How to automatically test and validate your backup and recovery strategy

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Database SERVICES

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Agenda

- Recovery platform principles
- Use Cases
- Conclusion

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Recovery platform principles

- Validate tape backupsets
- Isolation
  - no use of catalog: controlfile needs to have all backup information needed
  - capped tnsnames.ora
  - no user jobs must run
- Automatic cleanup except otherwise configured or an error arises.
- Flexible and easy to customize
- Take advantage of a restored database: exports can be configured -> further validation
- Spans several Oracle homes (9i,10g,11g) and OS: solaris & linux 32 & 64 bits.
- Maximize recovery server: several recoveries at the same time
- Easy to deploy: any server can be a recovery server

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Platform Requirements

- Server with Linux (>RHE4) or Solaris (>8)
- Oracle database server target release(s) for single instance:
  - 9i: 32 & 64 bits
  - 10g
  - 11gR1 & 11gR2
- Perl (v5.8.5) & bash shell should be available
- TDP-Oracle libraries (v5.5.3)
- Enough storage to carry intended recoveries on SAN or NAS.

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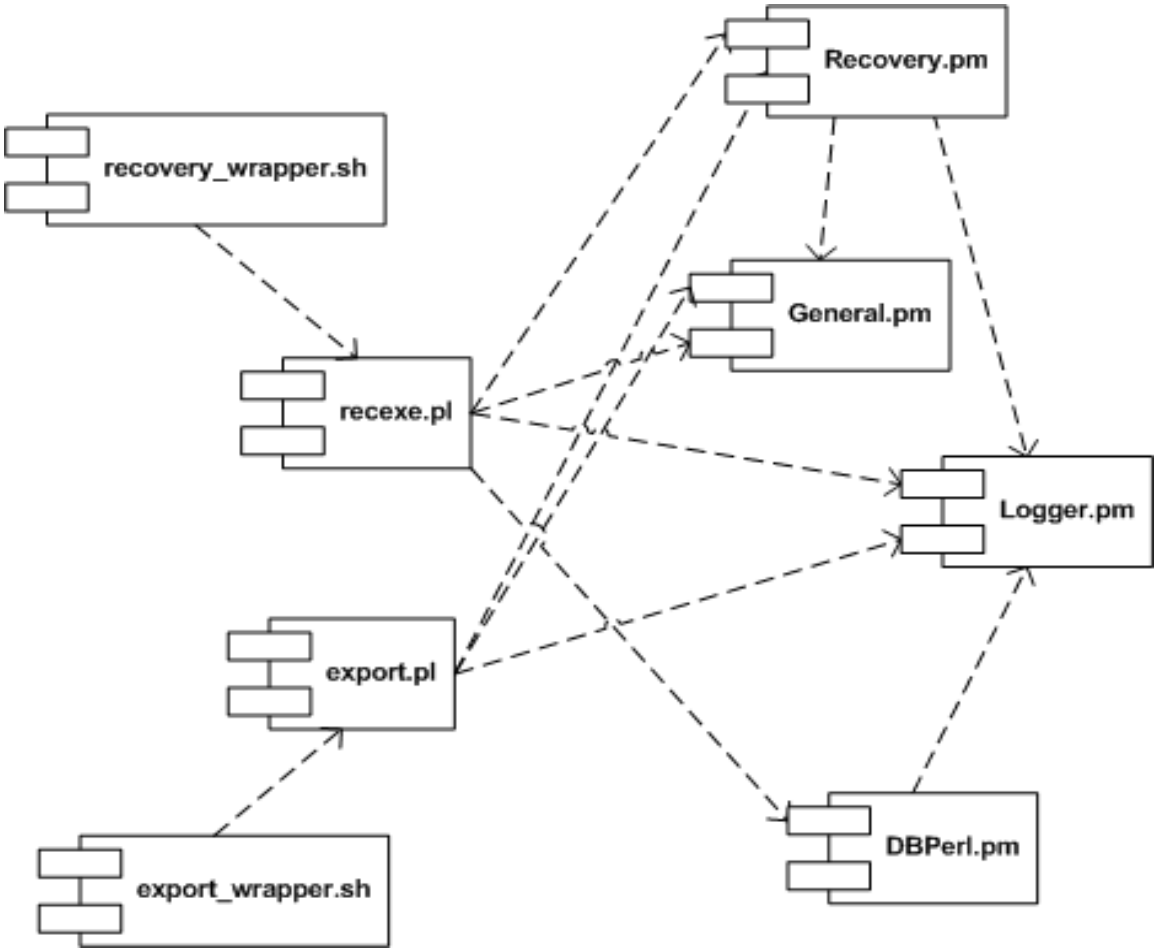
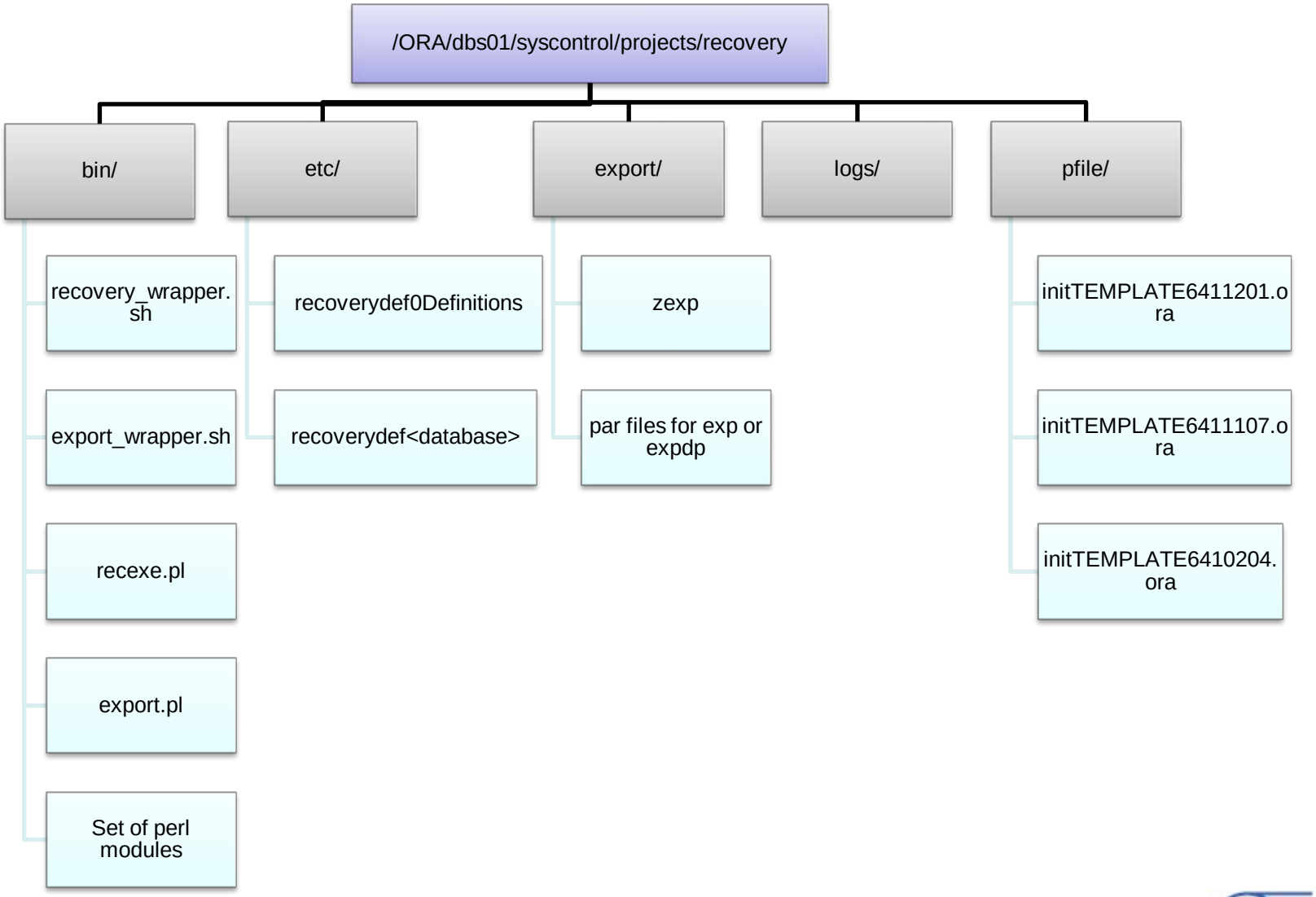
Component view

- Runs anywhere: ~2600 lines of Perl & Bash



Software layout



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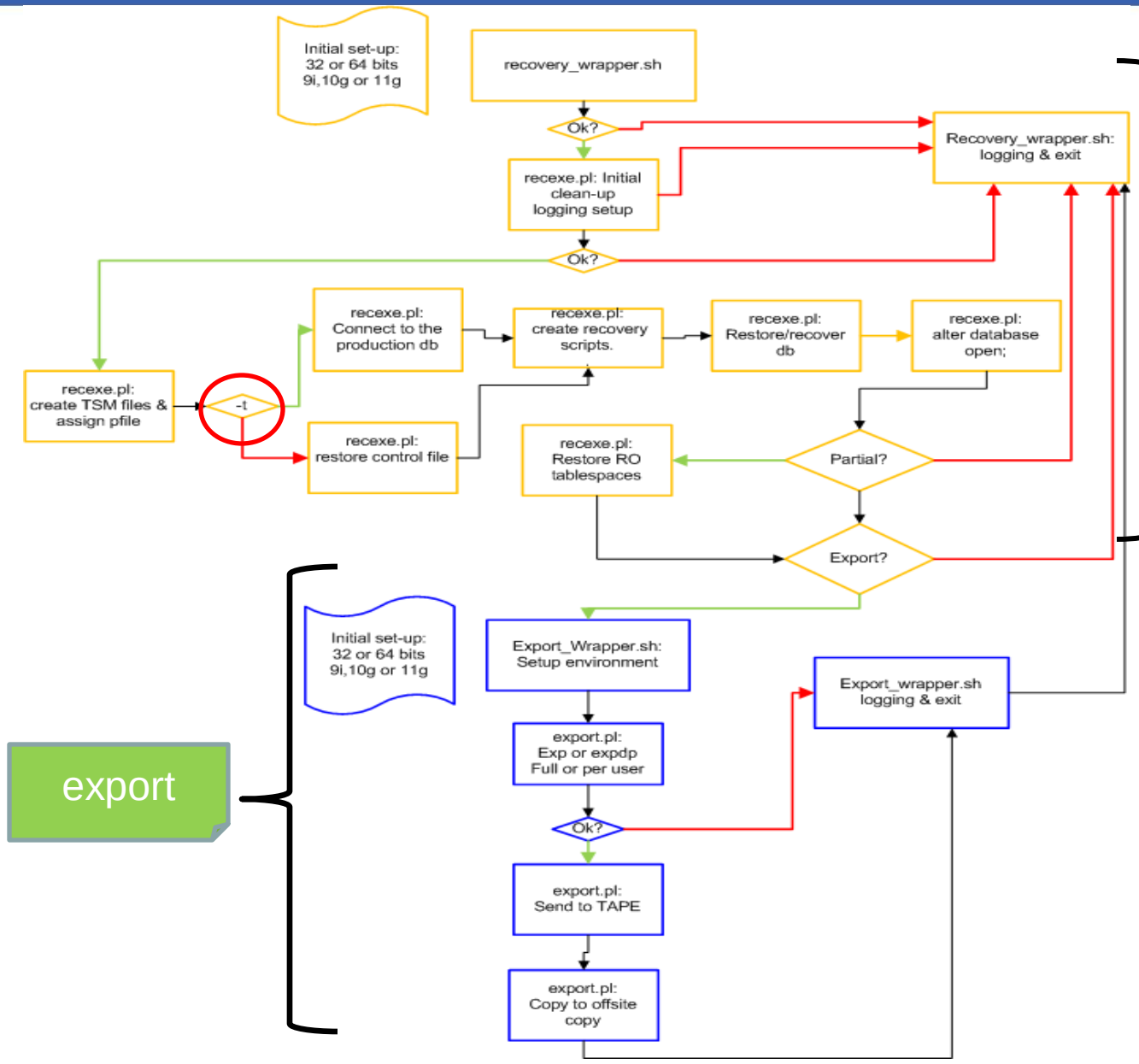
Skeleton of a recovery



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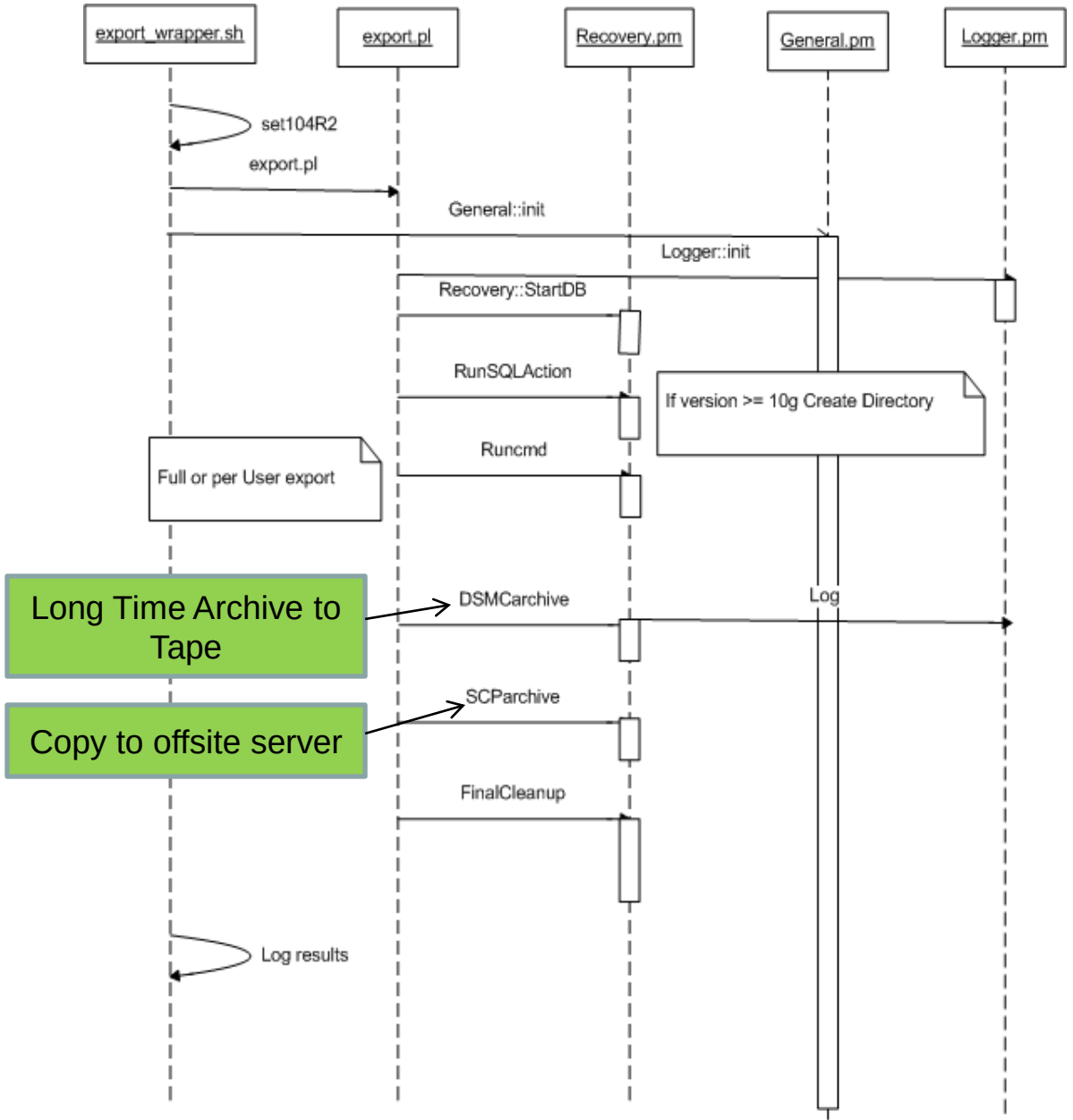
Export sequence diagram



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Recovery Server: Installation set up


```
oracle@recoveryserver> mkdir -p /ORA/dbs01/syscontrol/projects

--Install software
oracle@recoveryserver> cd /ORA/dbs01/syscontrol/projects
oracle@recoveryserver> unzip recoveryplatform.zip

--Mount NFS file system for recovery
oracle@recoveryserver> sudo mount -o hard,nointr,rsize=32768,wsize=32768,tcp,actimeo=0,timeo=600 -t nfs NFSServer:/vol/bigstorage /ORA/dbs03/orada

--Copy/create password file to connect to target TSM server

oracle@recoveryserver> /opt/tivoli/tsm/client/oracle/bin64/TDPO.oradev10_ora

--In case not in expected location
oracle@recoveryserver> ln -s /bin/bash /usr/bin/bash
```

- Recoveries are carried out every week, for important db (cron job):

```
oracle@recoveryserver> crontab -l | grep devdb
0 6 * * 6       /ORA/dbs01/syscontrol/projects/recovery/bin/recovery_wrapper.sh -e devdb10
                        -f /ORA/dbs01/syscontrol/projects/recovery/etc/recoverydefD10 -s D10
```

- If recovery_wrapper.sh or similar not available:

```
--Launch your recovery
oracle@recoveryserver> cd /ORA/dbs01/syscontrol/projects/recovery/bin
oracle@recoveryserver> . ./set104gR2
oracle@recoveryserver> export ORACLE_SID=D10
oracle@recoveryserver> perl -w recexe.pl -config ../etc/recoverydefD10 -logfile test

--Launch your export
oracle@recoveryserver> perl -w export.pl -config ../etc/recoverydefD10 -logfile test_export
```

Traces

- All actions are logged by Logger.pm

```
-- Recovery & Export logs

[oracle@dbsrvd101 logs]$ ls -l /ORA/dbs01/syscontrol/projects/recovery/logs | grep devdb
-rw-r--r--  1 oracle ci     280 Feb 13 15:42 devdb10_20100209-060001
-rw-r--r--  1 oracle ci   10197 Feb 13 15:42 export_devdb10_20100209-102523

-- Export results
[oracle@dbsrvc112 export]$ ls -l /ORA/dbs03/oradata/DEVDB10/export
total 61465132
-rw-r-----  1 oracle ci 10276483026 Feb  8 21:10 exp_full_DEVDB10_20100208-185751.dmp.gz
-rw-r--r--  1 oracle ci     3437034 Feb  8 21:10 exp_full_DEVDB10_20100208-185751.log
```

- Last successful recovery scripts are kept:

  $dirtobackup='/ORA/dbs03/oradata/BACKUP';

- E-mail notifications

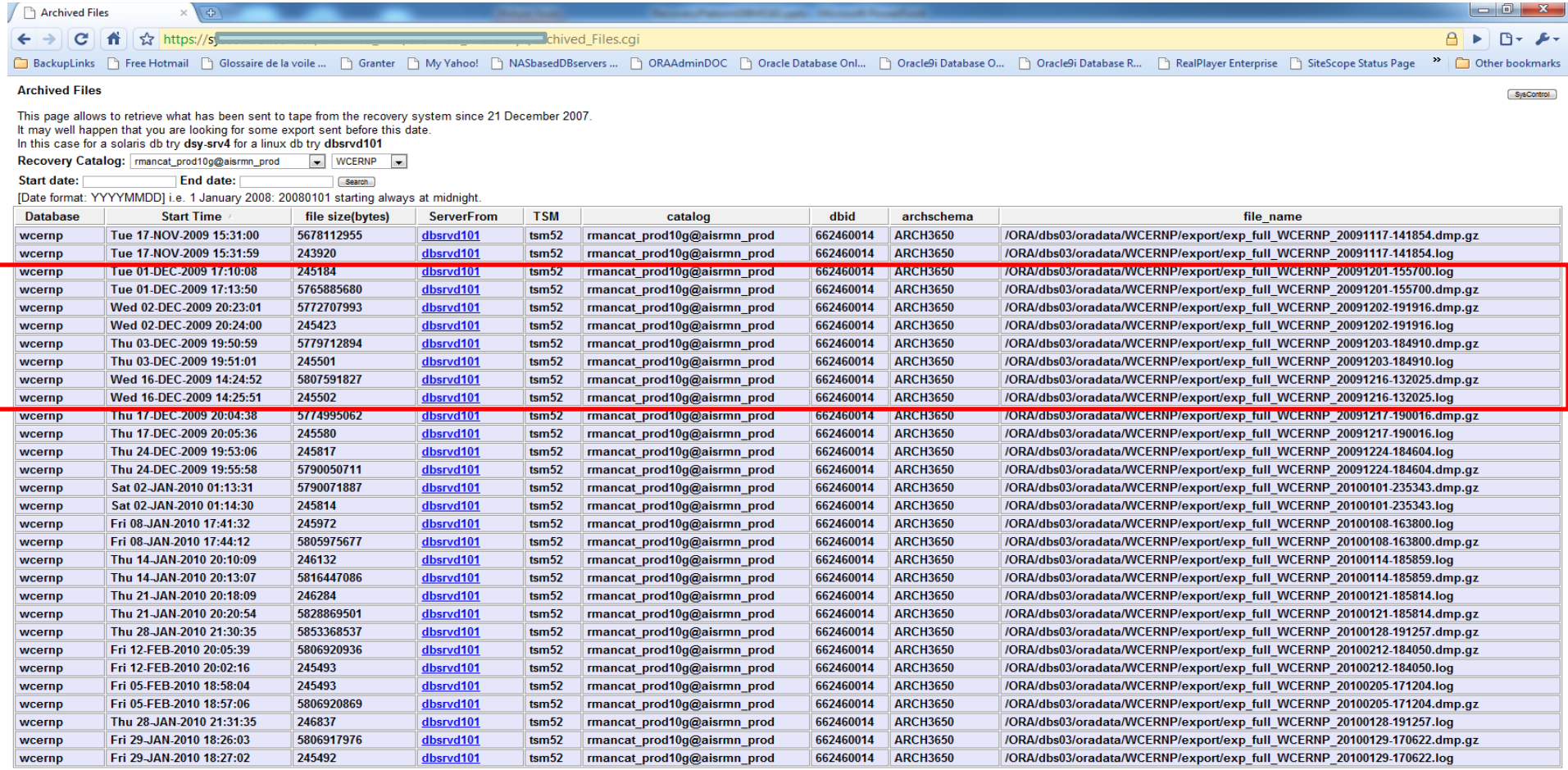
Important configuration options

```
# DBNAME
$dbtorec='DEVDB10';

#################### Usually fix params
# Location for all datafiles, Xdump, export directory.
# This will be deleted at next run
$filelocation="/ORA/dbs03/oradata/$dbtorec";


# 0 it's a full recovery, 1 it's a partial one. 0 it's defeault
$partial=1;

# It's either a number, the percentage of readonly tablespace to restore/recover, if > 60 all of them are treated or  a list of tablespaces
# seperated by a :
$readonlytbl=10;

# Partial TSPITR
$tblpitr='SYSTEM:SYSAUX:UNDO01:TOOLS:TEAMMATE:XMLDB';

# Clean-up at the end of recovery to free space.
# If export=1, it cleans up only at the end of export
$finalcleanup=1;

# set time for restore and recovery, in this case 3 hours later than the actual time, string format is also possible: '01/26/2010 17:44:11'
$timeinterval='3';

# To do ASM operations
$asminstance='+ASM1';
$asmoraclehome='/ORA/dbs01/oracle/product/10.2.0/rdbms';

# 1 export is needed  0 no action will be run.
$export=1;

# full or users
$exportype='user';

# delimited by ',' users or 'all' for export of all users
$users='USERA,USERB,USERC';

# for 10 'expdp'
# for 9 '/ORA/dbs01/admindb/recovery/export/zexp'
$zexp='expdp';
# specific parameter files
$parfile10='/ORA/dbs01/syscontrol/projects/recovery/export/full10.par';
$parfile10peruser='/ORA/dbs01/syscontrol/projects/recovery/export/full10peruser.par';

# Do we archive on tape? set 0 to not to archive
$dsmcarchive=1;

# ARchive schema used by TSM server by default ARCH365
$archiveschema='ARCH3650';

# SCP repository? set 0 to not to copy to offsite
$scprepository=1;
```

ASM configuration

Use Case I: user logical error. Table lost

- Recover a table as it was on 16th Dec 2009 at 05:00am
- Do we have an export that could fit?



Archived Files

https://s…chived_Files.cgi

BackupLinks | Free Hotmail | Glossaire de la voile … | Granter | My Yahoo! | NASbasedDBservers … | ORAAdminDOC | Oracle Database Onl… | Oracle9i Database O… | Oracle9i Database R… | RealPlayer Enterprise | SiteScope Status Page | Other bookmarks

Archived Files

SysControl

This page allows to retrieve what has been sent to tape from the recovery system since 21 December 2007.
It may well happen that you are looking for some export sent before this date.
In this case for a solaris db try **dsy-srv4** for a linux db try **dbsrvd101**

Recovery Catalog: rmancat_prod10g@aisrmn_prod WCERNP

Start date: **End date:** Search

[Date format: YYYYMMDD] i.e. 1 January 2008: 20080101 starting always at midnight.

Database	Start Time	file size(bytes)	ServerFrom	TSM	catalog	dbid	archschema	file_name
wcernp	Tue 17-NOV-2009 15:31:00	5678112955	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091117-141854.dmp.gz
wcernp	Tue 17-NOV-2009 15:31:59	243920	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091117-141854.log
wcernp	Tue 01-DEC-2009 17:10:08	245184	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091201-155700.log
wcernp	Tue 01-DEC-2009 17:13:50	5765885680	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091201-155700.dmp.gz
wcernp	Wed 02-DEC-2009 20:23:01	5772707993	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091202-191916.dmp.gz
wcernp	Wed 02-DEC-2009 20:24:00	245423	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091202-191916.log
wcernp	Thu 03-DEC-2009 19:50:59	5779712894	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091203-184910.dmp.gz
wcernp	Thu 03-DEC-2009 19:51:01	245501	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091203-184910.log
wcernp	Wed 16-DEC-2009 14:24:52	5807591827	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091216-132025.dmp.gz
wcernp	Wed 16-DEC-2009 14:25:51	245502	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091216-132025.log
wcernp	Thu 17-DEC-2009 20:04:38	5774995062	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091217-190016.dmp.gz
wcernp	Thu 17-DEC-2009 20:05:36	245580	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091217-190016.log
wcernp	Thu 24-DEC-2009 19:53:06	245817	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091224-184604.log
wcernp	Thu 24-DEC-2009 19:55:58	5790050711	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20091224-184604.dmp.gz
wcernp	Sat 02-JAN-2010 01:13:31	5790071887	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100101-235343.dmp.gz
wcernp	Sat 02-JAN-2010 01:14:30	245814	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100101-235343.log
wcernp	Fri 08-JAN-2010 17:41:32	245972	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100108-163800.log
wcernp	Fri 08-JAN-2010 17:44:12	5805975677	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100108-163800.dmp.gz
wcernp	Thu 14-JAN-2010 20:10:09	246132	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100114-185859.log
wcernp	Thu 14-JAN-2010 20:13:07	5816447086	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100114-185859.dmp.gz
wcernp	Thu 21-JAN-2010 20:18:09	246284	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100121-185814.log
wcernp	Thu 21-JAN-2010 20:20:54	5828869501	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100121-185814.dmp.gz
wcernp	Thu 28-JAN-2010 21:30:35	5853368537	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100128-191257.dmp.gz
wcernp	Fri 12-FEB-2010 20:05:39	5806920936	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100212-184050.dmp.gz
wcernp	Fri 12-FEB-2010 20:02:16	245493	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100212-184050.log
wcernp	Fri 05-FEB-2010 18:58:04	245493	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100205-171204.log
wcernp	Fri 05-FEB-2010 18:57:06	5806920869	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100205-171204.dmp.gz
wcernp	Thu 28-JAN-2010 21:31:35	246837	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100128-191257.log
wcernp	Fri 29-JAN-2010 18:26:03	5806917976	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100129-170622.dmp.gz
wcernp	Fri 29-JAN-2010 18:27:02	245492	dbsrvd101	tsm52	rmancat_prod10g@aisrmn_prod	662460014	ARCH3650	/ORA/dbs03/oradata/WCERNP/export/exp_full_WCERNP_20100129-170622.log

Use Case 1 cont. I

- Set PITR:

```
oracle@recoveryserver>  vi /ORA/dbs01/syscontrol/projects/recovery/etc/recoverydefWCERNP
# set time for restore and recovery
$timeinterval='12/16/2009 05:00:00'
```

- Launch it:

```
/ORA/dbs01/syscontrol/projects/recovery/bin/recovery_wrapper.sh -e wcernp -f /ORA/dbs01/syscontrol/projects/recovery/etc/recoverydefWCERNP -s WCERNP1
```

- It will dispatch following scripts in order:

```
[oracle@recoveryserver WCERNP]$ cat contrl_restore.rcv
connect target /
set dbid=662460014;
startup nomount pfile=/ORA/dbs03/oradata/WCERNP/initWCERNP.ora;
run {
set controlfile autobackup format for device type 'sbt' to 'WCERNP_%F';
ALLOCATE CHANNEL c1 DEVICE TYPE sbt PARMS 'ENV=(TDPO_OPTFILE=/opt/tivoli/tsm/client/oracle/bin64/tdpo_wcernp.opt)';
restore controlfile from autobackup until time 'to_date('12/17/2009 00:00:00','mm/dd/yyyy hh24:mi:ss')";
shutdown immediate;
}
exit;


[oracle@recoveryserver WCERNP]$ cat db_restore.rcv
connect target /
startup mount pfile=/ORA/dbs03/oradata/WCERNP/initWCERNP.ora;
SET PARALLELMEDIARESTORE OFF;
run {
ALLOCATE CHANNEL c1 DEVICE TYPE sbt  PARMS 'ENV=(TDPO_OPTFILE=/opt/tivoli/tsm/client/oracle/bin64/tdpo_wcernp.opt)';
set until time "to_date('12/16/2009 05:00:00','mm/dd/yyyy hh24:mi:ss')";
restore database check readonly;
switch datafile all;
recover database parallel, delete archivelog;
}
exit;
```

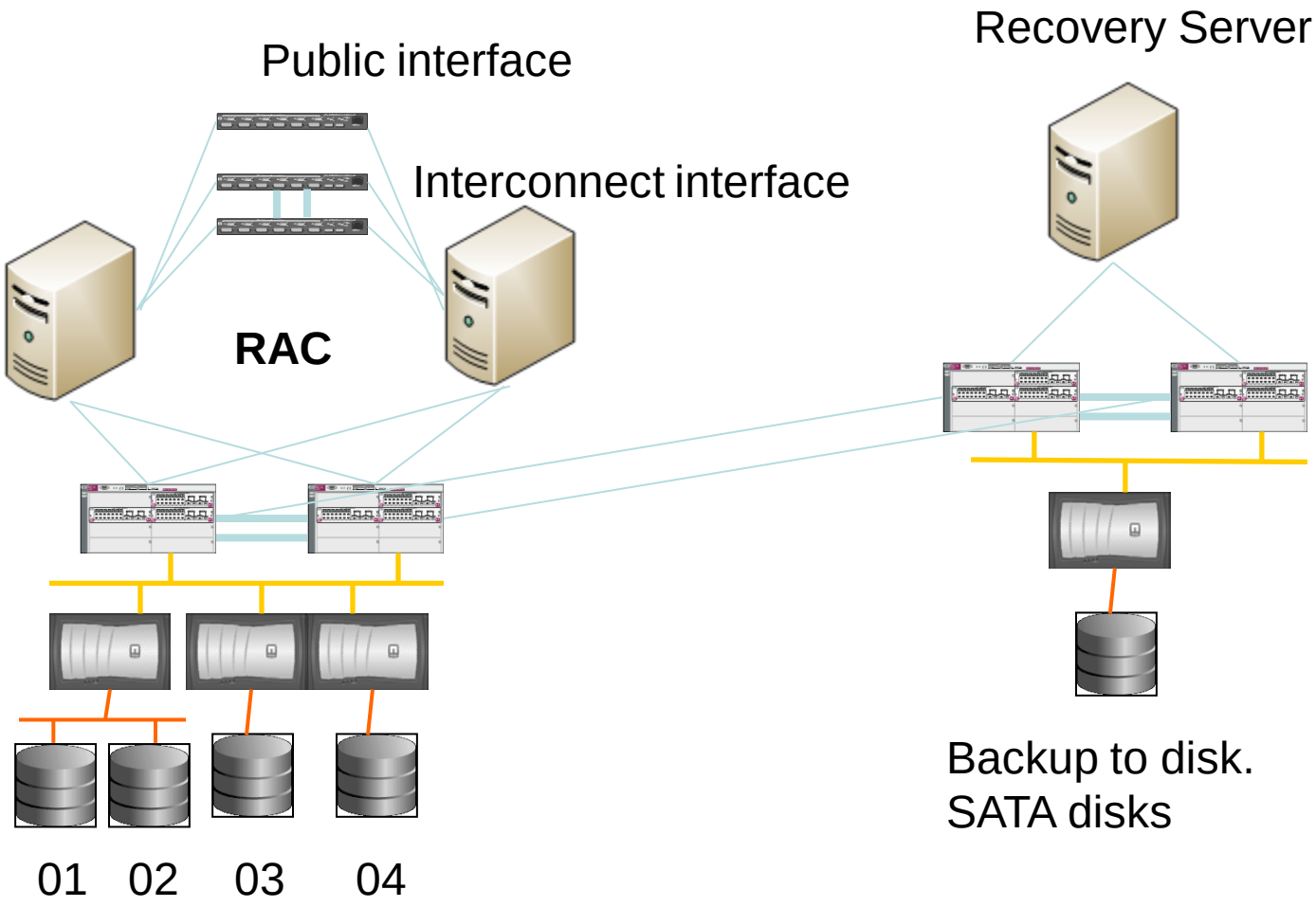
Metalink ID 433335.1

Use Case 1 cont. II

job_queue_processes is already 0

```
[oracle@recoveryserver WCERNP]$ cat db_start.sql
WHENEVER SQLERROR EXIT SQL.SQLCODE
set serveroutput on;
alter database open resetlogs;
create temporary tablespace RECOVTEMP tempfile '/ORA/dbs03/oradata/WCERNP/RECOV_def_temp.dbf' size 1000m;
alter database default temporary tablespace RECOVTEMP;
DECLARE
        CURSOR jobs_drop IS
        select owner,job_name from dba_scheduler_jobs where OWNER not in ('SYS','ORACLE_OCM') and enabled='TRUE';
        jobs_drop_rec jobs_drop%ROWTYPE;
BEGIN
        OPEN jobs_drop;
        LOOP
                FETCH jobs_drop INTO jobs_drop_rec;
                EXIT WHEN jobs_drop%NOTFOUND;
                dbms_output.put_line(q'#dbms_scheduler.drop_job (job_name => #' || jobs_drop_rec.owner || '#.#'
                                        || jobs_drop_rec.job_name || '#, force   => TRUE)#');
                dbms_scheduler.drop_job (job_name => '' || jobs_drop_rec.owner || '.' || jobs_drop_rec.job_name || '', force     => TRUE);
        END LOOP;
        CLOSE jobs_drop;
EXCEPTION
        when OTHERS
        THEN
         dbms_output.put_line(dbms_utility.format_error_backtrace);
         dbms_output.put_line(dbms_utility.format_error_stack);
END;
/
shutdown immediate;
exit;
```

Use Case 2: using a recovery as backup to disk



Use Case 2 cont. I

- Set-up

```
--Set point in time of your recovery, just a bit before the problem arises:
[oracle@recoveryserver etc]$ vi /ORA/dbs01/syscontrol/projects/recovery/etc/recoverydefAUDIT
# set time for restore and recovery, in this case 3 hours later than the actual time, string format is also possible: '01/26/2010 17:44:11'
$timeinterval='3';

--Generate scripts
[oracle@recoveryserver bin]$ . /ORA/dbs01/syscontrol/projects/recovery/bin/set11gR2
[oracle@recoveryserver bin]$ export ORACLE_SID=AUDITP
/ORA/dbs01/syscontrol/projects/recovery/bin/recovery_wrapper.sh -e db11g  -f /ORA/dbs01/syscontrol/projects/recovery/etc/recoverydefAUDIT -s AUDITP -t
```

Just create recovery scripts

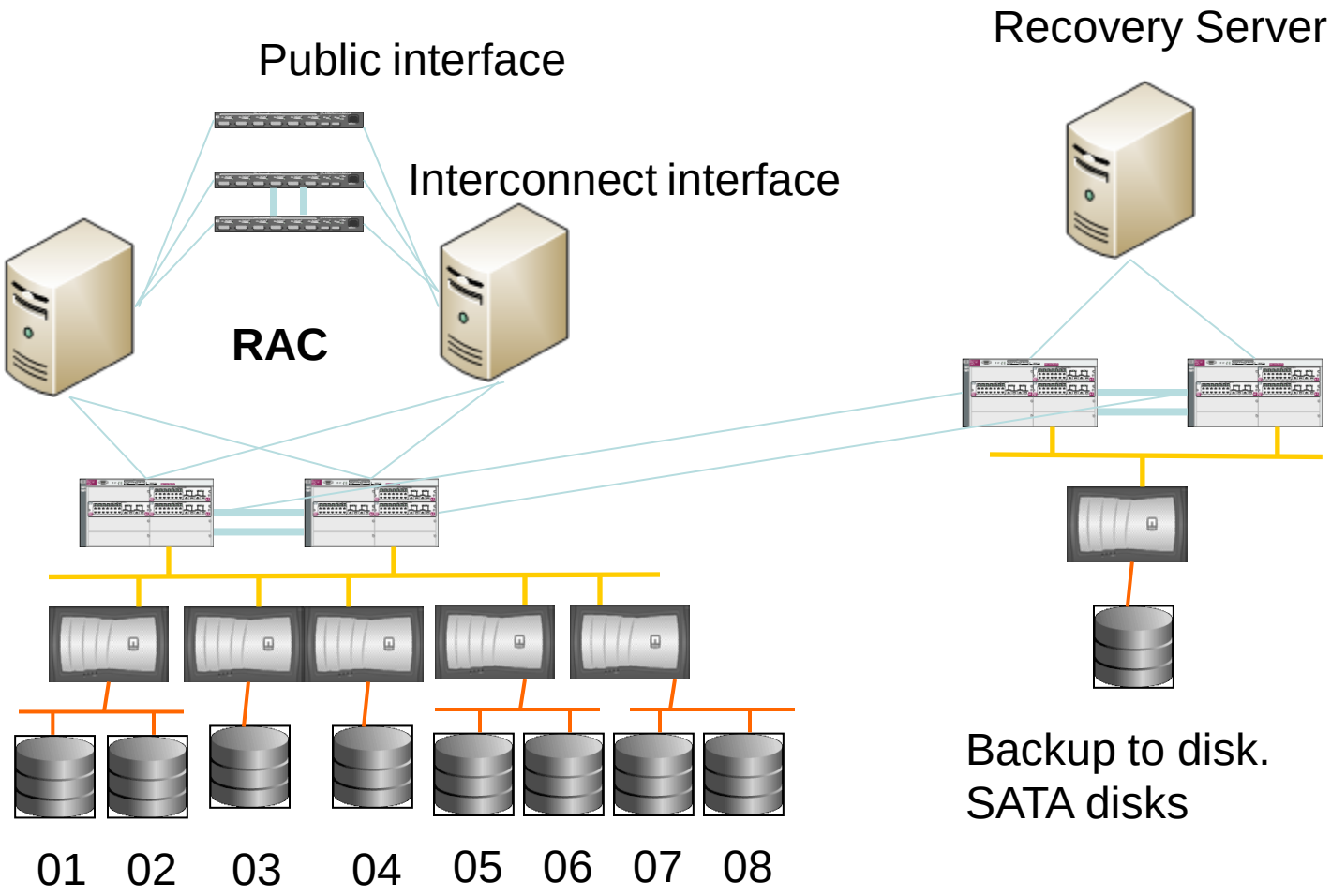
- Run restore/recover:

```
--Run
rman @contrl_restore.rcv
rman @db_restore.rcv
```

- Copy archived redo logs from production to recovery server if needed.
- Catalog recovered db on production and check it out!

```
--Catalog recovered database on production db:
catalog datafilecopy '/net/NFSserver/vol/apps_recovery/AUDITP/datafile/o1_mf_auditsto_5j8ybrb4_.dbf' level=0;
catalog datafilecopy '/net/NFSserver/vol/apps_recovery/AUDITP/datafile/o1_mf_sysaux_5j8ybrbn_.dbf' level=0;
catalog datafilecopy '/net/NFSserver/vol/apps_recovery/AUDITP/datafile/o1_mf_system_5j906td0_.dbf' level=0;
catalog datafilecopy '/net/NFSserver/vol/apps_recovery/AUDITP/datafile/o1_mf_undotbs1_5j906tcq_.dbf' level=0;
catalog datafilecopy '/net/NFSserver/vol/apps_recovery/AUDITP/datafile/o1_mf_users_5j8ybrbz_.dbf' level=0;
...

--Check
RMAN> run {
2> set until time "to_date('11/13/2009 22:36:15','mm/dd/yyyy hh24:mi:ss')";
3> restore database preview;
4> }
```

Use Case 4: Backup strategy validation



Use case 4 cont. I

- New scripts and templates introduced for VLDB backup
  - backup incremental level 0 … check logical database skip readonly format…;
  - RO tablespaces are backed up every night
- Retention policy changed time window to redundancy
- Validation possibilities:
  - Full restore: time/resource cost
  - Partial restore:

```
# 0 it's a full recovery, 1 it's a partial one. 0 it's defeault
$partial=1;

# It's either a number, the percentage of readonly tablespace to restore/recover, if > 60 all of them are treated or  a list of tablespaces
# seperated by a :
$readonlytbl=10;
```

Use Case 4 cont. II

- Restore/recover the READ WRITE part of the database

```
recoveryserver$ cat db_restore.rcv
connect target /
SET PARALLELMEDIARESTORE OFF;
run {
ALLOCATE CHANNEL c1 DEVICE TYPE sbt  PARMS 'BLKSIZE=1048576,ENV=(TDPO_OPTFILE=/opt/tivoli/tsm/client/oracle/bin64/tdpo_dbsrva206.opt)';
set until time "to_date('03/04/2010 07:31:14','mm/dd/yyyy hh24:mi:ss')";
restore database;
switch datafile all;
sql 'alter database disable block change tracking';
recover database parallel, delete archivelog;
}
exit;
```

- Before open db offline RO tablespace datafiles

```
recoveryserver$ cat db_start.sql
...
alter database datafile '/ORA/dbs05/ACCLOG/datafile/o1_mf_log_data_3xzvrvt9_.dbf' offline;
...
alter database open resetlogs;
....
```

- Once db open, restore selected RO tablespaces

```
connect target /
SET PARALLELMEDIARESTORE OFF;
run {
ALLOCATE CHANNEL c1 DEVICE TYPE sbt  PARMS 'BLKSIZE=1048576,ENV=(TDPO_OPTFILE=/opt/tivoli/tsm/client/oracle/bin64/tdpo_dbsrva206.opt)';
sql 'alter tablespace LOG_TEST_DATA_20080313 OFFLINE';
...
restore tablespace LOG_TEST_DATA_20080313,LOG_DATA_20090324,..;
...
sql 'alter tablespace LOG_TEST_DATA_20080313 ONLINE';
...
}
shutdown immediate;
exit;
```

Use Case 5: schema broken after application upgrade in a VLDB

- If schema is self-contained
- Kind of tablespace PITR but much simpler
- $tblpitr

```
#Set of tablespaces to restore/recover, split by :, in case of a partial database restore (Read Write tablespaces PITR)
# Need to add following tablespaces compulsory:
#select distinct tablespace_name from dba_segments where owner in ('SYS','SYSTEM');
# Due to Oracle 9i: Full Export Fails with ORA-1403 (No Data Found) on Exporting Cluster Definitions [ID 255724.1]
# Add XDB tablespace if present: select default_tablespace from dba_users where username like '%XDB%';
# Add tablespace you want to restore/recover if selfcontained i.e. TEAMMATE
# Use of both $tblpitr and $partial not allowed in this release
$tblpitr='SYSTEM:SYSAUX:UNDO01:UNDO02:TOOLS:TEAMMATE:XMLDB';
```

- expdp didn't work in some cases:

```
ksedmp: internal or fatal error
ORA-07445: exception encountered: core dump [ksxpcini()+504] [SIGSEGV] [Address not mapped to object] [0x0000010FC] [] []
Current SQL statement for this session:
BEGIN sys.kupc$que_int.create_queues(:1, :2, :3, :4); END;

ORA-7445 [Ksxpcini] By Datapump From Activated Standby. OCI-22303: type "SYS"."KU$_STATUS1020" not found [ID 388041.1]
alter system set aq_tm_processes=1;
```

Use case 5 cont. I

- db_restore.rcv

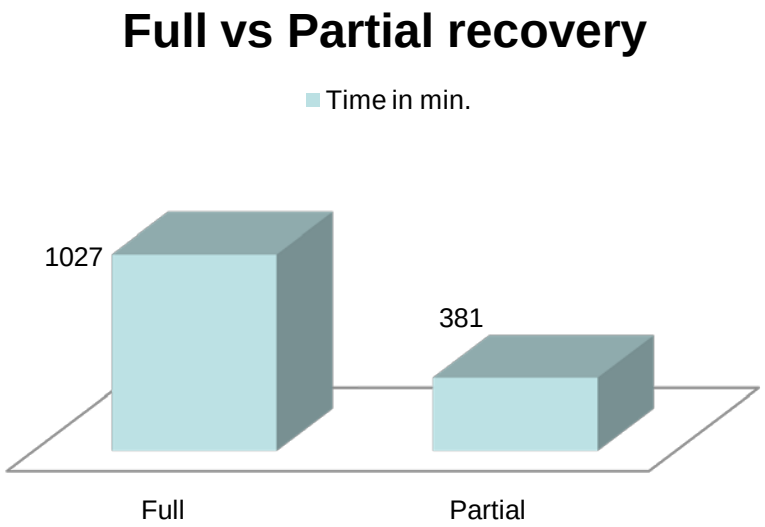
```
SET PARALLELMEDIARESTORE OFF;
run {
ALLOCATE CHANNEL c1 DEVICE TYPE sbt  PARMS 'BLKSIZE=1048576,ENV=(TDPO_OPTFILE=/opt/tivoli/tsm/client/oracle/bin64/tdpo_oradev10.opt)';
set until time "to_date('03/07/2010 08:29:55','mm/dd/yyyy hh24:mi:ss')";
restore database skip forever tablespace
'ACCELERATORS',
'ARSYS',
...
switch datafile all;
sql 'alter database disable block change tracking';
recover database skip forever tablespace
'ACCELERATORS',
'ARSYS',
....
'TSMMS_INDX', paralell delete archivelog;
}
exit;
```

- db_start.sql

```
WHENEVER SQLERROR EXIT SQL.SQLCODE
set serveroutput on;
alter database datafile '/ORA/dbs03/DEVDB10/datafile/o1_mf_ctx_5b1wc8ng_.dbf' offline;
alter database datafile '/ORA/dbs03/DEVDB10/datafile/o1_mf_accelera_5b1x0sln_.dbf' offline;
...
alter database open resetlogs;
...
```

Use case 5 cont. II

- Database in size:
  - Full: ~420Gb
  - Partial (recovering one schema): ~ 71Gb



Partial recovery was 63% faster than Full recovery

Conclusion

- More than 3000 recoveries performed so far
- Recovery platform shows useful to:
  - Can help to estimate real restore/recover time (SLA)
  - Validates regularly your tape backups
  - Helps to test your backup strategy
  - Helps to test your recovery strategy
- Helps in a number of use cases

  i.e. recover from logical user errors
- Maximize your recovery infrastructure -> take consistent exports
- Total isolation from production
- Easy installation
- Open source project SourceForge {http://sourceforge.net/projects/recoveryplat/}
  - It can be adapted to different tape vendor: netbackup, EMC network backup
  - Add new functionality

Thank You !