



# The real time experience of Standby Database

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# Agenda



- Introduction
- Building standby database
- Building managed standby database
- Maintenance of managed standby database

# Introduction.



- Baseline of standby database.
- Why standby database? ----- Availability.
- Your maintenance goal -----Always try to keep you primary database up running.

# Building standby database (1)



- On primary site.
  - Get hot backup datafile and all archive logfiles
  - No redo logfile needed.
  - Get a standby database control file by issuing: `Alter database create standby controlfile as '<file name>';`

# Building standby database (2)



- On standby site. (A)
  - Set up same O/S environment and disk layout as primary server. (what if not)
  - Set up same Oracle server as primary server, including Oracle Home, Base, SID\_Home. (ORACLE\_HOME is a must!)
  - Copy hot backup datafile to the same location as primary server.
  - Copy standby controlfile to the same location as primary server, and keep the same name as the controlfile in primary server.
  - Copy all the archive logfile to the same location as primary server.
  - Using same init.ora file.

# Building standby database (3)



- On standby site. (B)
  - Startup nomount;
  - Alter database mount standby database;
  - Recover standby database ;
  - Then recover standby database regularly.

# Building managed standby database (1)



- Why managed standby database?
  - Failover time.
  - Easy to maintenance.
  - Possible data loss. (switch logfile every half hour !)
- On primary site.
  - Same steps as building standby database.
  - Edit init.ora file.
    - Log\_archive\_dest\_1='LOCATION=/.../.../arch MANDATORY'
    - Log\_archive\_dest\_2='SERVICE=<standbydb>'
    - log\_archive\_min\_succeed\_dest=1
    - standby\_archive\_dest='/.../.../arch'
    - you may change all above parameter dynamically.

# Building managed standby database (2)



- On standby site.
  - Same steps as building standby database.
  - Edit init.ora file as same as on primary site.(you may change parameter dynamically later if you want.)
  - Startup a listener process for standby database.
  - Tnsping standby database from primary server to see the connection status.
  - Recover managed standby database; Issue this command only after applying all the non-remotely generated archived logs.

# Building managed standby database (3)



- The most important tips for managed standby database
  - Every time you bounce the standby database, you have to bounce the primary database in order to activate managed standby mode. This is what Oracle document says. Have a way out?
  - Here is a work-around way to activate managed standby mode by not bouncing the primary database:
    - Alter system set  
Log\_archive\_dest\_2='SERVICE=<standbydb>';
    - Alter system set
    - 
    -

# Maintenance of managed standby database (1)



- Adding new tablespace and datafiles.
  - Adding a lot small size datafiles, resize it if you need it.
  - Alter tablespace TS\_name add datafile '....' size 1M;
  - On standby:
    - apply all the archive logfiles until getting error message ,stop recovering process.
    - Alter database create datafile '...' as '...';
    - resume recovering process.
  - Refresh standby control files
  - (Suggestion:)Do not drop any tablespace or datafile , only to resize it to 1M or smaller.

# Maintenance of managed standby database (2)



- Rename a datafile in the primary database (A)
  - On primary
    - Alter tablespace ts offline;
    - alter tablespace ts rename datafile '...' to '...';
    - change the datafile name in O/S level.
    - alter database recover tablespace ts;
    - alter tablespace ts online;
    - get a new copy of standby control file.

# Maintenance of managed standby database (3)



- Rename a datafile in the primary database (B)
  - On standby
    - apply all archive logfile until getting error message.
    - Shutdown standby database.
    - Change the datafile name in O/S level on standby server.
    - Replace standby control file with new one.
    - Startup and recover standby database.

# Maintenance of managed standby database (4)



- Do not use any nologging command. What if you use it?
  - Hot backup new datafile of the tablespace.
  - Apply all the archive logfile.
  - Shutdown standby.
  - Copy new datafile over to replace the old.
  - Startup standby and recover.
- Refreshing control file for standby database.
  - Generate new standby control file from primary.
  - Apply all the archive logfile.
  - Shutdown standby .
  - Copy new standby control file to replace old control file in standby.
  - Startup standby and recover.

# Maintenance of managed standby database (5)



- Adding or removing online redo logs.
  - Do what you have to do in primary.
  - Refresh the control file in standby .
- Deleting datafile or tablespace in the primary database
  - apply all the archive logfile.
  - Refresh the control file in standby.
- Do not forget to use the important tips to activate managed standby mode.

# Maintenance of managed standby database (6)



- Failover .
  - Sync last archive logfile.
  - Activate standby database.
    - Recover managed standby database cancel
    - alter database activate standby database
  - Shutdown immediate;
  - startup;
  - hot backup immediately.
  - build new standby database.



**Thank You !**

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