### **ORACLE 11G DATABASE REPLAY:** REPLAY CAPTURE WORKLOAD FILES

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### **INTRODUCTION**

In this part of the paper, I will provide details as how to Replay the Captured Workload on the Target Database

In this paper, I will use db02pn as Source Database and db01pn as Target Database. Source Database is the database where Workload is captured and then the workload will be replayed at Target database.

### **REPLAY PROCESS STEPS**

- 1. Set up the QA System
- 2. Steps for Replaying a Database Workload
- 3. Replaying a Database Workload Using Enterprise Manager
- 4. Monitoring Workload Replay Using Enterprise Manager
- 5. Replaying a Database Workload Using APIs
- 6. Monitoring Workload Replay Using Views

### SETUP THE QA SYSTEM

In order to setup the QA system so that it can be used to replay the Captured and processed Workload, you need to perform the following

- 1. Restoring the Database It can be datapump imp or RMAN or snapshot standby option so that Source Database where Capture process is executed and Target Database where we will replay the workload should have same data.
- 2. Resetting the System Time This is recommended so as to avoid the divergence in the result due to SYSDATE and SYSTIMESTAMP function captured on Workload files.

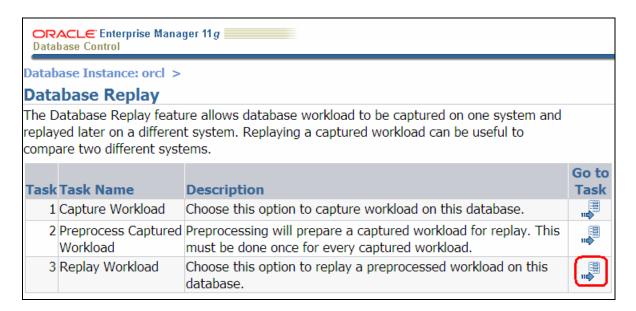


<u>Step 1:</u> Login to Enterprise Manager Database console of Target Database. Then select <u>Software and Support</u> tab and then click on <u>Database Replay</u>

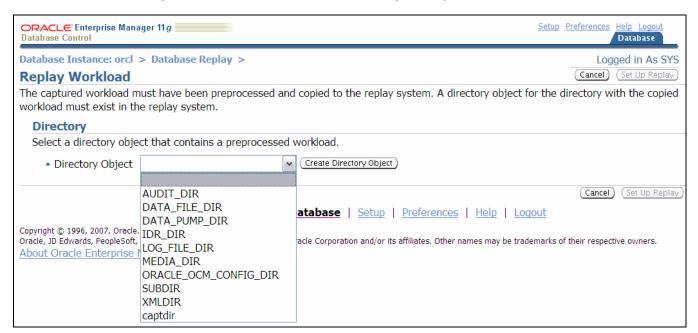




### <u>Step 2:</u> To Replay Captured Workload, Click on Go to Task against the Task Name Replay Workload as shown in RED below.



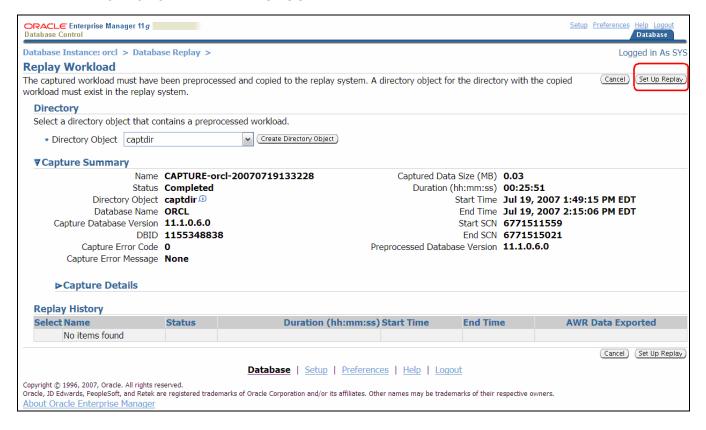
### <u>Step 3:</u> Select the Database directory from the drop-down menu that contains the Captured Workload files on Target Database server and are already been processed.





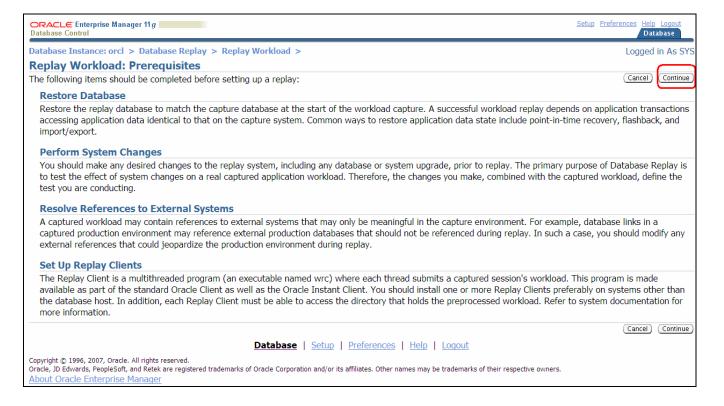
## <u>Step 4:</u> When You select the Directory object as shown above, it will automatically provide the summary of Capture and Preprocess information as shown below.

### Click on Set up Replay to start the Replay process



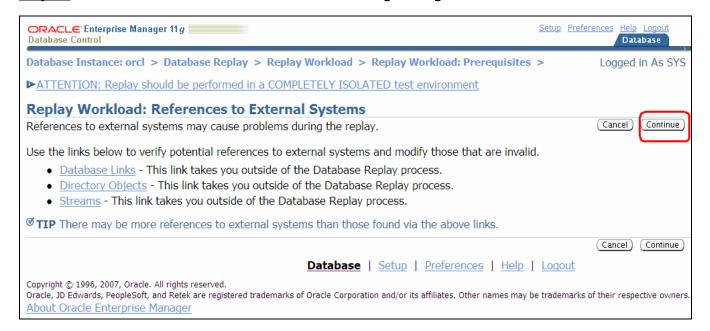


### <u>Step 5</u>: Review the prerequisites information provided on the screen and click <u>Continue</u> to go to next screen





### Step 6: Review more information and click Continue again to go to next screen



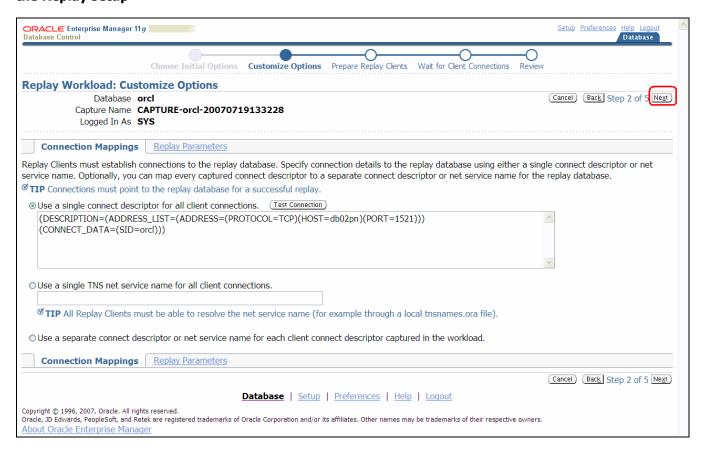


### Step 7: Replay Workload Wizard: Choose Initial Options Accept Default Replay Process Name and click NEXT to continue





# <u>Step 8 :</u> Replay Workload Wizard : Customize Options This page will show you the TNS setting used for Database connections. Click Next to Continue with the Replay setup





### Step 9: Replay Workload Wizard: Prepare Replay Clients

This page displays the message that you need to run Client(s) to submit the Capture workload. In the coming screen, you have to start the client(s) so that Replay can be started. Click Next to Continue

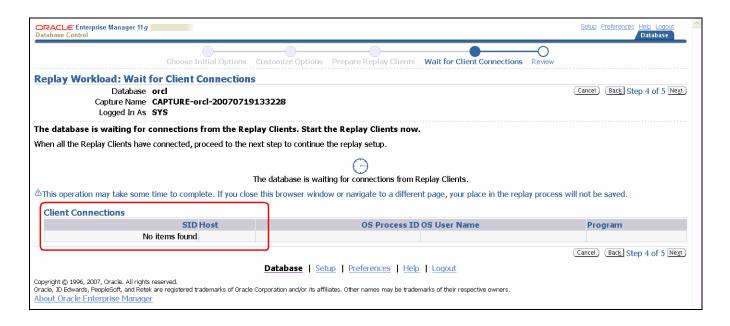




### Step 10: Replay Workload Wizard: Wait for Client Connections

Now we have to go to database server and create Replay Client. This page will be refreshed to show all available client as soon as they are available. Don't click Next until the Client(s) are started as show in next step

### Currently the screen shows that there is no Client Connections available as shown in RED





### Step 11: Start the Replay Client

You need a Database user to start the Replay client who must have the BECOME USER privilege

#### One Window

[oracle@db01pn capture\_dir]\$ wrc REPLAYDIR=/home/oracle/capture\_dir USERID=system PASSWORD=welcome1

Workload Replay Client: Release 11.1.0.6.0 - Beta on Fri Jul 20 11:01:12 2007 Copyright (c) 1982, 2007, Oracle. All rights reserved.

Wait for the replay to start (16:00:21)

#### Second Window

[oracle@db01pn capture\_dir]\$ wrc REPLAYDIR=/home/oracle/capture\_dir USERID=system PASSWORD=welcome1

Workload Replay Client: Release 11.1.0.6.0 - Beta on Thu Jul 19 14:18:23 2007 Copyright (c) 1982, 2007, Oracle. All rights reserved.

Wait for the replay to start (16:01:11)

Above Two windows shows that Replay Client are now waiting. Now Return to the Enterprise Manager Database control to see if two Clients are visible on the screen



# <u>Step 12:</u> Now we can see two Clients are visible from the specified Host. Click Next to start the Replay process



### <u>Step 13:</u> Replay is started as been shown by Replay Client in Terminal Window and shown in Bold below

#### One Window

[oracle@db01pn capture\_dir]\$ wrc REPLAYDIR=/home/oracle/capture\_dir USERID=system PASSWORD=welcome1

Workload Replay Client: Release 11.1.0.6.0 - Beta on Fri Jul 20 11:01:12 2007
Copyright (c) 1982, 2007, Oracle. All rights reserved.

Wait for the replay to start (16:00:21)
Replay started (16:02:49)

#### Second Window

[oracle@db01pn capture\_dir]\$ wrc REPLAYDIR=/home/oracle/capture\_dir USERID=system PASSWORD=welcome1

Workload Replay Client: Release 11.1.0.6.0 - Beta on Thu Jul 19 14:18:23 2007 Copyright (c) 1982, 2007, Oracle. All rights reserved.

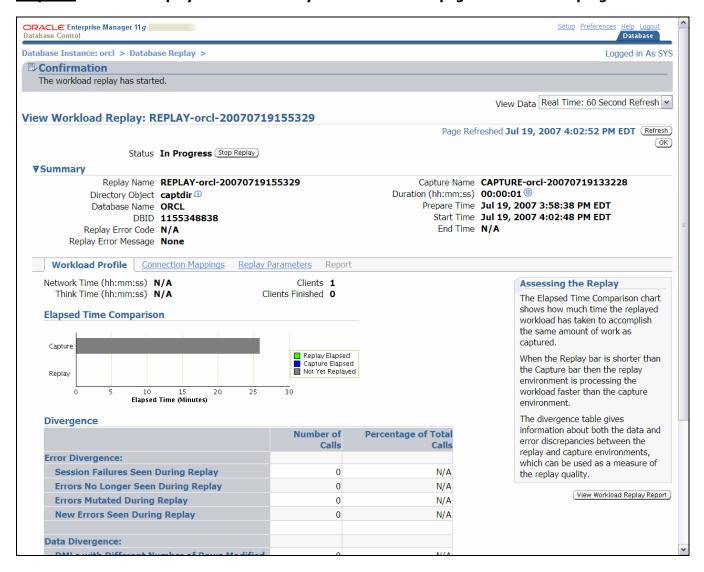
Wait for the replay to start (16:01:11)

**Replay started (16:03:19)** 



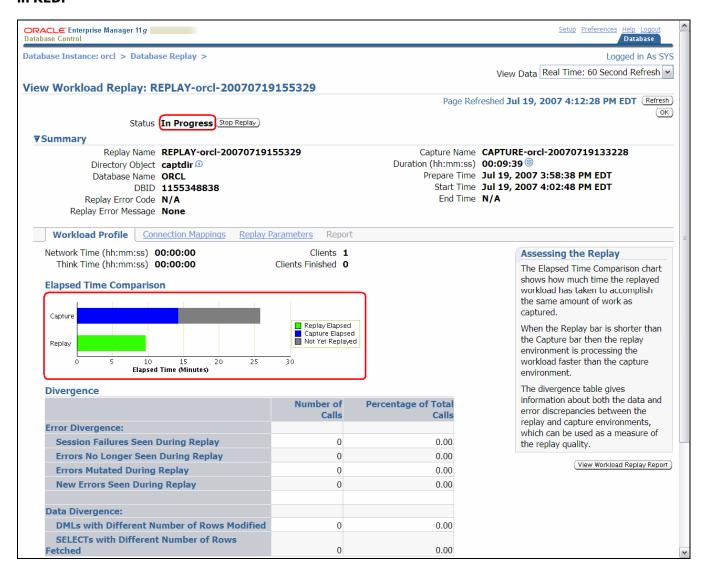


### Step 14: Workload Replay has started and you can refresh the page to monitor the progress



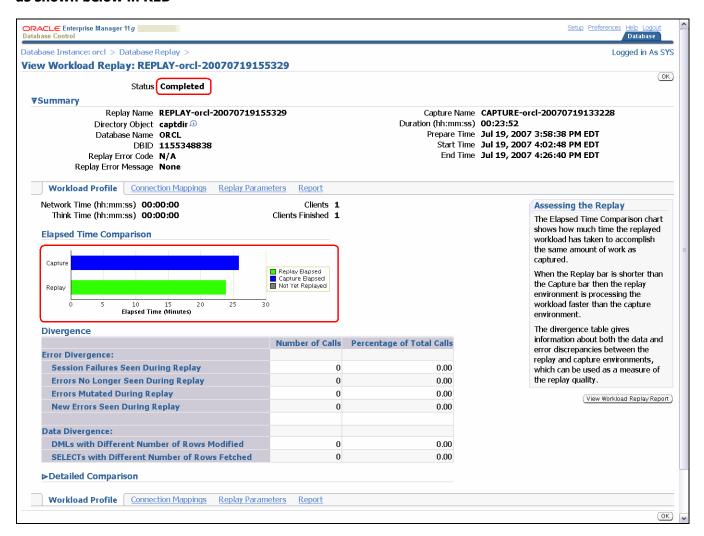


### Step 15: You can see that Replay process is in progress and Graph show the elapsed time as shown in RED





### Step 16: When the Replay process is finished, you can see the Status been changed to Completed as shown below in RED



On the Terminal Window, you will see the Replay clients are also finished as shown in Bold below

### [oracle@db02pn capture\_dir]\$ wrc REPLAYDIR=/home/oracle/capture\_dir USERID=system PASSWORD=welcome1

Workload Replay Client: Release 11.1.0.6.0 - Beta on Thu Jul 19 16:00:21 2007 Copyright (c) 1982, 2007, Oracle. All rights reserved.

Wait for the replay to start (16:00:21)

Replay started (16:02:49)

Replay finished (16:26:40)

[oracle@db02pn capture\_dir]\$



Also See the new files created on Target Database server capture directory

▼ 172.30 - F-Secure SSH - [Defaults.ssh]								
File Edit View Tools Help								
[oracle@capture dir]\$ ls -ltr								
total 13552								
-rw-r		oracle	oinstall	0	Jul	19	13:49	wcr rec 00001.start
-rw-r	1	oracle	oinstall					wcr 4d7x440002mup.rec
-rw-r	1	oracle	oinstall	928	Jul	19	13:49	wcr 4d7x440002jx0.rec
-rw-r	1	oracle	oinstall	1140	Jul	19	13:49	wcr 4d7x444002mqs.rec
-rw-r	1	oracle	oinstall	928	Jul	19	13:49	wcr_4d7x448002jy8.rec
-rw-r	1	oracle	oinstall	1127	Jul	19	13:49	wcr_4d7x448002k49.rec
-rw-r	1	oracle	oinstall	1128	Jul	19	13:49	wcr_4d7x44h002k2m.rec
-rw-r			oinstall					wcr_4d7x45s002k84.rec
-rw-r			oinstall					wcr_4d7x460002ksw.rec
-rw-r			oinstall					wcr_4d7x460002kma.rec
-rw-r			oinstall					wcr_4d7x460002km8.rec
-rw-r			oinstall					wcr_4d7x46n002k4c.rec
-rw-r			oinstall					wcr_4d7x46w002k4g.rec
-rw-r			oinstall					wcr_4d7x49n002mxp.rec
-rw-r			oinstall					wcr_4d7x49s002mxt.rec
-rw-r			oinstall					wcr_4d7x4ah002k9p.rec
-rw-r			oinstall					wcr_4d7x4ah002k47.rec
-rw-r			oinstall					wcr_4d7x54c002n60.rec
-rw-r			oinstall					wcr_4d7x65h002nb7.rec
-rw-r			oinstall					wcr_4d7x65h002nba.rec
-rw-r								wcr_4d7x69s002nd3.rec
-rw-r								wcr_4d7x6an002nf9.rec
-rw-r								wcr_4d7x7gc002np1.rec
-rw-r								wcr_4d7x8ns002nzz.rec
-rw-r			oinstall					wcr_4d7x9u8002p6x.rec
-rw-r								wcr_4d7x9v4002p83.rec
-rw-r								wcr_cr.text
-rw-r								wcr_cr.html
-rw-r								wcr_capture.wmd
-rw-r								wcr_ca.log
-rw-r								wcr_ca.dmp wcr seq data.extb
-rw-r								wcr_seq_data.extb
-rw-r								wcr_scn_order.extb
-rw-r								wcr_process.wmu wcr login.pp
-rw-r								wcr_login.pp wcr_conn_data.extb
-rw-rr								wcr_conn_data.extb
-rw-r								wcr_replay.wmd
- r w - r	Т	oracie	Olubrall	700	oul	エフ	10.40	wcr_rebray.mmd



### REPLAYING A DATABASE WORKLOAD USING APIS

Replaying a database workload using the DBMS\_WORKLOAD\_REPLAY package is a multi-step process that involves:

- 1. Initializing Replay Data
- 2. Setting Workload Replay Options
- 3. Starting a Workload Replay
- 4. Stopping a Workload Replay

### INITIALIZING REPLAY DATA

To initialize replay data, use the INITIALIZE\_REPLAY procedure:

### SETTING WORKLOAD REPLAY OPTIONS

After the replay data is initialized, you need to prepare the workload replay on the replay system.

# SQL>select id,name,directory,status,prepare\_time,start\_time,end\_time,dir\_path from dba\_workload\_replays where id=22;

```
ID NAME DIRECTORY STATUS PREPARE_TIME START_TIME END_TIME DIR_PATH

22 REPLAY07 API_DIR PREPARE 26/07/2007 22:46:58 /home/oracle/api_dir
```



### START THE AGENT

### [db01pn]\$ wrc REPLAYDIR=/home/oracle/api\_dir USERID=system PASSWORD=welcome1

Workload Replay Client: Release 11.1.0.6.0 - Beta on Thu Jul 26 22:48:36 2007 Copyright (c) 1982, 2007, Oracle. All rights reserved.

Wait for the replay to start (22:48:36)

### STARTING A WORKLOAD REPLAY

```
SQL>BEGIN
2 DBMS_WORKLOAD_REPLAY.START_REPLAY ();
3 END;
4 /
```

# SQL>select id,name,directory,status,prepare\_time,start\_time,end\_time,dir\_path from dba\_workload\_replays where id=22;

### STOPPING A WORKLOAD REPLAY

```
SQL>BEGIN
2 DBMS_WORKLOAD_REPLAY.CANCEL();
3 END;
4 /
```

