

# Oracle Disaster Recovery Solution - Case Study

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# Oracle Active Data Guard

- New in Oracle 11g
- Adds more functionalities
- Better I/O bandwidth utilization
- Simplified use
- More effective
- Utilizes standby site hardware



# Oracle ADG Features

- Real-time query
- Standby snapshot database
- Heterogeneous Data Guard
- Fast-start failover improvements
- “Live cloning” of standby database



# Examples of use

- Banking
- Telecom industry
- Reporting solutions
- Creating test environments

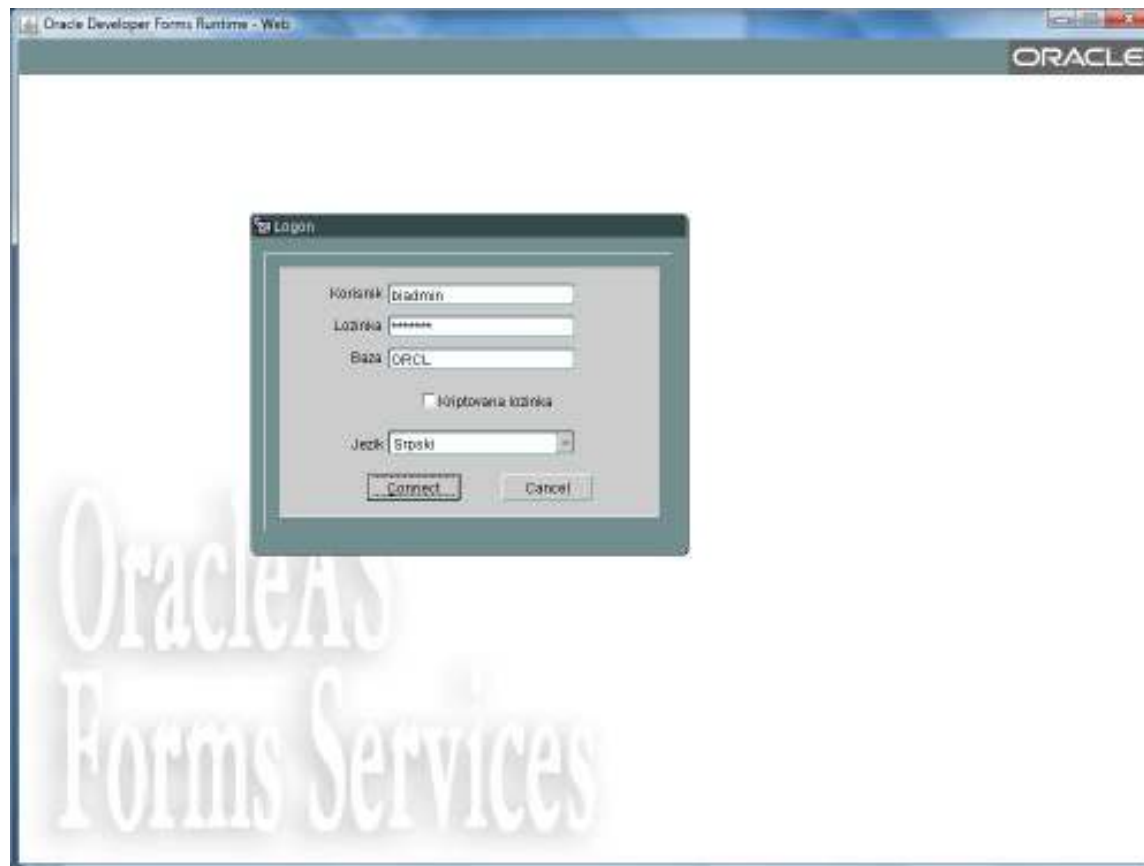


# Environment

- Primary is ORCLA
- Standby is ORCLB
- Environment and SQL\*Net are setup
- DataGuard configuration is created
- Standby is created via RMAN
- Redo log apply is established
- Standby is opened READ ONLY



# Application login



# Application form

The screenshot displays an Oracle Forms application window titled "Oracle Developer Forms Runtime - Web". The form is for a bank account application, with the title bar indicating "BI - bankarski račun - komitent". The form contains the following fields and controls:

- Tip komitent:** Dropdown menu set to "Društvo - banka".
- Resident / Nerezident:** Radio buttons, with "Resident" selected.
- Ime komitent:** Text field containing "RAIFFEISEN BANKA A.D. BEOGRAD".
- Matični broj BAO:** Text field containing "5017335600".
- Nezavisan komitent:** Check box, currently unchecked.
- Datum pristupa:** Text field containing "11.09.08".
- Adm. komitent:** Check box, currently checked.
- Nepravilan MBR:** Check box, currently unchecked.
- Datum brisanja:** Text field.
- Nepravilno generisan matični broj:** Check box, currently unchecked.
- Delatnost:** Text field containing "99999".
- Nepravilna delatnost:** Check box, currently unchecked.
- Matična organizaciona jedinica:** Text field containing "118/Treasury Back Office".
- E-mail:** Text field.
- Zemlja porekla komitent:** Text field containing "600 REPUBLIKA SRBIJA".
- Jezik:** Text field containing "srp/Srpski".
- Adresa:** Section containing:
  - Šta zemlja:** Text field containing "600 REPUBLIKA SRBIJA".
  - PTT broj:** Text field.
  - Mesto komitent:** Text field containing "791067 BEOGRAD-NOVI BEOGRAD".
  - PTT broj:** Text field containing "11077".
  - Ulica:** Text field containing "Bulevar Zorana Djindjića".
  - Broj časa:** Text field.
  - Ulica:** Text field.
  - Sprat:** Text field.
  - Stan:** Text field.
  - Adresni kod:** Text field.
- Vreme i operater unos:** Text field containing "11.09.08 13:08:57/S JELENA (MILEVA) DJINDJIC".
- Vreme i operater izmene:** Text field containing "11.09.08 13:31:50/S JELENA (MILEVA) DJINDJIC".

At the bottom of the form, there are fields for "Adresni kod" and "Pozivni broj".

Forms Services

# Database on primary site

```
oracle@pts09:~/dglab/Linux
[oracle@pts09 Linux]$ sqlplus / as sysdba

SQL*Plus: Release 11.1.0.6.0 - Production on Wed Feb 25 16:10:59 2009

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> select * from v$instance;

INSTANCE_NUMBER INSTANCE_NAME
-----
HOST_NAME
-----
VERSION          STARTUP_T STATUS      PAR   THREAD# ARCHIVE LOG_SWITCH_WAIT
-----
LOGINS           SHU DATABASE_STATUS INSTANCE_ROLE ACTIVE_ST BLO
-----
1 ORCLA
pts09.mobilerac
11.1.0.6.0      25-FEB-09 MOUNTED      NO      1 STARTED
ALLOWED NO ACTIVE          PRIMARY_INSTANCE NORMAL NO

SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[oracle@pts09 Linux]$
```



# Switch to standby site

- Using Oracle DataGuard switch is simple
- We are using previously defined DataGuard configuration
- Initiating switch over to standby

```
dgmgrl sys/manager "switchover to 'ORCLB'"
```



# Database on standby

```
oracle@pts10:~/dglab/Linux
[oracle@pts10 Linux]$ sqlplus / as sysdba

SQL*Plus: Release 11.1.0.6.0 - Production on Wed Feb 25 16:11:21 2009

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

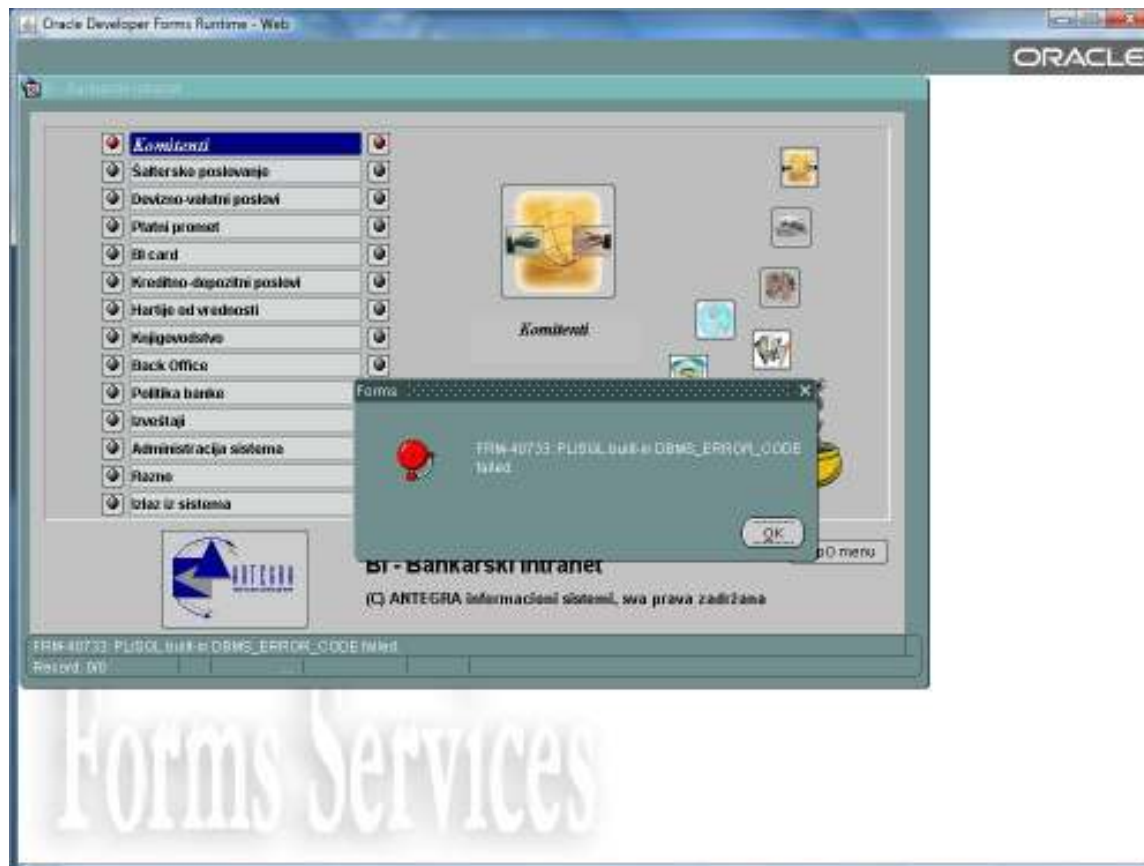
SQL> select * from v$instance;

INSTANCE_NUMBER INSTANCE_NAME
-----
HOST_NAME
-----
VERSION          STARTUP_T STATUS    PAR    THREAD# ARCHIVE LOG_SWITCH_WAIT
-----
LOGINS           SHU DATABASE_STATUS  INSTANCE_ROLE  ACTIVE_ST BLO
-----
1 ORCLB
pts10.mobileresk logs
11.1.0.6.0      25-FEB-09 OPEN        NO        1 STARTED
ALLOWED NO ACTIVE          PRIMARY_INSTANCE NORMAL NO

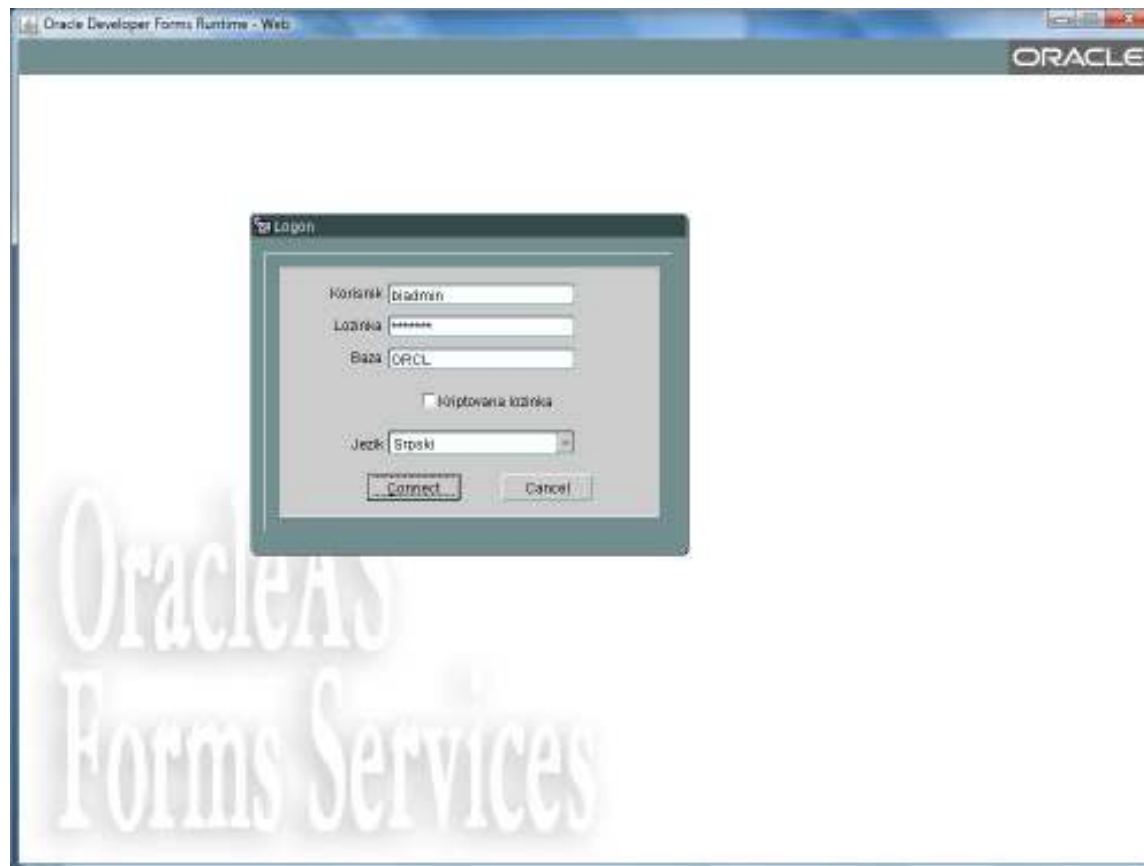
SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[oracle@pts10 Linux]$
```



# Application error



# Reconnect same way



# Application runs on standby



# Setup ex primary as standby

- Stop the MRP process on the standby

```
dgmgrl> edit database 'ORCLA' set state='apply-off';
```

- Open standby for read access (sqlplus)

```
sqlplus> alter database open read only;
```

- Restart the MRP process on the standby

```
dgmgrl> edit database 'ORCLA' set state='apply-on';
```

- Setup is finished!



# Oracle Active Data Guard

Q & A

