

# **Best of RMAN – Selected features from four versions**

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## **Keywords**

Oracle Database, Backup & Recovery, Best Practices, RMAN, High Availability

## **Abstract**

The presentation covers important RMAN features that every DBA should be able to use:

Detect & repair Block Corruption (9i)

The Recommended Backup Strategy with Block Change Tracking and Recover Copy (10g)

Multisection Backup & Restore (11g)

Table Recovery (12c)

Everything will be demonstrated live during the presentation – expect no PowerPoint battle!

### Detect & repair Block Corruption (9i)

Upon backup using RMAN, corrupted blocks may be detected. Since 9i RMAN can do Block Media Recovery. Here, the affected tablespace remains online while intact blocks are being restored from backup and archived logs are being applied to repair the block corruption:

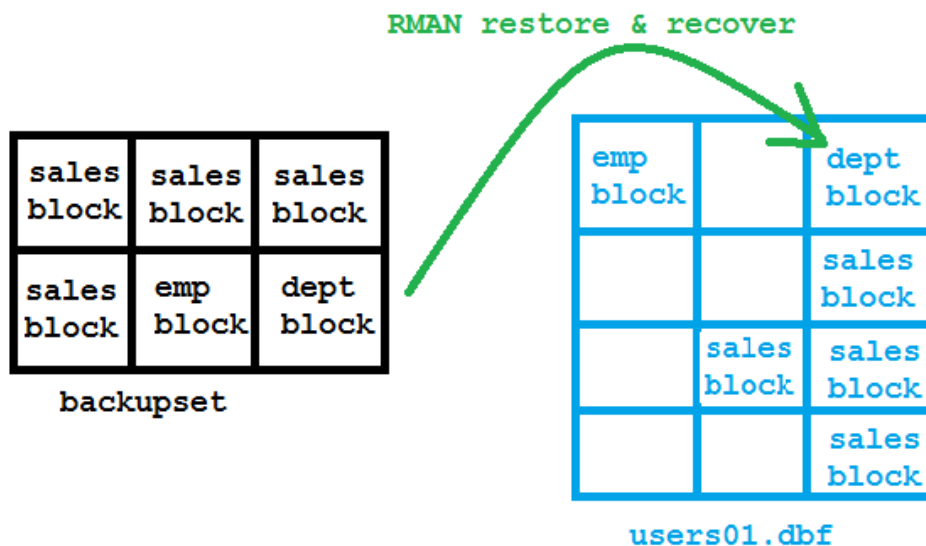


Abb. 1: Block Recovery

RMAN commands demonstrated here:

```
RMAN> backup database;  
RMAN> validate check logical database;  
RMAN> recover corruption list;
```

### The Recommended Backup Strategy with Block Change Tracking and Recover Copy (10g)

Backup on disk using image copies as level 0 backup to base incremental backups upon which are then merged onto the level 0 backup are recommended since 10g. Block Change Tracking speeds up the incremental backup:

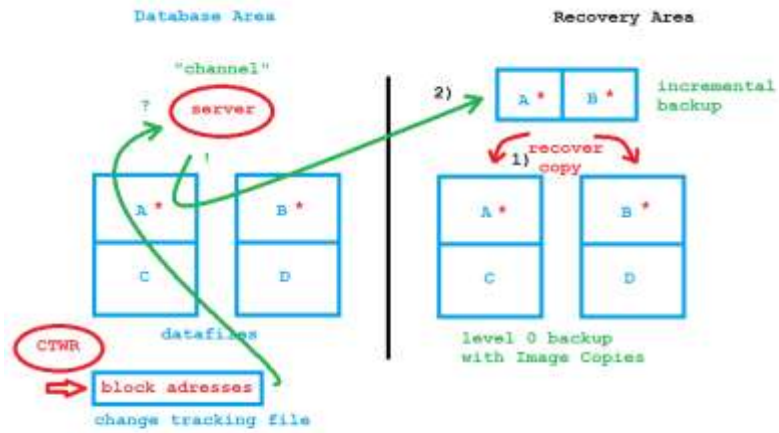


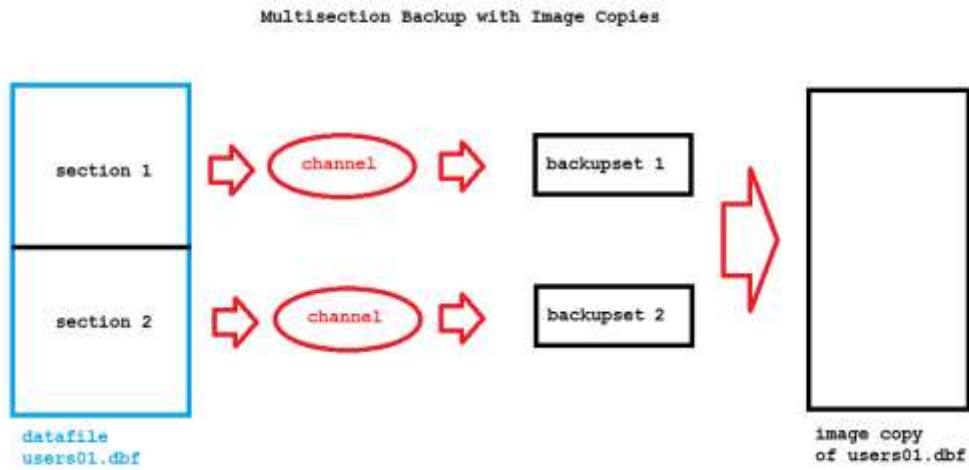
Abb. 2: Recommended Backup Strategy

RMAN commands demonstrated here:

```
RMAN> run {  
  recover copy of database with tag 'myinc';  
  backup incremental level 1 cumulative copies=1 for recover of copy  
  with tag 'myinc' database;  
};
```

## Multisection Backup & Restore (11g)

Large datafiles can each be backed up and restored with multiple channels in parallel when divided into smaller sections with this 11g feature:



*Abb. 3: Multisection Backup*

RMAN commands demonstrated here:

```
RMAN> configure device type disk parallelism 2;  
RMAN> backup section size 301m datafile 4;  
RMAN> restore datafile 4;
```

### Table Recovery (12c)

A table can be restored from backup with a single RMAN command since 12c. Conceptually it works very similar as a Tablespace Point In Time Recovery. RMAN does a Point In Time Recovery with a temporary instance to export the desired table from. Then it imports it back into the production database that is running in status OPEN all the time during the procedure:

#### Table Recovery

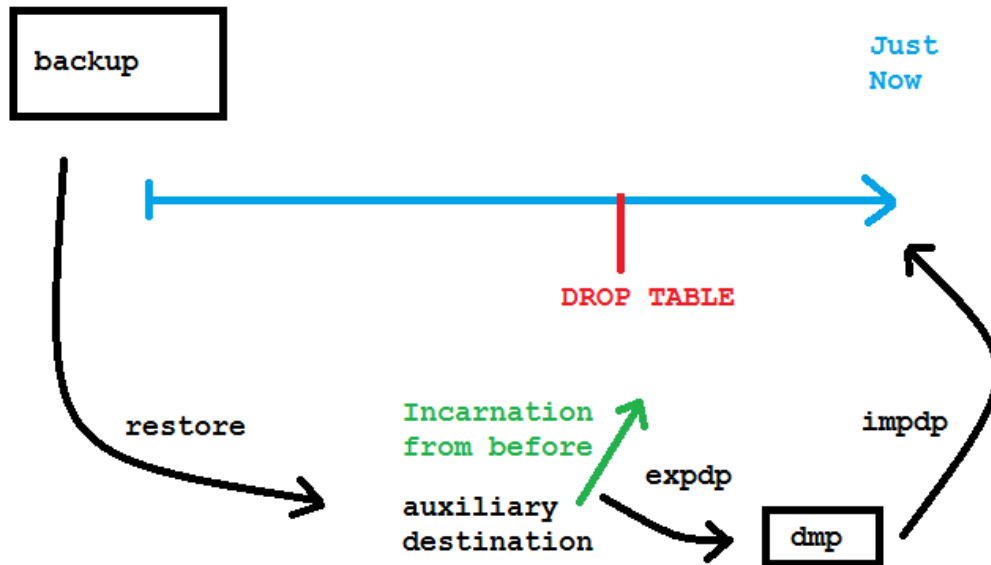


Abb. 3: Table Recovery

RMAN commands demonstrated here:

```
RMAN> host 'mkdir /tmp/auxi';  
RMAN> recover table adam.sales until time '2015-07-02 08:20:00'  
auxiliary destination '/tmp/auxi';
```

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