Table of Contents

[1 - Summary 1](#_Toc28245035)

[2 - Context 1](#_Toc28245036)

[3 - Case description 1](#_Toc28245037)

[4 - Case 2](#_Toc28245038)

[4.1 - Damage simulation 2](#_Toc28245039)

[4.2 - Primary instance attempts to start 2](#_Toc28245040)

[4.3 - Assessing the damage with Repair Advisor 3](#_Toc28245041)

[4.4 - Getting advice from Repair Advisor 3](#_Toc28245042)

[4.5 - Repair Advisor recommendations 4](#_Toc28245043)

[4.6 - Repair actions 5](#_Toc28245044)

# 1 - Summary

Primary database damage or loss of datafiles can be repaired using the Standby database of a Data Guard system configured with a RMAN catalog.

# 2 - Context

Backups are done on “production” Primary database, no backup is performed on Standby database. Both Primary and Standby databases are registered in a RMAN catalog.

# 3 - Case description

A successful switchover is performed, Primary becomes new Standby, Standby becomes new Primary, then all Primary datafiles are lost, system and application datafiles. Rman and its “Repair Advisor” are used to restore and recover.

# 4 - Case

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| 4.1 - Damage simulation |
| [oracle@oel3 COSWARE]$ **mv \*dbf save**  [oracle@oel3 COSWARE]$ ls  DATA01.DBF DATA02.DBF save typescript  [oracle@oel3 COSWARE]$ **mv \*DBF save**  [oracle@oel3 COSWARE]$ ls -lrt  drwxr-xr-x 2 oracle oinstall 4096 Dec 25 19:10 save |
| 4.2 - Primary instance attempts to start |
| [oracle@oel3 COSWARE]$ sqlplus / as sysdba  SQL\*Plus: Release 12.2.0.1.0 Production on Wed Dec 25 19:10:11 2019  Copyright (c) 1982, 2016, Oracle. All rights reserved.  Connected to an idle instance.  SQL> **startup**  ORACLE instance started.  Total System Global Area 2147483648 bytes  Fixed Size 8622776 bytes  Variable Size 603983176 bytes  Database Buffers 1526726656 bytes  Redo Buffers 8151040 bytes  Database mounted.  **ORA-01157: cannot identify/lock data file 1 - see DBWR trace file**  **ORA-01110: data file 1: '/u02/oradata/COSWARE/system01.dbf'** |

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| 4.3 - Assessing the damage with Repair Advisor |
| rman catalog rman@rmancat target /  Recovery Manager: Release 12.2.0.1.0 - Production on Wed Dec 25 19:10:51 2019  Copyright (c) 1982, 2017, Oracle and/or its affiliates. All rights reserved.  connected to target database: COSWARE (DBID=1859724266, not open)  connected to recovery catalog database  recovery catalog schema version 18.07.00.00. is newer than RMAN version  RMAN> **list failure;**  Database Role: PRIMARY  List of Database Failures  =========================  Failure ID Priority Status Time Detected Summary  ---------- -------- --------- ------------- -------  6383 CRITICAL OPEN 25-DEC-19 System datafile 1: '/u02/oradata/COSWARE/system01.dbf' is missing  52 HIGH OPEN 25-DEC-19 One or more non-system datafiles are missing |

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| 4.4 - Getting advice from Repair Advisor |
| RMAN> **advise failure;**  Database Role: PRIMARY  List of Database Failures  =========================  Failure ID Priority Status Time Detected Summary  ---------- -------- --------- ------------- -------  6383 CRITICAL OPEN 25-DEC-19 System datafile 1: '/u02/oradata/COSWARE/system01.dbf' is missing  52 HIGH OPEN 25-DEC-19 One or more non-system datafiles are missing  analyzing automatic repair options; this may take some time  allocated channel: ORA\_DISK\_1  channel ORA\_DISK\_1: SID=24 device type=DISK  allocated channel: ORA\_DISK\_2  channel ORA\_DISK\_2: SID=262 device type=DISK  analyzing automatic repair options complete |

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| 4.5 - Repair Advisor recommendations |
| Mandatory Manual Actions  ========================  no manual actions available  Optional Manual Actions  =======================  1. If file /u02/oradata/COSWARE/system01.dbf was unintentionally renamed or moved, restore it  2. If file /u02/oradata/COSWARE/DATA02.DBF was unintentionally renamed or moved, restore it  3. If file /u02/oradata/COSWARE/sysaux01.dbf was unintentionally renamed or moved, restore it  4. If file /u02/oradata/COSWARE/DATA01.DBF was unintentionally renamed or moved, restore it  5. If file /u02/oradata/COSWARE/users01.dbf was unintentionally renamed or moved, restore it  6. Try flush redo using ALTER SYSTEM FLUSH REDO TO 'standby name' command. Then perform a Data Guard role change (failover). Available standbys: coswarec1.  Automated Repair Options  ========================  Option Repair Description  ------ ------------------  1 Restore from standby and recover datafile 1; Restore from standby and recover datafile 2; Restore from standby and recover datafile 3; ...  Strategy: The repair includes complete media recovery with no data loss  Repair script: /u01/app/oracle/diag/rdbms/coswaref1/COSWARE/hm/reco\_3004290466.hm |

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| 4.6 - Repair actions Note restore pulls datafiles from service "**coswarec1\_dgmgrl**" which points to the former Primary database |
| RMAN> **repair failure;**  Strategy: The repair includes complete media recovery with no data loss  Repair script: /u01/app/oracle/diag/rdbms/coswaref1/COSWARE/hm/reco\_3004290466.hm  contents of repair script:  # restore from standby and recover datafile  **restore ( datafile 1, 2, 3, 5, 7 from service "coswarec1\_dgmgrl" );**  **recover datafile 1, 2, 3, 5, 7;**  **sql 'alter database datafile 1, 2, 3, 5, 7 online';**  Do you really want to execute the above repair (enter YES or NO)? YES  executing repair script  Starting restore at 25-DEC-19  using channel ORA\_DISK\_1  using channel ORA\_DISK\_2  channel ORA\_DISK\_1: starting datafile backup set restore  channel ORA\_DISK\_1: using network backup set from service coswarec1\_dgmgrl  channel ORA\_DISK\_1: specifying datafile(s) to restore from backup set  channel ORA\_DISK\_1: restoring datafile 00001 to /u02/oradata/COSWARE/system01.dbf  channel ORA\_DISK\_2: starting datafile backup set restore  channel ORA\_DISK\_2: using network backup set from service coswarec1\_dgmgrl  channel ORA\_DISK\_2: specifying datafile(s) to restore from backup set  channel ORA\_DISK\_2: restoring datafile 00002 to /u02/oradata/COSWARE/DATA02.DBF  channel ORA\_DISK\_2: restore complete, elapsed time: 00:00:03  channel ORA\_DISK\_2: starting datafile backup set restore  channel ORA\_DISK\_2: using network backup set from service coswarec1\_dgmgrl  channel ORA\_DISK\_2: specifying datafile(s) to restore from backup set  channel ORA\_DISK\_2: restoring datafile 00003 to /u02/oradata/COSWARE/sysaux01.dbf  channel ORA\_DISK\_1: restore complete, elapsed time: 00:00:28  channel ORA\_DISK\_1: starting datafile backup set restore  channel ORA\_DISK\_1: using network backup set from service coswarec1\_dgmgrl  channel ORA\_DISK\_1: specifying datafile(s) to restore from backup set  channel ORA\_DISK\_1: restoring datafile 00005 to /u02/oradata/COSWARE/DATA01.DBF  channel ORA\_DISK\_1: restore complete, elapsed time: 00:00:04  channel ORA\_DISK\_1: starting datafile backup set restore  channel ORA\_DISK\_1: using network backup set from service coswarec1\_dgmgrl  channel ORA\_DISK\_1: specifying datafile(s) to restore from backup set  channel ORA\_DISK\_1: restoring datafile 00007 to /u02/oradata/COSWARE/users01.dbf  channel ORA\_DISK\_1: restore complete, elapsed time: 00:00:03  channel ORA\_DISK\_2: restore complete, elapsed time: 00:00:32  Finished restore at 25-DEC-19  Starting recover at 25-DEC-19  using channel ORA\_DISK\_1  using channel ORA\_DISK\_2  starting media recovery  media recovery complete, elapsed time: 00:00:07  Finished recover at 25-DEC-19  sql statement: alter database datafile 1, 2, 3, 5, 7 online  **repair failure complete**  Do you want to open the database (enter YES or NO)? YES  **database opened**  RMAN> list failure;  Database Role: PRIMARY  no failures found that match specification  RMAN> exit  Recovery Manager complete. |