02.log
Sat Dec 6 11:01:14 2008
CLOSE: all sessions shutdown successfully.
Sat Dec 6 11:01:14 2008
ARC1: Standby redo logfile selected for thread 1 sequence 5 for
destination LOG_ARCHIVE_DEST_2
Sat Dec 6 11:01:14 2008
SMON: disabling cache recovery

Sat Dec 6 11:01:15 2008
Starting ORACLE instance (normal)
LICENSE_MAX_SESSION = 0
LICENSE_SESSIONS_WARNING = 0
Interface type 1 eth1 10.10.10.0 configured from OCR for use
as a cluster interconnect
Interface type 1 eth0 192.168.2.0 configured from OCR for use
as a public interface
Picked latch-free SCN scheme 2
Autotune of undo retention is turned on.
IMODE=BR
ILAT =18
LICENSE_MAX_USERS = 0
SYS auditing is disabled
ksdpec: called for event 13740 prior to event group
initialization
Starting up ORACLE RDBMS Version: 10.2.0.3.0.
System parameters with non-default values:
processes = 150
sga_max_size = 419430400
__shared_pool_size = 171966464

Sat Dec 6 11:01:15 2008
Shutting down archive processes
Archiving is disabled
Sat Dec 6 11:01:20 2008
ARCH shutting down
ARC1: Archival stopped
Sat Dec 6 11:01:25 2008
ARCH shutting down
ARC0: Archival stopped
Sat Dec 6 11:01:26 2008
Thread 1 closed at log sequence 6
Successful close of redo thread 1
Sat Dec 6 11:01:26 2008
ARCH: Noswitch archival of thread 1, sequence 6
ARCH: End-Of-Redo Branch archival of thread 1 sequence 6
ARCH: Archiving is disabled due to current logfile archival
Clearing standby activation ID 2019463241 (0x785e9049)
The primary database controlfile was created using the
'MAXLOGFILES 16' clause.
There is space for up to 13 standby redo logfiles
Use the following SQL commands on the standby database to create
standby redo logfiles that match the primary database:
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre> __large_pool_size = 4194304 __java_pool_size = 4194304 __streams_pool_size = 0 sga_target = 419430400 control_files = /u01/app/oracle/oradata/dgedb/control01.ctl, /u01/app/oracle/oradata/dgedb/control02.ctl, /u01/app/oracle/oradata/dgedb/control03.ctl db_file_name_convert = dbfdb, dbedb log_file_name_convert = /u01/app/oracle/oradata/dgfdb/, /u01/app/oracle/oradata/dgedb/ db_block_size = 8192 __db_cache_size = 234881024 compatible = 10.2.0.3.0 log_archive_config = DG_CONFIG=(dgedb,dgfdb) log_archive_dest_1 = location="/u01/app/oracle/oradata/dgedb/archive/", valid_for=(ALL_LOGFILES,ALL_ROLES) log_archive_dest_2 = log_archive_dest_state_1 = ENABLE log_archive_dest_state_2 = ENABLE log_archive_max_processes= 2 log_archive_min_succeed_dest= 1 standby_archive_dest = /u01/app/oracle/oradata/dgedb/archive/ log_archive_trace = 0 log_archive_format = %t_%s_%r.dbf fal_client = (DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(INST ANCE_NAME=dgedb)(SERVER=dedicated))) fal_server = (DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(SERV ER=dedicated))) archive_lag_target = 0 db_file_multiblock_read_count= 16 db_recovery_file_dest = /u01/app/oracle/flashback db_recovery_file_dest_size= 2147483648 standby_file_management = auto undo_management = AUTO undo_tablespace = UNDOTBS1 remote_login_passwordfile= EXCLUSIVE db_domain = local_listener = (ADDRESS = (PROTOCOL = TCP)(HOST = rac1.av.com)(PORT = 1521)) job_queue_processes = 10 </pre>	<pre> ALTER DATABASE ADD STANDBY LOGFILE 'srl1.f' SIZE 52428800; ALTER DATABASE ADD STANDBY LOGFILE 'srl2.f' SIZE 52428800; ALTER DATABASE ADD STANDBY LOGFILE 'srl3.f' SIZE 52428800; ALTER DATABASE ADD STANDBY LOGFILE 'srl4.f' SIZE 52428800; Archivelog for thread 1 sequence 6 required for standby recovery MRP0 started with pid=13, OS id=16550 </pre>
--	---

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
background_dump_dest = /u01/app/oracle/admin/dgedb/bdump
user_dump_dest       = /u01/app/oracle/admin/dgedb/udump
core_dump_dest       = /u01/app/oracle/admin/dgedb/cdump
audit_file_dest      = /u01/app/oracle/admin/dgedb/adump
db_name              = dgedb
db_unique_name       = dgedb
open_cursors         = 300
pga_aggregate_target = 71303168
dg_broker_start      = TRUE

Cluster communication is configured to use the following
interface(s) for this instance
10.10.10.31
Sat Dec 6 11:01:18 2008
cluster interconnect IPC version:Oracle UDP/IP (generic)
IPC Vendor 1 proto 2
PMON started with pid=2, OS id=25935
DIAG started with pid=3, OS id=25946
PSP0 started with pid=4, OS id=25960
LMON started with pid=5, OS id=25966
LMD0 started with pid=6, OS id=25968
MMAN started with pid=7, OS id=25970
DBW0 started with pid=8, OS id=25972
LGWR started with pid=9, OS id=25982
CKPT started with pid=10, OS id=25990
SMON started with pid=11, OS id=25995
RECO started with pid=12, OS id=26000
CJQ0 started with pid=13, OS id=26009
MMON started with pid=14, OS id=26022
Sat Dec 6 11:01:23 2008
lmon registered with NM - instance id 1 (internal mem no 0)
MMNL started with pid=15, OS id=26029
Sat Dec 6 11:01:23 2008
Reconfiguration started (old inc 0, new inc 2)
List of nodes:
0
Global Resource Directory frozen
* allocate domain 0, invalid = TRUE
Communication channels reestablished
Master broadcasted resource hash value bitmaps
Non-local Process blocks cleaned out
Resources and enqueues cleaned out
Resources remastered 0
Set master node info
Submitted all remote-enqueue requests
Dwn-cvts replayed, VALBLKs dubious
All grantable enqueues granted
Post SMON to start 1st pass IR
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Submitted all GCS remote-cache requests  
Reconfiguration complete  
DMON started with pid=16, OS id=26054
```

```
Sat Dec 6 11:01:24 2008
```

```
alter database mount
```

```
Sat Dec 6 11:01:28 2008
```

```
Setting recovery target incarnation to 3
```

```
Sat Dec 6 11:01:29 2008
```

```
Successful mount of redo thread 1, with mount id 2019536772
```

```
Sat Dec 6 11:01:29 2008
```

```
Allocated 3981204 bytes in shared pool for flashback  
generation buffer
```

```
Starting background process RVWR
```

```
RVWR started with pid=19, OS id=26295
```

```
Sat Dec 6 11:01:29 2008
```

```
Database mounted in Exclusive Mode
```

```
Completed: alter database mount
```

```
Sat Dec 6 11:01:32 2008
```

```
Starting Data Guard Broker (DMON)
```

```
INSV started with pid=20, OS id=26380
```

```
NSV1 started with pid=22, OS id=26566
```

```
RSM0 started with pid=23, OS id=26854
```

```
Sat Dec 6 11:01:27 2008
```

```
MRP0: Background Managed Standby Recovery process started (dgfdb)
```

```
Managed Standby Recovery not using Real Time Apply
```

```
parallel recovery started with 2 processes
```

```
Online logfile pre-clearing operation disabled by switchover
```

```
Media Recovery Log
```

```
/u01/app/oracle/oradata/dgfdb/archive/1_6_672715514.dbf
```

```
Identified End-Of-Redo for thread 1 sequence 6
```

```
Sat Dec 6 11:01:32 2008
```

```
Media Recovery End-Of-Redo indicator encountered
```

```
Sat Dec 6 11:01:32 2008
```

```
Media Recovery Applied until change 829132
```

```
Sat Dec 6 11:01:32 2008
```

```
MRP0: Media Recovery Complete: End-Of-REDO (dgfdb)
```

```
Resetting standby activation ID 2019463241 (0x785e9049)
```

```
Sat Dec 6 11:01:33 2008
```

```
MRP0: Background Media Recovery process shutdown (dgfdb)
```

```
Sat Dec 6 11:01:33 2008
```

```
Switchover: Complete - Database shutdown required (dgfdb)
```

```
Sat Dec 6 11:01:33 2008
```

```
Completed: ALTER DATABASE COMMIT TO SWITCHOVER TO PHYSICAL STANDBY  
WITH SESSION SHUTDOWN
```

```
Using STANDBY_ARCHIVE_DEST parameter default value as
```

```
USE_DB_RECOVERY_FILE_DEST
```

```
Sat Dec 6 11:01:33 2008
```

```
ALTER SYSTEM SET log_archive_dest_2=' ' SCOPE=BOTH;
```

```
Sat Dec 6 11:01:33 2008
```

```
ALTER SYSTEM SET log_archive_dest_state_2='ENABLE' SCOPE=BOTH;
```

```
Sat Dec 6 11:01:38 2008
```

```
Shutting down instance: further logons disabled
```

```
Sat Dec 6 11:01:38 2008
```

```
Stopping background process MMNL
```

```
Sat Dec 6 11:01:38 2008
```

```
Stopping background process MMON
```

```
Sat Dec 6 11:01:38 2008
```

```
Shutting down instance (immediate)
```

```
License high water mark = 8
```

```
Sat Dec 6 11:01:38 2008
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
alter database CLOSE NORMAL
ORA-1109 signalled during: alter database CLOSE NORMAL...
Sat Dec 6 11:01:38 2008
alter database DISMOUNT
Completed: alter database DISMOUNT
ARCH: Archival disabled due to shutdown: 1089
Shutting down archive processes
Archiving is disabled
Archive process shutdown avoided: 0 active
Shutting down Data Guard Broker processes
Sat Dec 6 11:01:41 2008
Completed: Data Guard Broker shutdown
Sat Dec 6 11:01:43 2008
ARCH: Archival disabled due to shutdown: 1089
Shutting down archive processes
Archiving is disabled
Archive process shutdown avoided: 0 active
Sat Dec 6 11:01:45 2008
freeing rdom 0

Sat Dec 6 11:01:49 2008
ALTER SYSTEM SET standby_archive_dest='' SCOPE=BOTH
SID='dgedb';
Sat Dec 6 11:01:49 2008
ALTER SYSTEM SET
log_archive_dest_1='location="/u01/app/oracle/oradata/dgedb/ar
chive/"', 'valid_for=(ONLINE_LOGFILE,ALL_ROLES)' SCOPE=BOTH
SID='dgedb';
Sat Dec 6 11:01:49 2008
ALTER SYSTEM SET log_archive_dest_state_1='ENABLE' SCOPE=BOTH
SID='dgedb';
Sat Dec 6 11:01:49 2008
ALTER SYSTEM SET
log_archive_dest_2='service="(DESCRIPTION=(ADDRESS_LIST=(ADDRE
SS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521)))(CONNECT_DATA=
(SERVICE_NAME=dgfdb_XPT)(INSTANCE_NAME=dgfdb)(SERVER=dedicated
)))"', ' LGWR SYNC AFFIRM delay=0 OPTIONAL max_failure=0
max_connections=1 reopen=300 db_unique_name="dgfdb" register
net_timeout=180 valid_for=(online_logfile,primary_role)'
SCOPE=BOTH;
Sat Dec 6 11:01:50 2008
ALTER SYSTEM SET log_archive_dest_state_2='ENABLE' SCOPE=BOTH;
Sat Dec 6 11:01:50 2008
ALTER DATABASE OPEN
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Sat Dec 6 11:01:50 2008
Assigning activation ID 2019536772 (0x785faf84)
LGWR: STARTING ARCH PROCESSES
ARC0 started with pid=24, OS id=27004
Sat Dec 6 11:01:50 2008
ARC0: Archival started
ARC1: Archival started
LGWR: STARTING ARCH PROCESSES COMPLETE
ARC1 started with pid=25, OS id=27006
Sat Dec 6 11:01:50 2008
LGWR: Primary database is in MAXIMUM AVAILABILITY mode
Sat Dec 6 11:01:50 2008
Destination LOG_ARCHIVE_DEST_2 is SYNCHRONIZED
LGWR: Destination LOG_ARCHIVE_DEST_1 is not serviced by LGWR
LNSb started with pid=26, OS id=27010
Sat Dec 6 11:01:59 2008
*****
****
LGWR: Setting 'active' archival for destination
LOG_ARCHIVE_DEST_2
*****
****
LNSb started with pid=26, OS id=27324
Sat Dec 6 11:02:02 2008
LGWR: Standby redo logfile selected to archive thread 1
sequence 8
LGWR: Standby redo logfile selected for thread 1 sequence 8
for destination LOG_ARCHIVE_DEST_2
Thread 1 advanced to log sequence 8
LGWR: Waiting for ORLs to be archived...
Sat Dec 6 11:02:03 2008
ARC0: STARTING ARCH PROCESSES
Sat Dec 6 11:02:03 2008
ARC1: Becoming the 'no FAL' ARCH
ARC1: Becoming the 'no SRL' ARCH
ARC1: LGWR is actively archiving destination
LOG_ARCHIVE_DEST_2
Sat Dec 6 11:02:03 2008
ARC2: Archival started
ARC0: STARTING ARCH PROCESSES COMPLETE
ARC0: Becoming the heartbeat ARCH
ARC2 started with pid=27, OS id=27458
Sat Dec 6 11:02:03 2008
ARC1: Standby redo logfile selected for thread 1 sequence 7
for destination LOG_ARCHIVE_DEST_2
Sat Dec 6 11:02:06 2008
LGWR: ORLs successfully archived
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre>Thread 1 opened at log sequence 8 Current log# 1 seq# 8 mem# 0: /u01/app/oracle/oradata/dgedb/redo01.log Successful open of redo thread 1 Sat Dec 6 11:02:06 2008 MTRR advisory is disabled because FAST_START_MTRR_TARGET is not set Sat Dec 6 11:02:06 2008 SMON: enabling cache recovery Sat Dec 6 11:02:07 2008 Successfully online Undo Tablespace 1. Dictionary check beginning Dictionary check complete Sat Dec 6 11:02:07 2008 SMON: enabling tx recovery Sat Dec 6 11:02:07 2008 Database Characterset is WE8ISO8859P1 replication_dependency_tracking turned off (no async multimaster replication found) Starting background process QMNC QMNC started with pid=28, OS id=27621 Sat Dec 6 11:02:10 2008 LOGSTDBY: Validating controlfile with logical metadata Sat Dec 6 11:02:10 2008 LOGSTDBY: Validation complete Sat Dec 6 11:02:11 2008 db_recovery_file_dest_size of 2048 MB is 2.24% used. This is a user-specified limit on the amount of space that will be used by this database for recovery-related files, and does not reflect the amount of space available in the underlying filesystem or ASM diskgroup.</pre>	<pre>Sat Dec 6 11:02:07 2008 Starting ORACLE instance (normal) LICENSE_MAX_SESSION = 0 LICENSE_SESSIONS_WARNING = 0 Interface type 1 eth1 10.10.10.0 configured from OCR for use as a cluster interconnect Interface type 1 eth0 192.168.2.0 configured from OCR for use as a public interface Picked latch-free SCN scheme 2 Autotune of undo retention is turned on. IMODE=BR ILAT =18 LICENSE_MAX_USERS = 0 SYS auditing is disabled ksdpec: called for event 13740 prior to event group initialization Starting up ORACLE RDBMS Version: 10.2.0.3.0. System parameters with non-default values: processes = 150 sga_max_size = 419430400 __shared_pool_size = 163577856 __large_pool_size = 4194304 __java_pool_size = 4194304 __streams_pool_size = 0 sga_target = 419430400 control_files = /u01/app/oracle/oradata/dgfdb/control01.ctl, /u01/app/oracle/oradata/dgfdb/control02.ctl, /u01/app/oracle/oradata/dgfdb/control03.ctl db_file_name_convert = /u01/app/oracle/oradata/dgedb/, /u01/app/oracle/oradata/dgfdb/ log_file_name_convert = /u01/app/oracle/oradata/dgedb/, /u01/app/oracle/oradata/dgfdb/ db_block_size = 8192 __db_cache_size = 243269632</pre>
--	--

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
compatible = 10.2.0.3.0
log_archive_config = DG_CONFIG=(dgedb,dgfdb)
log_archive_dest_1 =
location="/u01/app/oracle/oradata/dgfdb/archive/",
valid_for=(ONLINE_LOGFILE,ALL_ROLES)
log_archive_dest_2 =
log_archive_dest_state_1 = ENABLE
log_archive_dest_state_2 = ENABLE
log_archive_max_processes= 2
log_archive_min_succeed_dest= 1
standby_archive_dest =
log_archive_trace = 0
log_archive_format = %t_%s_%r.dbf
fal_client =
fal_server =
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(
PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(INSTANCE_NAME=dgfd
b)(SERVER=dedicated)))
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(
PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(SERVER=dedicated))
)
archive_lag_target = 0
db_file_multiblock_read_count= 16
db_recovery_file_dest = /u01/app/oracle/flashback
db_recovery_file_dest_size= 2147483648
standby_file_management = auto
undo_management = AUTO
undo_tablespace = UNDOTBS1
remote_login_passwordfile= EXCLUSIVE
db_domain =
local_listener = (ADDRESS = (PROTOCOL = TCP)(HOST =
rac2.av.com)(PORT = 1521))
job_queue_processes = 10
background_dump_dest = /u01/app/oracle/admin/dgfdb/bdump
user_dump_dest = /u01/app/oracle/admin/dgfdb/udump
core_dump_dest = /u01/app/oracle/admin/dgfdb/cdump
audit_file_dest = /u01/app/oracle/admin/dgfdb/adump
db_name = dgedb
db_unique_name = dgfdb
open_cursors = 300
pga_aggregate_target = 71303168
dg_broker_start = TRUE
Cluster communication is configured to use the following interface(s)
for this instance
10.10.10.32
Sat Dec 6 11:02:08 2008
cluster interconnect IPC version:Oracle UDP/IP (generic)
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre>Sat Dec 6 11:02:12 2008 Completed: ALTER DATABASE OPEN Sat Dec 6 11:02:12 2008</pre>	<pre>IPC Vendor 1 proto 2 PSP0 started with pid=4, OS id=18125 DIAG started with pid=3, OS id=18123 LMON started with pid=5, OS id=18134 PMON started with pid=2, OS id=18121 LMD0 started with pid=6, OS id=18136 MMAN started with pid=7, OS id=18138 DBW0 started with pid=8, OS id=18140 LGWR started with pid=9, OS id=18142 CKPT started with pid=10, OS id=18145 CJQ0 started with pid=13, OS id=18159 RECO started with pid=12, OS id=18157 MMON started with pid=14, OS id=18161 SMON started with pid=11, OS id=18153 Sat Dec 6 11:02:09 2008 lmon registered with NM - instance id 1 (internal mem no 0) MMNL started with pid=15, OS id=18163 Sat Dec 6 11:02:09 2008 Reconfiguration started (old inc 0, new inc 2) List of nodes: 0 Global Resource Directory frozen * allocate domain 0, invalid = TRUE Communication channels reestablished Master broadcasted resource hash value bitmaps Non-local Process blocks cleaned out Resources and enqueues cleaned out Resources remastered 0 Set master node info Submitted all remote-enqueue requests Dwn-cvts replayed, VALBLKs dubious All grantable enqueues granted Post SMON to start 1st pass IR Submitted all GCS remote-cache requests Reconfiguration complete DMON started with pid=16, OS id=18215 Sat Dec 6 11:02:09 2008 alter database mount</pre>
---	---

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre> ALTER SYSTEM SET log_archive_trace=0 SCOPE=BOTH SID='dgedb'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET log_archive_format='%t_%s_%r.dbf' SCOPE=SPFILE SID='dgedb'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET standby_archive_dest='' SCOPE=BOTH SID='dgedb'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET standby_file_management='auto' SCOPE=BOTH SID='*'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET archive_lag_target=0 SCOPE=BOTH SID='*'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET log_archive_max_processes=2 SCOPE=BOTH SID='*'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET log_archive_min_succeed_dest=1 SCOPE=BOTH SID='*'; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET db_file_name_convert='dbfdb','dbedb' SCOPE=SPFILE; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET log_file_name_convert='/u01/app/oracle/oradata/dgfdb/', '/u01/a pp/oracle/oradata/dgedb/' SCOPE=SPFILE; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET log_archive_dest_2='service="(DESCRIPTION=(ADDRESS_LIST=(ADDRE SS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521))) (CONNECT_DATA= (SERVICE_NAME=dgfdb_XPT)(INSTANCE_NAME=dgfdb)(SERVER=dedicated)))"', LGWR SYNC AFFIRM delay=0 OPTIONAL max_failure=0 max_connections=1 reopen=300 db_unique_name="dgfdb" register net_timeout=180 valid_for=(online_logfile,primary_role)' SCOPE=BOTH; Sat Dec 6 11:02:12 2008 ALTER SYSTEM SET log_archive_dest_state_2='ENABLE' SCOPE=BOTH; Sat Dec 6 11:02:17 2008 ***** **** LGWR: Setting 'active' archival for destination LOG_ARCHIVE_DEST_2 ***** **** LNSb started with pid=26, OS id=27816 Sat Dec 6 11:02:21 2008 LGWR: Standby redo logfile selected to archive thread 1 sequence 9 </pre>	<pre> Sat Dec 6 11:02:14 2008 Setting recovery target incarnation to 5 ARCH: STARTING ARCH PROCESSES ARC0 started with pid=18, OS id=18370 Sat Dec 6 11:02:14 2008 ARC0: Archival started ARC1: Archival started ARCH: STARTING ARCH PROCESSES COMPLETE Sat Dec 6 11:02:14 2008 ARC0: Becoming the 'no FAL' ARCH ARC0: Becoming the 'no SRL' ARCH ARC0: Thread not mounted ARC1 started with pid=19, OS id=18372 ARC1: Becoming the heartbeat ARCH ARC1: Thread not mounted Sat Dec 6 11:02:14 2008 Successful mount of redo thread 1, with mount id 2019582129 Sat Dec 6 11:02:14 2008 Allocated 3981204 bytes in shared pool for flashback generation buffer Starting background process RVWR RVWR started with pid=20, OS id=18388 Sat Dec 6 11:02:14 2008 Physical Standby Database mounted. Completed: alter database mount Sat Dec 6 11:02:17 2008 Starting Data Guard Broker (DMON) NSV0 started with pid=17, OS id=18545 INSV started with pid=23, OS id=19214 RSM0 started with pid=24, OS id=19364 Using STANDBY_ARCHIVE_DEST parameter default value as USE_DB_RECOVERY_FILE_DEST </pre>
--	---

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
LGWR: Standby redo logfile selected for thread 1 sequence 9
for destination LOG_ARCHIVE_DEST_2
Thread 1 advanced to log sequence 9
Current log# 3 seq# 9 mem# 0:
/u01/app/oracle/oradata/dgedb/redo03.log
```

```
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET
log_archive_dest_1='location="/u01/app/oracle/oradata/dgfdb/archive/"
','valid_for=(ALL_LOGFILES,ALL_ROLES)' SCOPE=BOTH SID='dgfdb';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET log_archive_dest_state_1='ENABLE' SCOPE=BOTH
SID='dgfdb';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET
standby_archive_dest='/u01/app/oracle/oradata/dgfdb/archive/'
SCOPE=BOTH SID='dgfdb';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET log_archive_trace=0 SCOPE=BOTH SID='dgfdb';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET log_archive_format='%t_%s_%r.dbf' SCOPE=SPFILE
SID='dgfdb';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET standby_file_management='auto' SCOPE=BOTH SID='*';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET archive_lag_target=0 SCOPE=BOTH SID='*';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET log_archive_max_processes=2 SCOPE=BOTH SID='*';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET log_archive_min_succeed_dest=1 SCOPE=BOTH SID='*';
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET
db_file_name_convert='/u01/app/oracle/oradata/dgedb/', '/u01/app/oracl
e/oradata/dgfdb/' SCOPE=SPFILE;
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET
log_file_name_convert='/u01/app/oracle/oradata/dgedb/', '/u01/app/orac
le/oradata/dgfdb/' SCOPE=SPFILE;
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET
fal_server='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=r
ac1.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(SERVER
=dedicated)))' SCOPE=BOTH;
Sat Dec 6 11:02:43 2008
ALTER SYSTEM SET
fal_client='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=r
ac2.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(INSTAN
CE_NAME=dgfdb)(SERVER=dedicated)))' SCOPE=BOTH;
Sat Dec 6 11:02:43 2008
ALTER DATABASE RECOVER MANAGED STANDBY DATABASE THROUGH ALL
SWITCHOVER DISCONNECT USING CURRENT LOGFILE
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre>Sat Dec 6 11:02:50 2008 Shutting down archive processes Sat Dec 6 11:02:55 2008 ARCH shutting down ARC2: Archival stopped</pre>	<pre>Sat Dec 6 11:02:43 2008 Attempt to start background Managed Standby Recovery process (dgfdb) MRP0 started with pid=25, OS id=19550 Sat Dec 6 11:02:43 2008 MRP0: Background Managed Standby Recovery process started (dgfdb) Sat Dec 6 11:02:46 2008 Redo Shipping Client Connected as PUBLIC -- Connected User is Valid RFS[1]: Assigned to RFS process 19634 RFS[1]: Identified database type as 'physical standby' Primary database is in MAXIMUM AVAILABILITY mode Standby controlfile consistent with primary Primary thread 1 already marked as open; setting 'closed' Sat Dec 6 11:02:46 2008 RFS LogMiner: Client disabled from further notification Sat Dec 6 11:02:48 2008 Managed Standby Recovery starting Real Time Apply parallel recovery started with 2 processes Clearing online redo logfile 1 /u01/app/oracle/oradata/dgfdb/redo01.log Clearing online log 1 of thread 1 sequence number 5 Sat Dec 6 11:02:49 2008 Completed: ALTER DATABASE RECOVER MANAGED STANDBY DATABASE THROUGH ALL SWITCHOVER DISCONNECT USING CURRENT LOGFILE Sat Dec 6 11:02:51 2008 Clearing online redo logfile 1 complete Clearing online redo logfile 2 /u01/app/oracle/oradata/dgfdb/redo02.log Clearing online log 2 of thread 1 sequence number 7 Clearing online redo logfile 2 complete Clearing online redo logfile 3 /u01/app/oracle/oradata/dgfdb/redo03.log Clearing online log 3 of thread 1 sequence number 4 Sat Dec 6 11:02:57 2008 Redo Shipping Client Connected as PUBLIC -- Connected User is Valid RFS[2]: Assigned to RFS process 20152 RFS[2]: Identified database type as 'physical standby' Primary database is in MAXIMUM AVAILABILITY mode Standby controlfile consistent with primary Primary database is in MAXIMUM AVAILABILITY mode Standby controlfile consistent with primary Sat Dec 6 11:02:57 2008 Clearing online redo logfile 3 complete Sat Dec 6 11:02:57 2008 RFS[2]: Successfully opened standby log 4: '/u01/app/oracle/oradata/dgfdb/SRL01.log'</pre>
--	---

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre>Sat Dec 6 11:13:33 2008 LGWR: Standby redo logfile selected to archive thread 1 sequence 10 LGWR: Standby redo logfile selected for thread 1 sequence 10 for destination LOG_ARCHIVE_DEST_2 Thread 1 advanced to log sequence 10</pre>	<pre>Sat Dec 6 11:02:57 2008 Media Recovery Waiting for thread 1 sequence 7 Sat Dec 6 11:02:58 2008 Redo Shipping Client Connected as PUBLIC -- Connected User is Valid RFS[3]: Assigned to RFS process 20154 RFS[3]: Identified database type as 'physical standby' RFS[3]: Successfully opened standby log 5: '/u01/app/oracle/oradata/dgfdb/SRL02.log' Sat Dec 6 11:03:02 2008 Media Recovery Log /u01/app/oracle/oradata/dgfdb/archive/1_7_672715514.dbf Media Recovery Log /u01/app/oracle/oradata/dgfdb/archive/1_8_672715514.dbf Media Recovery Waiting for thread 1 sequence 9 Sat Dec 6 11:03:11 2008 Redo Shipping Client Connected as PUBLIC -- Connected User is Valid RFS[4]: Assigned to RFS process 20645 RFS[4]: Identified database type as 'physical standby' Primary database is in MAXIMUM AVAILABILITY mode Standby controlfile consistent with primary Primary database is in MAXIMUM AVAILABILITY mode Standby controlfile consistent with primary RFS[4]: Successfully opened standby log 4: '/u01/app/oracle/oradata/dgfdb/SRL01.log' Sat Dec 6 11:03:14 2008 Recovery of Online Redo Log: Thread 1 Group 4 Seq 9 Reading mem 0 Mem# 0: /u01/app/oracle/oradata/dgfdb/SRL01.log Sat Dec 6 11:03:50 2008 Redo Shipping Client Connected as PUBLIC -- Connected User is Valid RFS[5]: Assigned to RFS process 22013 RFS[5]: Identified database type as 'physical standby' Sat Dec 6 11:14:45 2008 Primary database is in MAXIMUM AVAILABILITY mode Standby controlfile consistent with primary RFS[4]: Successfully opened standby log 4: '/u01/app/oracle/oradata/dgfdb/SRL01.log' Sat Dec 6 11:14:46 2008 db_recovery_file_dest_size of 2048 MB is 7.86% used. This is a user-specified limit on the amount of space that will be used by this database for recovery-related files, and does not reflect the amount of</pre>
---	---

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

<pre>Current log# 2 seq# 10 mem# 0: /u01/app/oracle/oradata/dgedb/redo02.log "/u01/app/oracle/admin/dgedb/bdump/alert_dgedb.log" 12882L, 540309C</pre>	<pre>space available in the underlying filesystem or ASM diskgroup. Sat Dec 6 11:14:47 2008 Media Recovery Log /u01/app/oracle/oradata/dgfdb/archive/1_9_672715514.dbf Media Recovery Waiting for thread 1 sequence 10 (in transit) Sat Dec 6 11:14:48 2008 Recovery of Online Redo Log: Thread 1 Group 4 Seq 10 Reading mem 0 Mem# 0: /u01/app/oracle/oradata/dgfdb/SRL01.log</pre>
--	--

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Monitor of the Fast Start Failover Process using the Primary and Standby Alert logs

DGEDB Database Aborted and Reinstated

```
Sat Dec 6 12:12:45 2008  
Shutting down instance (abort)  
License high water mark = 6  
Instance terminated by USER, pid = 15999
```

DGFDB, Standby Database Converted to Primary

```
Sat Dec 6 12:13:59 2008  
RFS[4]: Possible network disconnect with primary database  
Sat Dec 6 12:14:00 2008  
RFS[5]: Possible network disconnect with primary database  
Sat Dec 6 12:14:00 2008  
RFS[3]: Possible network disconnect with primary database  
Sat Dec 6 12:14:30 2008  
Attempting fast-start failover because the threshold of 30 seconds  
has elapsed.  
Sat Dec 6 12:14:30 2008  
Initiated fast-start failover to database dgfdb.  
Sat Dec 6 12:14:30 2008  
ALTER DATABASE RECOVER MANAGED STANDBY DATABASE FINISH FORCE  
Sat Dec 6 12:14:30 2008  
Terminal Recovery: Stopping real time apply  
Sat Dec 6 12:14:30 2008  
MRP0: Background Media Recovery cancelled with status 16037  
Sat Dec 6 12:14:30 2008  
Errors in file  
/u01/app/oracle/admin/dgfdb/bdump/dgfdb_mrp0_19550.trc:  
ORA-16037: user requested cancel of managed recovery operation  
Managed Standby Recovery not using Real Time Apply  
Recovery interrupted!  
Recovered data files to a consistent state at change 832705  
Sat Dec 6 12:14:32 2008  
Errors in file  
/u01/app/oracle/admin/dgfdb/bdump/dgfdb_mrp0_19550.trc:  
ORA-16037: user requested cancel of managed recovery operation  
Sat Dec 6 12:14:32 2008  
MRP0: Background Media Recovery process shutdown (dgfdb)  
Sat Dec 6 12:14:32 2008  
Terminal Recovery: Stopped real time apply  
Sat Dec 6 12:14:32 2008  
Attempt to do a Terminal Recovery (dgfdb)  
Sat Dec 6 12:14:32 2008  
Media Recovery Start: Managed Standby Recovery (dgfdb)  
Managed Standby Recovery not using Real Time Apply  
Terminal Recovery timestamp is '12/06/2008 12:14:32'  
Terminal Recovery: applying standby redo logs.
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Terminal Recovery: thread 1 seq# 10 redo required
Terminal Recovery:
Sat Dec 6 12:14:33 2008
Recovery of Online Redo Log: Thread 1 Group 4 Seq 10 Reading mem 0
  Mem# 0: /u01/app/oracle/oradata/dgfdb/SRL01.log
Identified End-Of-Redo for thread 1 sequence 10
Terminal Recovery: Updated next available block for thread 1 sequence
10 lno 4 to value 3963
Sat Dec 6 12:14:33 2008
Incomplete recovery applied all redo ever generated.
Recovery completed through change 832706
Sat Dec 6 12:14:33 2008
Media Recovery Complete (dgfdb)
Terminal Recovery: successful completion
Begin: Standby Redo Logfile archival
End: Standby Redo Logfile archival
Resetting standby activation ID 2019536772 (0x785faf84)
Completed: ALTER DATABASE RECOVER MANAGED STANDBY DATABASE FINISH
FORCE
Sat Dec 6 12:14:36 2008
ALTER DATABASE COMMIT TO SWITCHOVER TO PRIMARY WAIT WITH SESSION
SHUTDOWN
Sat Dec 6 12:14:36 2008
ALTER DATABASE SWITCHOVER TO PRIMARY (dgfdb)
If media recovery active, switchover will wait 900 seconds
Standby terminal recovery start SCN: 832705
RESETLOGS after complete recovery through change 832706
Online log /u01/app/oracle/oradata/dgfdb/redo01.log: Thread 1 Group 1
was previously cleared
Online log /u01/app/oracle/oradata/dgfdb/redo02.log: Thread 1 Group 2
was previously cleared
Online log /u01/app/oracle/oradata/dgfdb/redo03.log: Thread 1 Group 3
was previously cleared
Standby became primary SCN: 832704
Sat Dec 6 12:14:37 2008
Setting recovery target incarnation to 6
Sat Dec 6 12:14:37 2008
Converting standby mount to primary mount.
Sat Dec 6 12:14:37 2008
Switchover: Complete - Database mounted as primary (dgfdb)
Completed: ALTER DATABASE COMMIT TO SWITCHOVER TO PRIMARY WAIT WITH
SESSION SHUTDOWN
Sat Dec 6 12:14:37 2008
ARC0: STARTING ARCH PROCESSES
Sat Dec 6 12:14:37 2008
ALTER SYSTEM SET standby_archive_dest='' SCOPE=BOTH SID='dgfdb';
Sat Dec 6 12:14:37 2008
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
ALTER SYSTEM SET
log_archive_dest_1='location="/u01/app/oracle/oradata/dgfdb/archive/"
','valid_for=(ONLINE_LOGFILE,ALL_ROLES)' SCOPE=BOTH SID='dgfdb';
Sat Dec 6 12:14:37 2008
ALTER SYSTEM SET log_archive_dest_state_1='ENABLE' SCOPE=BOTH
SID='dgfdb';
Sat Dec 6 12:14:37 2008
ALTER DATABASE SET STANDBY DATABASE TO MAXIMIZE AVAILABILITY
Sat Dec 6 12:14:37 2008
Completed: ALTER DATABASE SET STANDBY DATABASE TO MAXIMIZE
AVAILABILITY
Sat Dec 6 12:14:37 2008
ALTER DATABASE OPEN
Sat Dec 6 12:14:37 2008
Assigning activation ID 2019582129 (0x786060b1)
LGWR: Primary database is in MAXIMUM AVAILABILITY mode
LGWR: Destination LOG_ARCHIVE_DEST_1 is not serviced by LGWR
Sat Dec 6 12:14:37 2008
ARC2: Archival started
ARC0: STARTING ARCH PROCESSES COMPLETE
ARC0: Becoming the 'no SRL' ARCH
ARC2 started with pid=22, OS id=25456
Sat Dec 6 12:14:37 2008
Thread 1 opened at log sequence 1
Current log# 2 seq# 1 mem# 0:
/u01/app/oracle/oradata/dgfdb/redo02.log
Successful open of redo thread 1
Sat Dec 6 12:14:37 2008
MTTR advisory is disabled because FAST_START_MTTR_TARGET is not set
Sat Dec 6 12:14:37 2008
SMON: enabling cache recovery
Sat Dec 6 12:14:38 2008
Successfully onlined Undo Tablespace 1.
Dictionary check beginning
Dictionary check complete
Sat Dec 6 12:14:38 2008
SMON: enabling tx recovery
Sat Dec 6 12:14:38 2008
Database Characterset is WE8ISO8859P1
replication_dependency_tracking turned off (no async multimaster
replication found)
Starting background process QMNC
Sat Dec 6 12:14:38 2008
LOGSTDBY: Validating controlfile with logical metadata
QMNC started with pid=25, OS id=25460
Sat Dec 6 12:14:39 2008
LOGSTDBY: Validation complete
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

Sat Dec 6 12:15:58 2008

Starting ORACLE instance (normal)

```
LICENSE_MAX_SESSION = 0
LICENSE_SESSIONS_WARNING = 0
Interface type 1 eth1 10.10.10.0 configured from OCR for use
as a cluster interconnect
Interface type 1 eth0 192.168.2.0 configured from OCR for use
as a public interface
Picked latch-free SCN scheme 2
Autotune of undo retention is turned on.
IMODE=BR
ILAT =18
LICENSE_MAX_USERS = 0
SYS auditing is disabled
ksdpec: called for event 13740 prior to event group
initialization
```

Completed: ALTER DATABASE OPEN

```
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET log_archive_trace=0 SCOPE=BOTH SID='dgfdb';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET log_archive_format='%t_%s_%r.dbf' SCOPE=SPFILE
SID='dgfdb';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET standby_archive_dest='' SCOPE=BOTH SID='dgfdb';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET standby_file_management='auto' SCOPE=BOTH SID='*';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET archive_lag_target=0 SCOPE=BOTH SID='*';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET log_archive_max_processes=2 SCOPE=BOTH SID='*';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET log_archive_min_succeed_dest=1 SCOPE=BOTH SID='*';
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET
db_file_name_convert='/u01/app/oracle/oradata/dgedb/', '/u01/app/oracl
e/oradata/dgfdb/' SCOPE=SPFILE;
Sat Dec 6 12:14:39 2008
ALTER SYSTEM SET
log_file_name_convert='/u01/app/oracle/oradata/dgedb/', '/u01/app/orac
le/oradata/dgfdb/' SCOPE=SPFILE;
Sat Dec 6 12:14:39 2008
Failover succeeded. Primary database is now dgfdb.
Sat Dec 6 12:15:14 2008
Shutting down archive processes
Sat Dec 6 12:15:19 2008
ARCH shutting down
ARC2: Archival stopped
NSV0 started with pid=28, OS id=32754
Sat Dec 6 12:18:14 2008
ALTER SYSTEM SET
log_archive_dest_2='service="(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PRO
TOCOL=TCP)(HOST=rac1.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=
dgedb_XPT)(INSTANCE_NAME=dgedb)(SERVER=dedicated)))", ' LGWR SYNC
AFFIRM delay=0 OPTIONAL max_failure=0 max_connections=1 reopen=300
db_unique_name="dgedb" register net_timeout=180
valid_for=(online_logfile,primary_role)' SCOPE=BOTH;
Sat Dec 6 12:18:14 2008
ALTER SYSTEM SET log_archive_dest_state_2='ENABLE' SCOPE=BOTH;
Sat Dec 6 12:18:14 2008
Destination LOG_ARCHIVE_DEST_2 is UNSYNCHRONIZED
*****
LGWR: Setting 'active' archival for destination LOG_ARCHIVE_DEST_2
*****
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Starting up ORACLE RDBMS Version: 10.2.0.3.0.
System parameters with non-default values:
processes                = 150
sga_max_size             = 419430400
__shared_pool_size      = 176160768
__large_pool_size       = 4194304
__java_pool_size        = 4194304
__streams_pool_size     = 0
sga_target               = 419430400
control_files            =
/u01/app/oracle/oradata/dgedb/control01.ctl,
/u01/app/oracle/oradata/dgedb/control02.ctl,
/u01/app/oracle/oradata/dgedb/control03.ctl
db_file_name_convert     = dbfdb, dbedb
log_file_name_convert    = /u01/app/oracle/oradata/dgfdb/,
/u01/app/oracle/oradata/dgedb/
db_block_size           = 8192
__db_cache_size         = 230686720
compatible               = 10.2.0.3.0
log_archive_config       = DG_CONFIG=(dgedb,dgfdb)
log_archive_dest_1      =
location="/u01/app/oracle/oradata/dgedb/archive/",
valid_for=(ONLINE_LOGFILE,ALL_ROLES)
log_archive_dest_2      =
service="(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(INSTANCE_NAME=dgfdb)(SERVER=dedicated)))", LGWR SYNC
AFFIRM delay=0 OPTIONAL max_failure=0 max_connections=1
reopen=300 db_unique_name="dgfdb" register net_timeout=180
valid_for=(online_logfile,primary_role)
log_archive_dest_state_1 = ENABLE
log_archive_dest_state_2 = ENABLE
log_archive_max_processes= 2
log_archive_min_succeed_dest= 1
standby_archive_dest    =
log_archive_trace       = 0
log_archive_format      = %t_%s_%r.dbf
fal_client              =
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(INSTANCE_NAME=dgedb)(SERVER=dedicated)))
fal_server              =
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(SERVER=dedicated)))
archive_lag_target      = 0
db_file_multiblock_read_count= 16
```

```
LNSb started with pid=33, OS id=1084
Sat Dec 6 12:18:21 2008
LGWR: Standby redo logfile selected to archive thread 1 sequence 2
LGWR: Standby redo logfile selected for thread 1 sequence 2 for
destination LOG_ARCHIVE_DEST_2
Thread 1 advanced to log sequence 2
Current log# 1 seq# 2 mem# 0:
/u01/app/oracle/oradata/dgfdb/redo01.log
Sat Dec 6 12:18:21 2008
ARC0: LGWR is actively archiving destination LOG_ARCHIVE_DEST_2
ARC0: Standby redo logfile selected for thread 1 sequence 1 for
destination LOG_ARCHIVE_DEST_2
Sat Dec 6 12:19:24 2008
Destination LOG_ARCHIVE_DEST_2 is SYNCHRONIZED
LGWR: Standby redo logfile selected to archive thread 1 sequence 3
LGWR: Standby redo logfile selected for thread 1 sequence 3 for
destination LOG_ARCHIVE_DEST_2
Thread 1 advanced to log sequence 3
Current log# 3 seq# 3 mem# 0:
/u01/app/oracle/oradata/dgfdb/redo03.log
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
db_recovery_file_dest      = /u01/app/oracle/flashback
db_recovery_file_dest_size= 2147483648
standby_file_management    = auto
undo_management            = AUTO
undo_tablespace            = UNDOTBS1
remote_login_passwordfile= EXCLUSIVE
db_domain                  =
local_listener             = (ADDRESS = (PROTOCOL = TCP)(HOST
= rac1.av.com)(PORT = 1521))
job_queue_processes        = 10
background_dump_dest       = /u01/app/oracle/admin/dgedb/bdump
user_dump_dest             = /u01/app/oracle/admin/dgedb/udump
core_dump_dest             = /u01/app/oracle/admin/dgedb/cdump
audit_file_dest            = /u01/app/oracle/admin/dgedb/adump
db_name                    = dgedb
db_unique_name             = dgedb
open_cursors               = 300
pga_aggregate_target       = 71303168
dg_broker_start            = TRUE
```

Cluster communication is configured to use the following interface(s) for this instance

```
10.10.10.31
Sat Dec 6 12:16:02 2008
cluster interconnect IPC version:Oracle UDP/IP (generic)
IPC Vendor 1 proto 2
PMON started with pid=2, OS id=24298
DIAG started with pid=3, OS id=24300
PSP0 started with pid=4, OS id=24304
LMON started with pid=5, OS id=24314
LMD0 started with pid=6, OS id=24331
MMAN started with pid=7, OS id=24338
DBW0 started with pid=8, OS id=24351
LGWR started with pid=9, OS id=24358
CKPT started with pid=10, OS id=24369
SMON started with pid=11, OS id=24386
RECO started with pid=12, OS id=24388
CJQ0 started with pid=13, OS id=24390
MMON started with pid=14, OS id=24392
Sat Dec 6 12:16:07 2008
lmon registered with NM - instance id 1 (internal mem no 0)
MMNL started with pid=15, OS id=24394
Sat Dec 6 12:16:08 2008
Reconfiguration started (old inc 0, new inc 2)
List of nodes:
0
Global Resource Directory frozen
* allocate domain 0, invalid = TRUE
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Communication channels reestablished
Master broadcasted resource hash value bitmaps
Non-local Process blocks cleaned out
Resources and enqueues cleaned out
Resources remastered 0
Set master node info
Submitted all remote-enqueue requests
Dwn-cvts replayed, VALBLKs dubious
All grantable enqueues granted
Post SMON to start 1st pass IR
Submitted all GCS remote-cache requests
Reconfiguration complete
DMON started with pid=16, OS id=24422
Sat Dec 6 12:16:08 2008
ALTER DATABASE MOUNT
Sat Dec 6 12:16:13 2008
Setting recovery target incarnation to 3
Sat Dec 6 12:16:13 2008
Successful mount of redo thread 1, with mount id 2019537160
Sat Dec 6 12:16:13 2008
Allocated 3981204 bytes in shared pool for flashback
generation buffer
Starting background process RVWR
RVWR started with pid=19, OS id=24556
Sat Dec 6 12:16:14 2008
Database mounted in Exclusive Mode
Completed: ALTER DATABASE MOUNT
Sat Dec 6 12:16:16 2008
Starting Data Guard Broker (DMON)
NSV1 started with pid=20, OS id=24668
Sat Dec 6 12:16:21 2008
ALTER SYSTEM SET log_archive_dest_state_2='RESET' SCOPE=BOTH;
INSV started with pid=20, OS id=24868
NSV1 started with pid=22, OS id=25469
RSM0 started with pid=23, OS id=25603
Sat Dec 6 12:16:47 2008
ALTER SYSTEM SET log_archive_dest_2='' SCOPE=BOTH;
Sat Dec 6 12:16:47 2008
ALTER SYSTEM SET log_archive_dest_state_2='ENABLE' SCOPE=BOTH;
Sat Dec 6 12:16:47 2008
FLASHBACK DATABASE TO SCN 830403
Flashback Restore Start
Flashback Restore Complete
Flashback Media Recovery Start
Flashback Media Recovery Log
/u01/app/oracle/oradata/dgedb/archive/1_8_672715514.dbf
Flashback Media Recovery Log
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
/u01/app/oracle/oradata/dgedb/archive/1_9_672715514.dbf
Sat Dec 6 12:16:53 2008
Incomplete Recovery applied until change 830404
Flashback Media Recovery Complete
Completed: FLASHBACK DATABASE TO SCN 830403
Sat Dec 6 12:16:53 2008
alter database convert to physical standby
Sat Dec 6 12:16:53 2008
ALTER DATABASE CONVERT TO PHYSICAL STANDBY (dgedb)
Clearing standby activation ID 2019536772 (0x785faf84)
The primary database controlfile was created using the
'MAXLOGFILES 16' clause.
There is space for up to 13 standby redo logfiles
Use the following SQL commands on the standby database to
create
standby redo logfiles that match the primary database:
ALTER DATABASE ADD STANDBY LOGFILE 'srl1.f' SIZE 52428800;
ALTER DATABASE ADD STANDBY LOGFILE 'srl2.f' SIZE 52428800;
ALTER DATABASE ADD STANDBY LOGFILE 'srl3.f' SIZE 52428800;
ALTER DATABASE ADD STANDBY LOGFILE 'srl4.f' SIZE 52428800;
Completed: alter database convert to physical standby
Sat Dec 6 12:16:54 2008
ALTER DATABASE FLASHBACK OFF
Sat Dec 6 12:16:54 2008
Stopping background process RVWR
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmg5zpl_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmnhtg2_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmr0smp_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmxjvtv_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmy5w7z_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmy69tw_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mmy6tks_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mn2n5xs_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mn70x3d_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mndd0sl_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/o1_mf_4mnhwmlv_.flb
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/ol_mf_4mnjj4cr_.flb
Deleted Oracle managed file
/u01/app/oracle/flashback/DGEDB/flashback/ol_mf_4mm9zlt_.flb
Flashback Database Disabled
Completed: ALTER DATABASE FLASHBACK OFF
Sat Dec 6 12:16:56 2008
ALTER DATABASE FLASHBACK ON
db_recovery_file_dest_size of 2048 MB is 0.38% used. This is a
user-specified limit on the amount of space that will be used
by this
database for recovery-related files, and does not reflect the
amount of
space available in the underlying filesystem or ASM diskgroup.
Starting background process RVWR
RVWR started with pid=19, OS id=26067
Sat Dec 6 12:16:57 2008
Flashback Database Enabled
Turn database flashback on at SCN 830404
Completed: ALTER DATABASE FLASHBACK ON
Sat Dec 6 12:16:59 2008
Shutting down instance: further logons disabled
Sat Dec 6 12:16:59 2008
Stopping background process CJQO
Sat Dec 6 12:16:59 2008
Stopping background process MMNL
Sat Dec 6 12:16:59 2008
Stopping background process MMON
Sat Dec 6 12:16:59 2008
Shutting down instance (immediate)
License high water mark = 3
Sat Dec 6 12:16:59 2008
Stopping Job queue slave processes
Sat Dec 6 12:16:59 2008
Job queue slave processes stopped
Sat Dec 6 12:16:59 2008
alter database CLOSE NORMAL
ORA-1109 signalled during: alter database CLOSE NORMAL...
Sat Dec 6 12:16:59 2008
alter database DISMOUNT
Completed: alter database DISMOUNT
ARCH: Archival disabled due to shutdown: 1089
Shutting down archive processes
Archiving is disabled
Archive process shutdown avoided: 0 active
Shutting down Data Guard Broker processes
Sat Dec 6 12:17:01 2008
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Completed: Data Guard Broker shutdown
Sat Dec 6 12:17:02 2008
ARCH: Archival disabled due to shutdown: 1089
Shutting down archive processes
Archiving is disabled
Archive process shutdown avoided: 0 active
Sat Dec 6 12:17:04 2008
freeing rdom 0
Sat Dec 6 12:17:06 2008
Starting ORACLE instance (normal)
LICENSE_MAX_SESSION = 0
LICENSE_SESSIONS_WARNING = 0
Interface type 1 eth1 10.10.10.0 configured from OCR for use
as a cluster interconnect
Interface type 1 eth0 192.168.2.0 configured from OCR for use
as a public interface
Picked latch-free SCN scheme 2
Autotune of undo retention is turned on.
IMODE=BR
ILAT =18
LICENSE_MAX_USERS = 0
SYS auditing is disabled
ksdpec: called for event 13740 prior to event group
initialization
Starting up ORACLE RDBMS Version: 10.2.0.3.0.
System parameters with non-default values:
  processes                          = 150
  sga_max_size                        = 419430400
  __shared_pool_size                  = 180355072
  __large_pool_size                   = 4194304
  __java_pool_size                    = 4194304
  __streams_pool_size                 = 0
  sga_target                          = 419430400
  control_files                       =
/u01/app/oracle/oradata/dgedb/control01.ctl,
/u01/app/oracle/oradata/dgedb/control02.ctl,
/u01/app/oracle/oradata/dgedb/control03.ctl
  db_file_name_convert                = dbfdb, dbedb
  log_file_name_convert                = /u01/app/oracle/oradata/dgfdb/,
/u01/app/oracle/oradata/dgedb/
  db_block_size                       = 8192
  __db_cache_size                     = 226492416
  compatible                          = 10.2.0.3.0
  log_archive_config                   = DG_CONFIG=(dgedb,dgfdb)
  log_archive_dest_1                  =
location="/u01/app/oracle/oradata/dgedb/archive/",
valid_for=(ONLINE_LOGFILE,ALL_ROLES)
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
log_archive_dest_2          =
log_archive_dest_state_1   = ENABLE
log_archive_dest_state_2   = ENABLE
log_archive_max_processes= 2
log_archive_min_succeed_dest= 1
standby_archive_dest       =
log_archive_trace          = 0
log_archive_format         = %t_%s_%r.dbf
fal_client                 =
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac1.a
v.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgedb_XPT)(INST
ANCE_NAME=dgedb)(SERVER=dedicated)))
fal_server                 =
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=rac2.a
v.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgfdb_XPT)(SERV
ER=dedicated)))
archive_lag_target         = 0
db_file_multiblock_read_count= 16
db_recovery_file_dest      = /u01/app/oracle/flashback
db_recovery_file_dest_size= 2147483648
standby_file_management    = auto
undo_management            = AUTO
undo_tablespace            = UNDOTBS1
remote_login_passwordfile= EXCLUSIVE
db_domain                  =
local_listener             = (ADDRESS = (PROTOCOL = TCP)(HOST
= rac1.av.com)(PORT = 1521))
job_queue_processes        = 10
background_dump_dest       = /u01/app/oracle/admin/dgedb/bdump
user_dump_dest             = /u01/app/oracle/admin/dgedb/udump
core_dump_dest             = /u01/app/oracle/admin/dgedb/cdump
audit_file_dest            = /u01/app/oracle/admin/dgedb/adump
db_name                    = dgedb
db_unique_name             = dgedb
open_cursors               = 300
pga_aggregate_target       = 71303168
dg_broker_start            = TRUE
Cluster communication is configured to use the following
interface(s) for this instance
10.10.10.31
Sat Dec 6 12:17:09 2008
cluster interconnect IPC version:Oracle UDP/IP (generic)
IPC Vendor 1 proto 2
DIAG started with pid=3, OS id=26371
PMON started with pid=2, OS id=26363
PSP0 started with pid=4, OS id=26373
LMON started with pid=5, OS id=26379
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
LMD0 started with pid=6, OS id=26383
MMAN started with pid=7, OS id=26396
DBW0 started with pid=8, OS id=26398
LGWR started with pid=9, OS id=26400
CKPT started with pid=10, OS id=26402
SMON started with pid=11, OS id=26404
RECO started with pid=12, OS id=26406
CJQ0 started with pid=13, OS id=26408
Sat Dec 6 12:17:13 2008
lmon registered with NM - instance id 1 (internal mem no 0)
MMNL started with pid=15, OS id=26419
MMON started with pid=14, OS id=26417
Sat Dec 6 12:17:13 2008
Reconfiguration started (old inc 0, new inc 2)
List of nodes:
0
Global Resource Directory frozen
* allocate domain 0, invalid = TRUE
Communication channels reestablished
Master broadcasted resource hash value bitmaps
Non-local Process blocks cleaned out
Resources and enqueues cleaned out
Resources remastered 0
Set master node info
Submitted all remote-enqueue requests
Dwn-cvts replayed, VALBLKs dubious
All grantable enqueues granted
Post SMON to start 1st pass IR
Submitted all GCS remote-cache requests
Reconfiguration complete
DMON started with pid=17, OS id=26446
Sat Dec 6 12:17:14 2008
alter database mount
Sat Dec 6 12:17:18 2008
Setting recovery target incarnation to 3
ARCH: STARTING ARCH PROCESSES
ARC0: Archival started
ARC1: Archival started
ARCH: STARTING ARCH PROCESSES COMPLETE
ARC1 started with pid=19, OS id=26612
ARC1: Becoming the 'no FAL' ARCH
ARC1: Becoming the 'no SRL' ARCH
ARC1: Thread not mounted
ARC0 started with pid=18, OS id=26608
ARC0: Becoming the heartbeat ARCH
ARC0: Thread not mounted
Sat Dec 6 12:17:18 2008
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Successful mount of redo thread 1, with mount id 2019562826
Sat Dec 6 12:17:19 2008
Allocated 3981204 bytes in shared pool for flashback
generation buffer
Starting background process RVWR
RVWR started with pid=20, OS id=26619
Sat Dec 6 12:17:19 2008
Physical Standby Database mounted.
Completed: alter database mount
Sat Dec 6 12:17:22 2008
Starting Data Guard Broker (DMON)
INSV started with pid=21, OS id=26827
NSV1 started with pid=23, OS id=26940
RSM0 started with pid=24, OS id=27097
Using STANDBY_ARCHIVE_DEST parameter default value as
USE_DB_RECOVERY_FILE_DEST
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET
log_archive_dest_1='location="/u01/app/oracle/oradata/dgedb/ar
chive/"', 'valid_for=(ALL_LOGFILES,ALL_ROLES)' SCOPE=BOTH
SID='dgedb';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET log_archive_dest_state_1='ENABLE' SCOPE=BOTH
SID='dgedb';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET
standby_archive_dest='/u01/app/oracle/oradata/dgedb/archive/'
SCOPE=BOTH SID='dgedb';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET log_archive_trace=0 SCOPE=BOTH SID='dgedb';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET log_archive_format='%t_%s_%r.dbf'
SCOPE=SPFILE SID='dgedb';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET standby_file_management='auto' SCOPE=BOTH
SID='*';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET archive_lag_target=0 SCOPE=BOTH SID='*';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET log_archive_max_processes=2 SCOPE=BOTH
SID='*';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET log_archive_min_succeed_dest=1 SCOPE=BOTH
SID='*';
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET db_file_name_convert='dbfdb','dbedb'
SCOPE=SPFILE;
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET
log_file_name_convert='/u01/app/oracle/oradata/dgfdb/', '/u01/a
pp/oracle/oradata/dgedb/' SCOPE=SPFILE;
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET
fal_server='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)
(HOST=rac2.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dgf
db_XPT)(SERVER=dedicated)))' SCOPE=BOTH;
Sat Dec 6 12:17:40 2008
ALTER SYSTEM SET
fal_client='(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)
(HOST=rac1.av.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=dge
db_XPT)(INSTANCE_NAME=dgedb)(SERVER=dedicated)))' SCOPE=BOTH;
Sat Dec 6 12:17:40 2008
ALTER DATABASE RECOVER MANAGED STANDBY DATABASE THROUGH ALL
SWITCHOVER DISCONNECT USING CURRENT LOGFILE
Sat Dec 6 12:17:40 2008
Attempt to start background Managed Standby Recovery process
(dgedb)
MRP0 started with pid=25, OS id=27297
Sat Dec 6 12:17:40 2008
MRP0: Background Managed Standby Recovery process started
(dgedb)
Managed Standby Recovery starting Real Time Apply
parallel recovery started with 2 processes
Clearing online redo logfile 1
/u01/app/oracle/oradata/dgedb/redo01.log
Clearing online log 1 of thread 1 sequence number 8
Sat Dec 6 12:17:46 2008
Completed: ALTER DATABASE RECOVER MANAGED STANDBY DATABASE
THROUGH ALL SWITCHOVER DISCONNECT USING CURRENT LOGFILE
Sat Dec 6 12:17:49 2008
Clearing online redo logfile 1 complete
Clearing online redo logfile 2
/u01/app/oracle/oradata/dgedb/redo02.log
Clearing online log 2 of thread 1 sequence number 10
Sat Dec 6 12:17:51 2008
Redo Shipping Client Connected as PUBLIC
-- Connected User is Valid
RFS[1]: Assigned to RFS process 27699
RFS[1]: Identified database type as 'physical standby'
Primary database is in MAXIMUM AVAILABILITY mode
Changing standby controlfile to RESYNCHRONIZATION level
Sat Dec 6 12:17:52 2008
RFS LogMiner: Client disabled from further notification
Sat Dec 6 12:17:52 2008
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Clearing online redo logfile 2 complete
Clearing online redo logfile 3
/u01/app/oracle/oradata/dgedb/redo03.log
Clearing online log 3 of thread 1 sequence number 9
Clearing online redo logfile 3 complete
Media Recovery Waiting for thread 1 sequence 10
Sat Dec 6 12:17:56 2008
Primary database is in MAXIMUM AVAILABILITY mode
Standby controlfile consistent with primary
RFS[1]: Successfully opened standby log 4:
'/u01/app/oracle/oradata/dgedb/SRL01.log'
Sat Dec 6 12:18:00 2008
Redo Shipping Client Connected as PUBLIC
-- Connected User is Valid
RFS[2]: Assigned to RFS process 27965
RFS[2]: Identified database type as 'physical standby'
Sat Dec 6 12:18:00 2008
Redo Shipping Client Connected as PUBLIC
-- Connected User is Valid
RFS[3]: Assigned to RFS process 27967
RFS[3]: Identified database type as 'physical standby'
Sat Dec 6 12:18:01 2008
RFS[2]: Archived Log:
'/u01/app/oracle/oradata/dgedb/archive/1_10_672715514.dbf'
Sat Dec 6 12:18:03 2008
RFS[3]: Successfully opened standby log 5:
'/u01/app/oracle/oradata/dgedb/SRL02.log'
RFS[3]: New Archival REDO Branch(resetlogs_id): 672754476
Prior: 672715514
RFS[3]: Archival Activation ID: 0x786060b1 Current: 0x0
RFS[3]: Effect of primary database OPEN RESETLOGS
RFS[3]: Managed Standby Recovery process is active
New incarnation branch detected in ArchiveLog, filename
/u01/app/oracle/oradata/dgedb/SRL02.log
Inspection of file changed rdi from 3 to 4
Setting recovery target incarnation to 4
Sat Dec 6 12:18:04 2008
RFS[3]: Incarnation entry added for Branch(resetlogs_id):
672754476 (dgedb)
Sat Dec 6 12:18:04 2008
Setting recovery target incarnation to 4
Sat Dec 6 12:18:08 2008
MRP0: Incarnation has changed! Retry recovery...
Sat Dec 6 12:18:08 2008
Errors in file
/u01/app/oracle/admin/dgedb/bdump/dgedb_mrp0_27297.trc:
ORA-19906: recovery target incarnation changed during recovery
```

DATA GUARD FSFO AND SWITCHOVER REFERENCE CONFIGURATION

```
Managed Standby Recovery not using Real Time Apply
Recovery interrupted!
Sat Dec 6 12:18:11 2008
Errors in file
/u01/app/oracle/admin/dgedb/bdump/dgedb_mrp0_27297.trc:
ORA-19906: recovery target incarnation changed during recovery
Sat Dec 6 12:18:31 2008
Managed Standby Recovery starting Real Time Apply
parallel recovery started with 2 processes
Media Recovery start incarnation depth : 1, target inc# : 4,
irscn : 832706
Media Recovery Log
/u01/app/oracle/oradata/dgedb/archive/1_10_672715514.dbf
Identified End-Of-Redo for thread 1 sequence 10
Sat Dec 6 12:18:34 2008
Media Recovery End-Of-Redo indicator encountered
Sat Dec 6 12:18:34 2008
Media Recovery Continuing
Media Recovery Log
/u01/app/oracle/oradata/dgedb/archive/1_1_672754476.dbf
Media Recovery Waiting for thread 1 sequence 2 (in transit)
Sat Dec 6 12:18:35 2008
Recovery of Online Redo Log: Thread 1 Group 4 Seq 2 Reading
mem 0
Mem# 0: /u01/app/oracle/oradata/dgedb/SRL01.log
Sat Dec 6 12:18:58 2008
Primary database is in MAXIMUM AVAILABILITY mode
Changing standby controlfile to MAXIMUM AVAILABILITY level
RFS[1]: Successfully opened standby log 4:
'/u01/app/oracle/oradata/dgedb/SRL01.log'
Sat Dec 6 12:18:59 2008
Media Recovery Log
/u01/app/oracle/oradata/dgedb/archive/1_2_672754476.dbf
Media Recovery Waiting for thread 1 sequence 3 (in transit)
Sat Dec 6 12:18:59 2008
Recovery of Online Redo Log: Thread 1 Group 4 Seq 3 Reading
mem 0
Mem# 0: /u01/app/oracle/oradata/dgedb/SRL01.log
```