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DBA ONLINE

美國數據管理協會

Newsletter

*DBA Online – On the front line of database administration
DBA Online powers Oracle DBA*

DBA Online

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DBA Online’s November 2011 Seminar



DBA Online Seminar

American DBA Online successfully held another technical seminar on Saturday (11/19/2011) afternoon at Crowne Plaza hotel in Edison, NJ. A crowd of about 70 people attended this event. Many of them are senior Oracle DBAs with over 10 years of DBA work experience already. Their attendance on a Saturday afternoon proved one important point: DBAOnline held quality technical seminars and has offered value-added benefits to our members and audiences.

This seminar mainly consisted of two technical presentations about Oracle 11gR2:

- [Oracle 11g Data Guard Enhancements by Inderpal Johal, CEO of Data Softech Inc.;](#)
- [Complete Setup of Oracle 11gR2 Grid Infrastructure by Wei Tang, senior Oracle DBA of State Street Corp.](#)

The seminar was hosted by committee member April Cai. David Wang, president of DBAOnline, gave the opening remarks. He thanked all the people/party who contributed to the success of DBAOnline: our sponsors (Oracle Corporation was the exclusive sponsor of this event), presenters and committee members who generously volunteered their time & efforts. He also commended our motivated loyal members/audiences who strive to

keep up with the latest Oracle technologies and excel at their jobs. As a tradition, David shared his “one-minute” tech tip: [11g rolling upgrade with minimal downtime](#). 24x7 High Availability (HA) has become a necessity instead of luxury nowadays. How to minimize the downtime for a must 11g upgrade? Rolling upgrade with a physical standby database is the way to go. The role switch of the primary site and the standby site during upgrades is quick, providing the maximum availability.

The first formal presentation was given by Indy Johal, CEO of Data Softech Inc. based in NJ. Indy is a frequent speaker at various Oracle User Groups (NYOUG, NJOUG, Oracle OpenWorld, etc.). He also presented at DBAOnline seminars multiple times before. His presentations were always well received by our audiences who liked the clarity he demonstrated. The topic that Indy presented at this seminar was - [11g Data Guard enhancements](#). Indy went through the types of data guard: physical standby (redo apply) vs. logical standby (SQLs apply). A physical standby database is an exact copy of the primary database – block by block, while a logical standby database can be a subset or superset of the primary database, not an exact copy of the primary database. A physical standby database can further have two sub-types: active dataguard (opened in read-only mode with apply simultaneously) and snapshot standby database (a physical standby database opened in read-write mode). A logical standby database is a logical copy of a primary database opened in read-write mode for normal usage. The data synch with the primary database is achieved through SQL apply. 11gR1 introduced RMAN active database duplication, redo compression, among other items. 11gR2 introduced automatic block recovery (Active Dataguard is required), role-based services, new dictionary views (V\$DATAGUARD_STATS, V\$STANDBY_EVENT_HISTOGRAM VIEW) and commands (ALTER SESSION SYNC WITH PRIMARY;), simplified, English-like commands to convert a physical standby database to snapshot database (DGMGRL> CONVERT DATABASE 'standby' TO SNAPSHOT STANDBY; DGMGRL> CONVERT DATABASE 'standby' TO PHYSICAL STANDBY;). Rolling upgrade using transient logical standby was also talked about, extending the “one-minute” tech tip that David gave earlier about 11g rolling upgrade.

The second presentation was given by Wei Tang, a senior Oracle DBA of State Street Corp. based in NYC. Wei is the vice president of DBA Online. His topic was: [Complete Setup of 11gR2 Grid Infrastructure \(4-node RAC\)](#). It was based on his own work experience. Wei used layman’s language to walk through the complete sequence of steps, making such a daunting task of setting up a 4-node RAC (so-called Grid Infrastructure in 11gR2) sound like a breeze. The sequence of steps included 1. System configuration, 2. Network configuration, 3. ASM preparation, 4. Grid Infrastructure installation, and 5. Post installation check and verification. For each step, Wei went down to the details of each parameter and its appropriate value, coupled with screenshots. The audiences were so actively involved in raising questions and participating in discussions throughout the presentation because they felt like this was something that they could closely relate to their own work. We got very positive feedback on this format of presentation: step by step illustration based on real world scenario.

The seminar finished around 5:30 PM as scheduled, but the audiences lingered on to have more Q&A session, friends old and new tried to catch up with each other. The spirit of enthusiasm was quite touching and encouraging.

Thanksgiving is right around the corner. We're thankful to all the people who made this seminar another success, who supported DBA Online in the past 13 years of its history. We wish everyone a peaceful, relaxing Thanksgiving, time to reflect and appreciate what we've already had! Happy holidays!

DBAOnline Committee

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Use Cases of Oracle Rolling Upgrade

by David Wang

Use Cases:

(1). Rolling Upgrade between Oracle RAC Nodes:

- Oracle 11.2.0.2 outplace installation
- Install binary for grid control
- Upgrade grid control, ASM without downtime
- Install RDBMS binary
- Run catupgrd.sql (Need downtime)

(2). Rolling upgrade between Primary and Standby Servers:

You can perform a rolling upgrade from Oracle 11g Release 1 to Oracle 11g Release 2 using a Transient Logical Standby database. This approach will minimize the downtime required for an upgrade which can potentially run into several hours down to just the time required to perform a switchover which could be a few minutes in most cases.

1. Create physical standby db, get restore point on primary
2. KEEP IDENTITY, Convert physical standby db to logical standby
3. Upgrade Standby db
4. Switch over primary db to standby server
5. Flash back new standby "old primary" database to base restore point
6. Convert logical standby to physical standby db
7. (install new binary) Re-start Standby db with new \$ORACLE_HOME
8. Sync Standby db with primary db
9. Switch over standby db with primary db

"near-zero" downtime !!!

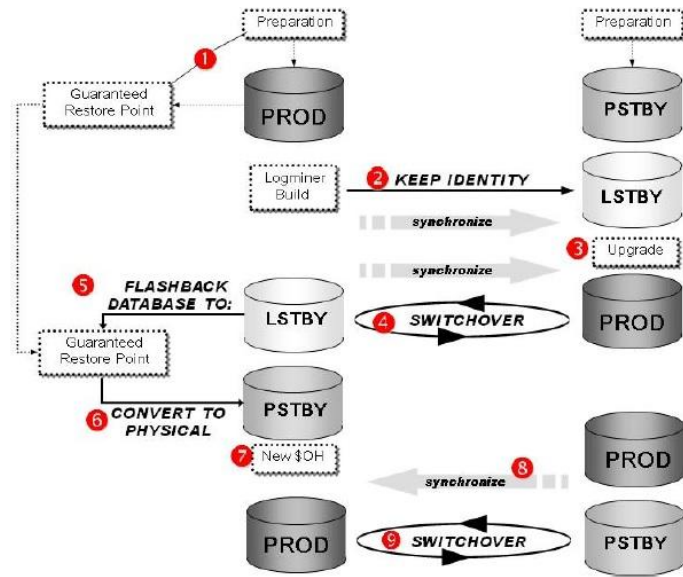


Figure 1: Transient Logical Rolling Upgrade Process

