ORACLE DBA
Some Tips and Best Practices

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The Rule:

"The most important rule with respect to data is to never put yourself into an unrecoverable situation."

The importance of this guideline cannot be stressed enough, but it does not mean that you can never use time saving or performance enhancing options.

Backup, Backup and Backup

Normal Approach
▪Nothing bad will happen … is a easy change…
▪I test it before and nothing happens …

Recommendation
•Remember each environment is different
▪ Always Backup before a change
▪Always Backup after a change
▪If possible Encrypt Backups for your security

Why
▪ Reduce Risks
▪ Allow an easy Rollback if needed
▪ Will save your job

Have a good Backup Strategy
Because Bad Things happens…

Have a good Backup Strategy

Normal Approach
I have a daily full backup, that's enough!

Recommendation
▪ Backup your Archivelogs to tape several times a day
▪Generate a daily Datapump for logical recover, just in case…

Why
▪ Reduce Risks
▪ Will have your users happy when ask you to recover a table from last week…
▪ Always be proactive, use the "What if…" Methodology

WHAT'S AN INCIDENT?

"A Incident is always when something affects the business continuity or the business revenue"

Incident is Always a Priority

Normal Approach
- I will do it early in the morning when back to the office…
  - It can wait a few minutes more, I'm on break now…
    - It's lunch time, will take a look when back…

Recommendation
- Investigate and solve it as soon as possible
- After solved, create an Incident report, it will help you to:
  1. Detect the root cause of the problem
  2. Document how it can be prevented to happen again
  3. Document all steps to solve the problem

Why
- Reduce Company Revenue losses
- Will save your job
- Shows that you really care about your Employer

Avoid Dead Locks

Normal Approach
- Dead Locks are Developers fault…

Recommendation
- Create Index on Foreign Keys (Script on www.oraclenz.com)
  - Check for Bitmap Indexes on OLTP Environment

Why
- Improves DB Performance
- Will help you to have a good relationship with Developers

Oracle Homes

Normal Approach
- /u01/app/oracle/product/10.2/db_1
- Patches are applied to the same Oracle Home

Recommendation
- Use a different Oracle Home for each upgrade or Patching, example:
  - /u01/app/oracle/product/10.2/db_02
- For the next patch, use a new Oracle Home
  - /u01/app/oracle/product/10.2/db_03

Why
- Reduce Risks
- Allow an easy Rollback if needed
- All versions Catalog scripts will be preserved

AUDITING

Normal Approach

Audit is not necessary, it affects performance and use a lot of storage
.
Recommendation
▪ Set Audit_trail=db
▪ only issue audit comments if necessary
▪Create and implement a purge strategy
▪ 11g already set if by default

Why
▪ Ready to go if necessary

AUDT DDLs

- Because someone will always complain, what happened to his/her table
  - *…. and you are the DBA and you are saying you don't know what happened to it?!!!!!!!!!!!*
- SQL: AUDIT TABLE BY SESSION;
- stmt_audit_option_map shows the statements
- AUDIT ALL BY SESSION does most DDLs
- *Caveat*: in DW environments, users create and drop a large number of tables; so this may not be advisable.

DB INIT PARAMETERS

Normal Approach

Will change them only when required!

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Recommendation

▪ Be proactive, set all parameters your environment will need now, specially the ones you can't not modify later using ALTER SYSTEM.

▪ Remember to set _trace_files_public = TRUE, soon or later you will need to give access to some trace files to the developers.

Why

▪ Will avoid inconvenient restarts of the DB.

▪ Will save you time and headaches.

▪ Be proactive always will improve your DB performance and availability.

Non OFA Layout

Normal Approach

Let's Oracle manage all using OFA, that way all will be standard on all environments.

.
Recommendation
- /oracle/(prod/qa/test/dev)/SID/*
  - /u01/udump – for user files
    - /proddata/SID/*
  - /prodbackup/SID/*
    - /prodlogs/SID/*

Why
- Easy to manage and keep organized
- Allow you to use different mount points
  - Reduce Riks

Fix External Applications Queries

```
dbms_advanced_rewrite.declare_rewrite_equivalence (
name                VARCHAR2,
source_stmt         VARCHAR2,
destination_stmt    VARCHAR2,
validate            BOOLEAN  := TRUE,
mode                VARCHAR2 := 'TEXT_MATCH');
```

```
BEGIN
  dbms_advanced_rewrite.declare_rewrite_equivalence(
  'UW',
  'SELECT srvr_id FROM servers INTERSECT SELECT srvr_id
   FROM serv_inst',
  'SELECT srvr_id FROM servers s WHERE EXISTS (
     SELECT srvr_id
     FROM serv_inst i
     WHERE s.srvr_id = i.srvr_id)',
  TRUE,
  'TEXT_MATCH');
END;
/
```

Fix External Applications Queries

- Required
  - Version 10.1 or greater
  - Grant CREATE MATERIALIZED VIEW
  - Set QUERY_REWRITE_INTEGRITY to TRUSTED

Use PL/SQL Warnings

- Severe Warning Messages   (5000-5999)
- Informational Warning Messages (6000-6249)
- Performance Warning Messages (7000-7249)

```
CREATE OR REPLACE PROCEDURE plw06002 AS
 x NUMBER := 10;
BEGIN
  IF x = 10 THEN
    x := 20;
  ELSE
    x := 100;
  END IF;
END plw06002;
/
```

Use PL/SQL Warnings

```
ALTER SESSION SET PLSQL_WARNINGS='ENABLE:ALL';

-- test a function
CREATE OR REPLACE PROCEDURE plw05004 IS
 a varchar2(20);
 -- same declaration as in SQL dbms_standard
 FUNCTION trim(v IN VARCHAR2) RETURN VARCHAR2 IS
 BEGIN
   RETURN v;
 END;
BEGIN
  a := TRIM(' X ');
END plw05004;
```

ALT⌐   L';

```
ALT-- test a SQL built-in
CREATE OR REPLACE PROCEDURE plw05004 IS
 n NUMBER;
 FUNCTION sqrt(n IN NUMBER) RETURN NUMBER IS
 BEGIN
  RETURN 1;
 END;
BEGIN
  n := sqrt(1);
END plw05004;
/

-- test a pseudocolumn
CREATE OR REPLACE PROCEDURE plw05004 IS
 rowid BOOLEAN := TRUE;
BEGIN
  IF rowid THEN
    NULL;
  END IF;
END plw05004;
/
```

Study, Study and Study

Normal Approach

I know everything I need…

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Recommendation
▪ Read Manuals
▪/Read the official documentation at http://tahiti.oracle.com
▪ Read and practice OBE at OTN website
▪Help others at OTN Forums (Fantastic way to learn)
▪Participate at OUG Activities (If possible try to speak)

Why
▪ Will keep you up to date
▪ You never know when you will need to use it
▪Will help with your professional development

3 Kinds of DBA's

- The Firefighter
- The Proactive
- The Balanced

Questions?

Thank you !