

Using Data Recovery Advisor

By Ahmed Baraka

Objectives

In this lecture, you will learn how to perform the following:

- Describe the lifecycle of the Data Recovery Advisor
- Use the Data Recovery Advisor to perform the following:
 - List data failures
 - Check for corruption in datafiles
 - Obtain recommendations on resolving the failures
 - Repair the failures
 - Change failure status and priority

About Data Recovery Advisor

- Aims at analyzing data failures, provides repair options, and executes the repair at your request
- Data Recovery Advisor interfaces
 - Command-line: via RMAN command-line
 - GUI: available in Oracle Enterprise Manager Cloud Control
- The Data Recovery Advisor commands are **LIST FAILURE**, **ADVISE FAILURE**, **REPAIR FAILURE**, and **CHANGE FAILURE**.
- Is not supported in RAC environment
- It is supported in CDB root but not for pluggable databases (PDBs) (according to the documentation)

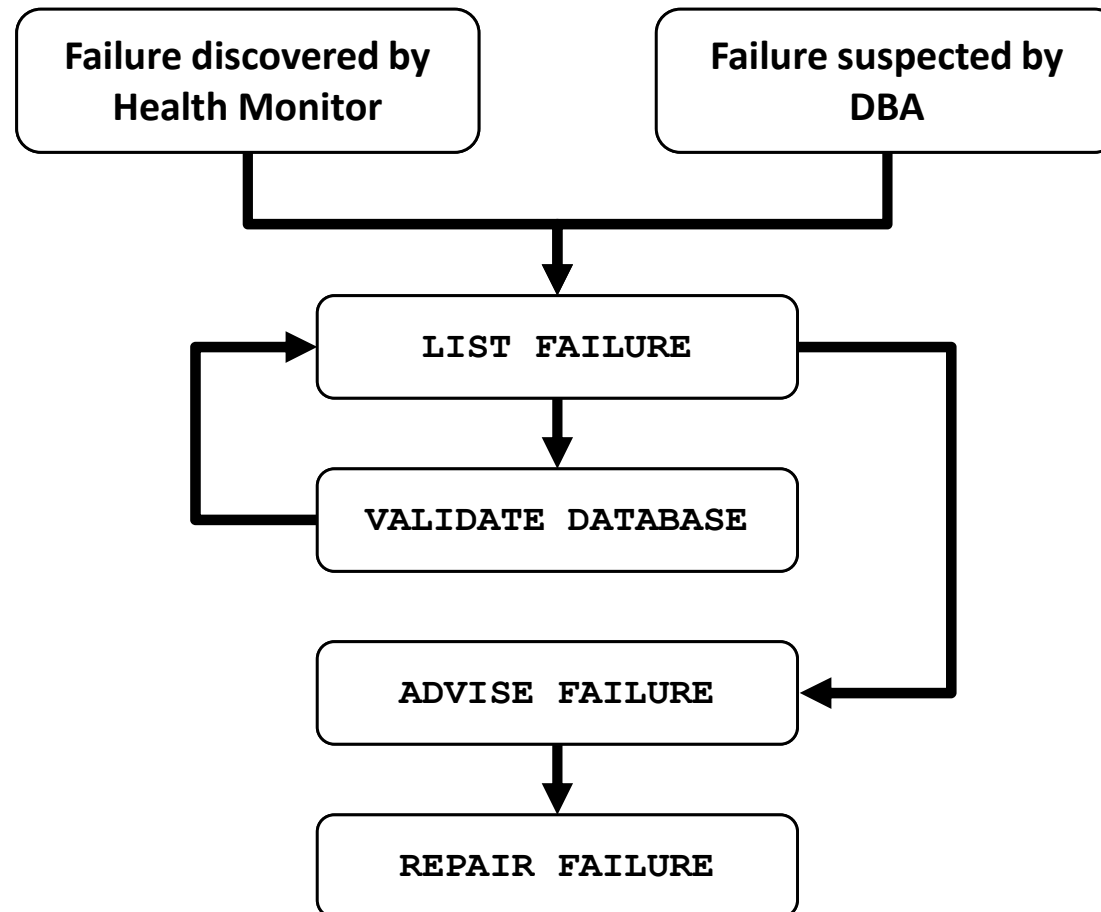
Data Recovery Advisor: Terminology

- **Checker:** a diagnostic procedure in the Health Monitor
- **Data integrity check:** invocation of a checker. It can be reactively or proactively invoked
- **Automatic Diagnostic Repository (ADR):** a directory structure stored outside of the database to store the diagnostic info
- **Failure:** is a data corruption detected by data integrity check
 - **Status :**
 - **OPEN:** failure that has not been fixed yet
 - **CLOSED:** repaired failure
 - **Priority:** **CRITICAL**, **HIGH**, or **LOW**.

Data Recovery Advisor: Terminology (cont)

- **Repair options:**
 - **Automatic:** can be performed by the advisor
 - **Manual:** should be performed by the DBA
 - Optional: an automatic repair is available
 - Mandatory: no automatic alternative option is available
- **Failure group:** a group of failures that are related to each other
- **Repair Script:** a file generated by the advisor containing the fixing commands

Using Data Recovery Advisor Lifecycle



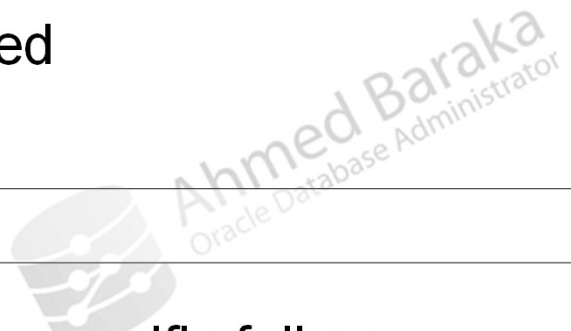
Listing Data Failures

- **LIST FAILURE** lists the failures discovered by the advisor
- Failures are uniquely identified by number
- Failures are re-evaluated
- To list all failures:

```
LIST FAILURE;
```

- Display more details on specific failure:

```
LIST FAILURE 105 DETAIL;
```



Listing Data Failures (cont)

- To listing a subset of failures:

```
LIST FAILURE LOW;  
LIST FAILURE CLOSED;  
LIST FAILURE EXCLUDE FAILURE 123;
```



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Validating the Database

- **VALIDATE** command checks on logical and physical block corruptions
- Examples:

```
VALIDATE DATABASE  
VALIDATE CHECK LOGICAL SKIP INACCESSIBLE DATABASE;  
VALIDATE TABLESPACE users;  
VALIDATE DATAFILE 1;  
VALIDATE DATAFILE  
' /u01/app/oracle/oradata/ORCL/system01.dbf' ;
```

Advising on Repair

- **ADVISE FAILURE** command presents a list of manual and automated repair options

Mandatory Manual Actions

=====

no manual actions available

Optional Manual Actions

=====

1. If file ../../users01.dbf was unintentionally moved, restore it

Automated Repair Options

=====

Option Repair Description

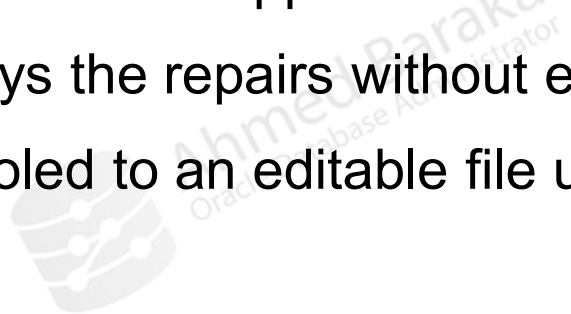
1 Restore and recover datafile 28; Perform block media recovery of block 56416 in file 1

Strategy: The repair includes complete media recovery ..

Repair script: ../../prod/hm/reco_660500184.hm

About Repairing Failures

- **REPAIR FAILURE** automatically fixes failures suggested in the most recent **ADVISE FAILURE** in your current RMAN session.
- Confirmation message can be suppressed using **NOPROMPT** option
- **PREVIEW** option displays the repairs without executing them
- The output can be spooled to an editable file using **SPOOL**



Repairing Failure Example

```
RMAN> REPAIR FAILURE;
```

Strategy: The repair includes complete media recovery with no data loss

Repair script: /.../prod/hm/reco_475679922.hm

contents of repair script:

```
# restore and recover datafile
sql 'alter database datafile 28 offline';
restore datafile 28;
recover datafile 28;
sql 'alter database datafile 28 online';
```

```
# block media recovery
recover datafile 1 block 56416;
```

Do you really want to execute the above repair (enter YES or NO)?

Changing Failure Status and Priority

- You can:
 - Change the priority to **HIGH** or **LOW**
 - Change the status to **CLOSED**

```
CHANGE FAILURE [ <failure number> | ALL | CRITICAL | HIGH |  
LOW ] [ PRIORITY [ HIGH | LOW ] | CLOSED ]
```

```
CHANGE FAILURE 104 PRIORITY LOW;  
CHANGE FAILURE ALL PRIORITY HIGH;  
CHANGE FAILURE 104 CLOSED;
```

Summary

In this lecture, you should have learnt how to perform the following:

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