FLASHBACK TECHNOLOGY

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Today’s Agenda

1. What?

2. Why?

3. How?
What is FLASHBACK

• A Command?
• A feature?
• Option?
• Settings?
• Technology
What is FLASHBACK

• It is a technology.
• First introduced in Oracle 9i
• Provides better recoverability of
  – Data
  – Table
  – Database
  – Transaction
• Relies on Undo & archive data
# Flashback Technology Evolution

<table>
<thead>
<tr>
<th>Technology</th>
<th>Oracle Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flashback Query using AS OF SCN/TIMESTAMP</td>
<td>9i</td>
</tr>
<tr>
<td>• Session Level Flashback using DBMS_FLASHBACK</td>
<td>9iR1</td>
</tr>
<tr>
<td>• Statement Level Flashback using AS OF clause</td>
<td>9iR2</td>
</tr>
<tr>
<td>Flashback Version Query</td>
<td>10g</td>
</tr>
<tr>
<td>Flashback Transaction Query</td>
<td></td>
</tr>
<tr>
<td>Flashback Table</td>
<td></td>
</tr>
<tr>
<td>Flashback Drop</td>
<td></td>
</tr>
<tr>
<td>Flashback Database</td>
<td>11g</td>
</tr>
<tr>
<td>Flashback Data Archive (Total Recall)</td>
<td></td>
</tr>
<tr>
<td>Temporal Database Functionality (12c only)</td>
<td>12c</td>
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</tbody>
</table>
What is FLASHBACK & Why

• Execute queries that return past data

• Execute queries that return metadata that shows a detailed history of changes to the database

• Recover data to a previous point in time

• Automatically track and archive transactional data changes

• Roll back a transaction and its dependent transactions while the database remains online

Contd....
Pre-requisites:

- Database Must be in ARCHIVELOG mode
- Execute permission on DBMS_FLASHBACK package
- SELECT ANY TRANSACTION privilege
- FLASHBACK ANY TRANSACTION privilege
- CREATE TABLE privilege
- Enable SUPPLEMENTAL LOG DATA
- Set FLASHBACK_ON
Using Flashback:

- Flashback Query using AS OF SCN/TIMESTAMP
- Flashback Version Query
- Flashback Transaction Query
- Flashback Table
- Flashback Drop
- Flashback Database
- Flashback Data Archive (Total Recall)
- Temporal Database Functionality (12c only)
<table>
<thead>
<tr>
<th>Object Level</th>
<th>Scenario Examples</th>
<th>Flashback Technology</th>
<th>Uses</th>
<th>Affects Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>Truncate table; Undesired multitable changes made</td>
<td>Database</td>
<td>Flashback logs</td>
<td>TRUE</td>
</tr>
<tr>
<td>Table</td>
<td>Drop table</td>
<td>Drop</td>
<td>Recycle bin</td>
<td>TRUE</td>
</tr>
<tr>
<td></td>
<td>Update with the wrong WHERE clause</td>
<td>Table</td>
<td>Undo data</td>
<td>TRUE</td>
</tr>
<tr>
<td></td>
<td>Compare current data with data from the past</td>
<td>Query</td>
<td>Undo data</td>
<td>FALSE</td>
</tr>
<tr>
<td></td>
<td>Compare versions of a row</td>
<td>Version</td>
<td>Undo data</td>
<td>FALSE</td>
</tr>
<tr>
<td>Tx</td>
<td>Investigate several historical states of data</td>
<td>Transaction</td>
<td>Undo data</td>
<td>FALSE</td>
</tr>
</tbody>
</table>

Source: Oracle Metalink ID: 1138253.1
Summary

• FlashBack is a technology
• Not a replacement of Backup/Recovery
• Additional settings are needed to use this feature *
• Can be used either by DBA/Developer
• Additional storage needed*
REFERENCES:

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- http://technology.amis.nl/2013/06/30/oracle-database-12c-flashback-moving-forward/
Questions?
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