**Open Standby on NodeA as read only**

HEDWSTS example:

srvctl modify database -d HEDWSTS\_xhedwdbw2scl -startoption "READ ONLY"

srvctl stop database -d HEDWSTS\_xhedwdbw2scl

srvctl start database -d HEDWSTS\_xhedwdbw2scl

srvctl config database -d HEDWSTS\_xhedwdbw2scl

HEPYSTS example:

srvctl modify database -d HEPYSTS\_xhepydbw2scl -startoption "READ ONLY"

srvctl stop database -d HEPYSTS\_xhepydbw2scl

srvctl start database -d HEPYSTS\_xhepydbw2scl

srvctl config database -d HEPYSTS\_xhepydbw2scl

HEPYPRD (Middletown) example:

srvctl modify database -d HEPYPRD\_xhepydbm2pcl -startoption "READ ONLY"

srvctl stop database -d HEPYPRD\_xhepydbm2pcl

srvctl start database -d HEPYPRD\_xhepydbm2pcl

srvctl config database -d HEPYPRD\_xhepydbm2pcl

HEDWPRD (Middletown) example:

srvctl modify database -d HEDWPRD\_xhedwdbm2pcl -startoption "READ ONLY"

srvctl stop database -d HEDWPRD\_xhedwdbm2pcl

srvctl start database -d HEDWPRD\_xhedwdbm2pcl

srvctl config database -d HEDWPRD\_xhedwdbm2pcl

**Create UNDOTBS2 tablespace**

From Primary

HEDWSTS example:

create BIGFILE undo tablespace UNDOTBS2 datafile '+DATA\_01' size 72G

HEPYSTS example:

create BIGFILE undo tablespace UNDOTBS2 datafile '+DATA\_01' size 72G

**#Resize to match UNDOTBS1 size (do this after switchover and even after old Primary dropped. If space limited)**

HEPYPRD and HEDWPRD example:

create BIGFILE undo tablespace UNDOTBS2 datafile '+DATA\_01' size 30G;

**#Resize to match UNDOTBS1 size (do this after switchover and even after old Primary dropped. If space limited)**

From Standby (NodeA)

**#check to make sure it mapped to +DATA1 on NodeA (Standby)**

select FILE\_NAME from DBA\_DATA\_FILES WHERE tablespace\_name = 'UNDOTBS2';

**Create redo threads 2**

From Primary

SELECT group#, thread#, status, members FROM v$log;

SELECT \* FROM v$logfile;

**#Also check ASM REDO available space on Primary to accommodate new logs**

HEDWSTS example:

**#Since we do not have space to accommodate drop 3 groups first**

ALTER DATABASE DROP LOGFILE GROUP 1

/

ALTER DATABASE DROP LOGFILE GROUP 2

/

ALTER DATABASE DROP LOGFILE GROUP 3

/

**#Only create 3 GROUPS because of space shortage.**

BLOCKSIZE 4096

ALTER DATABASE ADD LOGFILE thread 2 GROUP 1 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 2 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 3 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

#ALTER DATABASE ADD LOGFILE thread 2 GROUP 4 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

#ALTER DATABASE ADD LOGFILE thread 2 GROUP 5 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

#ALTER DATABASE ADD LOGFILE thread 2 GROUP 6 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

HEPYSTS example:

BLOCKSIZE 4096

ALTER DATABASE ADD LOGFILE thread 2 GROUP 7 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 8 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 9 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 10 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 11 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 12 ('+REDOA\_01','+REDOB\_01') SIZE 600M;

alter database enable public thread 2;

From NodeA

**##To prevent error below turn off Redo apply**

ERROR at line 1:

ORA-01156: recovery or flashback in progress may need access to files

**Turn off log applied on Standby (NodeA)**

HEDWSTS example:

dgmgrl /

edit database 'HEDWSTS\_xhedwdbw2scl' set state=apply-off;

show database verbose 'HEDWSTS\_xhedwdbw2scl';

HEPYSTS example:

dgmgrl /

edit database 'HEPYSTS\_xhepydbw2scl' set state=apply-off;

show database verbose 'HEPYSTS\_xhepydbw2scl';

**## To prevent error below do following**

ORA-01275: Operation ADD LOGFILE is not allowed if standby file management is automatic.

sqlplus / as sysdba

alter system set standby\_file\_management='MANUAL' scope=memory;

exit

**# check what is already in place**

SELECT group#, thread#, status, members FROM v$log;

HEDWSTS example:

GROUP# THREAD# STATUS MEMBERS

---------- ---------- ------------------------------------------------ ----------

1 2 UNUSED 2

2 2 UNUSED 2

3 2 UNUSED 2

4 1 UNUSED 2

5 1 UNUSED 2

6 1 UNUSED 2

HEPYSTS example:

SYS@HEPYSTS:HEPYSTS] SQL> SELECT group#, thread#, status, members FROM v$log;

GROUP# THREAD# STATUS MEMBERS

--------- ---------- ------------------------------------------------ ----------

1 1 UNUSED 2

2 1 UNUSED 2

3 1 UNUSED 2

4 1 UNUSED 2

5 1 UNUSED 2

6 1 UNUSED 2

7 2 UNUSED 2

8 2 UNUSED 2

**## if for some reason logs with Thread 2 already exist, drop them**

ALTER DATABASE DROP LOGFILE GROUP 7

/

ALTER DATABASE DROP LOGFILE GROUP 8

/

# **Add regular new logs**

BLOCKSIZE 4096

ALTER DATABASE ADD LOGFILE thread 2 GROUP 7 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 8 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 9 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 10 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 11 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD LOGFILE thread 2 GROUP 12 ('+REDO1','+REDO2') SIZE 600M;

# **Add Standby logs**

select GROUP#, THREAD# from V$STANDBY\_LOG;

select \* from V$STANDBY\_LOG;

GROUP# THREAD#

---------- ----------

101 1

102 1

103 1

104 1

105 1

106 1

107 1

BLOCKSIZE 4096

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 108 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 109 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 110 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 111 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 112 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 113 ('+REDO1','+REDO2') SIZE 600M;

ALTER DATABASE ADD STANDBY LOGFILE thread 2 GROUP 114 ('+REDO1','+REDO2') SIZE 600M;

**## put this back to auto**

sqlplus / as sysdba

alter system set standby\_file\_management='AUTO' scope=memory;

exit

**## turn ON Redo apply**

HEDWSTS example:

dgmgrl /

edit database 'HEDWSTS\_xhedwdbw2scl' set state=apply-on;

show database verbose 'HEDWSTS\_xhedwdbw2scl';

HEPYSTS example:

dgmgrl /

edit database 'HEPYSTS\_xhepydbw2scl' set state=apply-on;

show database verbose 'HEPYSTS\_xhepydbw2scl';

**Add Oracle RAC One Node database and its instance-to-node mapping using SRVCTL**

HEDWSTS example:

ps -ef| grep pmon

srvctl stop database -d HEDWSTS\_xhedwdbw2scl

srvctl remove database -db HEDWSTS\_xhedwdbw2scl

srvctl add database -dbname HEDWSTS -db HEDWSTS\_xhedwdbw2scl -instance HEDWSTS -dbtype RACONENODE -server xhedwdbw2as,xhedwdbw2bs -oraclehome /oradb/app/oracle/product/19.22.0/db\_1 -spfile '+CRSCONFIG/HEDWSTS\_XHEDWDBW2SCL/PARAMETERFILE/spfile.258.1172571733'

srvctl start database -d HEDWSTS\_xhedwdbw2scl

srvctl config database -d HEDWSTS\_xhedwdbw2scl

**#Double check and modify if needed**

srvctl config database -d HEDWSTS\_xhedwdbw2scl

srvctl modify database -d HEDWSTS\_xhedwdbw2scl -role PHYSICAL\_STANDBY

srvctl modify database -d HEDWSTS\_xhedwdbw2scl -startoption "READ ONLY";

srvctl stop database -d HEDWSTS\_xhedwdbw2scl

srvctl start database -d HEDWSTS\_xhedwdbw2scl

**## to make sure DBNAME\_1 added by agent**

## add DBNAME\_2 as well manually

cat /etc/oratab

. oraenv

HEDWSTS\_1

sqlplus / as sysdba

alter system set cluster\_database=TRUE scope=spfile;

alter system set UNDO\_TABLESPACE = 'UNDOTBS1' sid='HEDWSTS\_1' scope=spfile

alter system set UNDO\_TABLESPACE = 'UNDOTBS2' sid='HEDWSTS\_2' scope=spfile;

exit

srvctl stop database -d HEDWSTS\_xhedwdbw2scl

srvctl start database -d HEDWSTS\_xhedwdbw2scl

**!! if any errors may need to change DGConnectIdentifier**

From Primary

dgmgrl /

show configuration

show database verbose 'HEDWSTS\_xhedwdbw2scl'

edit database 'HEDWSTS\_xhedwdbw2scl' set property DGConnectIdentifier = '(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=xhedwdbw2s-scan.aetna.com)(PORT=1521))(CONNECT\_DATA=(service\_name=HEDWSTS\_xhedwdbw2scl)))'

HEPYSTS example:

ps -ef| grep pmon

srvctl stop database -d HEPYSTS\_xhepydbw2scl

srvctl remove database -db HEPYSTS\_xhepydbw2scl

srvctl add database -dbname HEPYSTS -db HEPYSTS\_xhepydbw2scl -instance HEPYSTS -dbtype RACONENODE -server xhepydbw2as,xhepydbw2bs -oraclehome /oradb/app/oracle/product/19.22.0/db\_1 -spfile '+CRSCONFIG/HEPYSTS\_XHEPYDBW2SCL/PARAMETERFILE/spfile.257.1172661525'

srvctl start database -d HEPYSTS\_xhepydbw2scl

srvctl config database -d HEPYSTS\_xhepydbw2scl

**#Double check and modify if needed**

srvctl config database -d HEPYSTS\_xhepydbw2scl

srvctl modify database -d HEPYSTS\_xhepydbw2scl -role PHYSICAL\_STANDBY

srvctl modify database -d HEPYSTS\_xhepydbw2scl -startoption "READ ONLY";

srvctl stop database -d HEPYSTS\_xhepydbw2scl

srvctl start database -d HEPYSTS\_xhepydbw2scl

ps -ef| grep pmon

## to make sure DBNAME\_1 added by agent

## add DBNAME\_2 as well manually

vi /etc/oratab

HEPYSTS\_1:/oradb/app/oracle/product/19.22.0/db\_1:N

HEPYSTS\_2:/oradb/app/oracle/product/19.22.0/db\_1:N

. oraenv

HEPYSTS\_1

sqlplus / as sysdba

alter system set cluster\_database=TRUE scope=spfile;

alter system set UNDO\_TABLESPACE = 'UNDOTBS1' sid='HEPYSTS\_1' scope=spfile;

alter system set UNDO\_TABLESPACE = 'UNDOTBS2' sid='HEPYSTS\_2' scope=spfile;

exit

srvctl stop database -d HEPYSTS\_xhepydbw2scl

srvctl start database -d HEPYSTS\_xhepydbw2scl

ps -ef| grep pmon

dgmgrl /

show configuration

show database verbose 'HEPYSTS\_xhepydbw2scl'

**Local listener changes**

HEDWSTS example:

srvctl setenv database -d HEDWSTS\_xhedwdbw2scl -envs "TNS\_ADMIN=$TNS\_ADMIN"

srvctl getenv database -d HEDWSTS\_xhedwdbw2scl

TNS\_ADMIN=/oradb/app/oracle/product/19.22.0/db\_1/network/admin

add to tnsnames.ora on NodeA

local\_listener = (ADDRESS = (PROTOCOL = TCP)(HOST = xhedwdbw2as)(PORT = 1521))

add to tnsnames.ora on NodeB

local\_listener = (ADDRESS = (PROTOCOL = TCP)(HOST = xhedwdbw2bs)(PORT = 1521))

sqlplus / as sysdba

alter system set local\_listener='local\_listener' scope= BOTH;

exit

HEPYSTS example:

HEPYSTS\_1> srvctl setenv database -d HEPYSTS\_xhepydbw2scl -envs "TNS\_ADMIN=$TNS\_ADMIN"

xhepydbw2as.aetna.com (oracle) HEPYSTS\_1::/home/oracle

HEPYSTS\_1> srvctl getenv database -d HEPYSTS\_xhepydbw2scl

HEPYSTS\_xhepydbw2scl:

TNS\_ADMIN=/oradb/app/oracle/product/19.22.0/db\_1/network/admin

add to tnsnames.ora on NodeA

local\_listener = (ADDRESS = (PROTOCOL = TCP)(HOST = xhepydbw2as)(PORT = 1521))

add to tnsnames.ora on NodeB

local\_listener = (ADDRESS = (PROTOCOL = TCP)(HOST = xhepydbw2bs)(PORT = 1521))

sqlplus / as sysdba

alter system set local\_listener='local\_listener' scope= BOTH;

exit

**dg broker files relocation to ASM**

HEDWSTS example:

From Primary

DGMGRL> connect /

Connected to "HEDWSTS\_xhedwdbw21s"

Connected as SYSDG.

DGMGRL> show configuration;

Configuration - HEDWSTS

Protection Mode: MaxPerformance

Members:

HEDWSTS\_xhedwdbw21s - Primary database

HEDWSTS\_xhedwdbw2scl - Physical standby database

Fast-Start Failover: Disabled

Configuration Status:

SUCCESS (status updated 47 seconds ago)

DGMGRL> disable database 'HEDWSTS\_xhedwdbw2scl';

Disabled.

DGMGRL>

From Node A

[SYS@HEDWSTS:HEDWSTS\_1] SQL> alter system set dg\_broker\_start=false;

System altered.

[SYS@HEDWSTS:HEDWSTS\_1] SQL> alter system set dg\_broker\_config\_file1 = '+DATA1/HEDWSTS\_xhedwdbw2scl/DATAGUARDCONFIG/dr1HEDWSTS\_xhed

dbw2scl.dat' sid='\*';

System altered.

[SYS@HEDWSTS:HEDWSTS\_1] SQL> alter system set dg\_broker\_config\_file2 = '+DATA1/HEDWSTS\_xhedwdbw2scl/DATAGUARDCONFIG/dr2HEDWSTS\_xhed

dbw2scl.dat' sid='\*';

System altered.

[SYS@HEDWSTS:HEDWSTS\_1] SQL> alter system set dg\_broker\_start=true;

System altered.

[SYS@HEDWSTS:HEDWSTS\_1] SQL>

From Primary

DGMGRL> connect /

Connected to "HEDWSTS\_xhedwdbw21s"

Connected as SYSDG.

DGMGRL> show configuration;

Configuration - HEDWSTS

Protection Mode: MaxPerformance

Members:

HEDWSTS\_xhedwdbw21s - Primary database

HEDWSTS\_xhedwdbw2scl - Physical standby database (disabled)

ORA-16749: The member was disabled manually.

Fast-Start Failover: Disabled

Configuration Status:

SUCCESS (status updated 46 seconds ago)

DGMGRL> enable database 'HEDWSTS\_xhedwdbw2scl';

Enabled.

DGMGRL>

HEPYSTS example:

From Primary

dgmgrl /

Connected to "HEPYSTS\_xhepydbw21s"

Connected as SYSDG.

DGMGRL> show configuration;

Configuration - HEPYSTS

Protection Mode: MaxPerformance

Members:

HEPYSTS\_xhepydbw21s - Primary database

Error: ORA-16778: redo transport error for one or more members

HEPYSTS\_xhepydbw2scl - Physical standby database

Error: ORA-1034: ORACLE not available

Fast-Start Failover: Disabled

Configuration Status:

ERROR (status updated 47 seconds ago)

DGMGRL> disable database 'HEPYSTS\_xhepydbw2scl';

Disabled.

DGMGRL>

From NodeA

[SYS@HEDWSTS:HEPYSTS\_1] SQL> alter system set dg\_broker\_start=false;

System altered.

[SYS@HEDWSTS:HEPYSTS\_1] SQL> alter system set dg\_broker\_config\_file1 = '+DATA1/HEPYSTS\_XHEPYDBW2SCL/DATAGUARDCONFIG/dr1HEPYSTS\_xhepydbw2scl.dat' sid='\*';

System altered.

[SYS@HEDWSTS:HEPYSTS\_1] SQL> alter system set dg\_broker\_config\_file2 = '+DATA1/HEPYSTS\_XHEPYDBW2SCL/DATAGUARDCONFIG/dr2HEPYSTS\_xhepydbw2scl.dat' sid='\*';

System altered.

[SYS@HEDWSTS:HEPYSTS\_1] SQL> alter system set dg\_broker\_start=true;

System altered.

[SYS@HEDWSTS:HEDWSTS\_1] SQL>

From Primary

dgmgrl /

Connected to "HEPYSTS\_xhepydbw21s"

Connected as SYSDG.

DGMGRL> show configuration;

Configuration - HEPYSTS

Protection Mode: MaxPerformance

Members:

HEPYSTS\_xhepydbw21s - Primary database

Error: ORA-16778: redo transport error for one or more members

HEPYSTS\_xhepydbw2scl - Physical standby database

Error: ORA-1034: ORACLE not available

Fast-Start Failover: Disabled

Configuration Status:

SUCCESS (status updated 46 seconds ago)

DGMGRL> enable database 'HEPYSTS\_xhepydbw2scl';

Enabled.

DGMGRL>

**Listener port changes steps and service configuration**

See **Listener\_and\_Service.doc** for more details.