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| |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | **How to Replace a Corrupt OCR Mirror File (Device/File Needs To Be Synchronized With The Other Device) (Doc ID 317628.1)** | [To Bottom](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=507225942123130&id=317628.1&_adf.ctrl-state=cmg9s00jn_21)  [To Bottom](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=507225942123130&id=317628.1&_adf.ctrl-state=cmg9s00jn_21) |  |        |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **In this Document**   |  |  | | --- | --- | |  | [Goal](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=507225942123130&id=317628.1&_adf.ctrl-state=cmg9s00jn_21#GOAL) | |  | [Solution](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=507225942123130&id=317628.1&_adf.ctrl-state=cmg9s00jn_21#FIX) | |  |  |  | | --- | --- | |  | [References](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=507225942123130&id=317628.1&_adf.ctrl-state=cmg9s00jn_21#REF) |     **Applies to:**  Oracle Database - Enterprise Edition - Version 10.2.0.1 to 11.2.0.3 [Release 10.2 to 11.2]  Information in this document applies to any platform.  **Goal**  From Oracle Database 10g Release 2 (10.2) Oracle Clusterware provides the creation of a mirrored Oracle Cluster Registry (OCR) file, enhancing cluster reliability. From 11.2 onwards, upto 4 OCR mirror can be created.   The ocrconfig command, used to perform OCR configuration operations, has the new option to add, replace and remove the OCR file and its mirror copy:   ocrconfig -replace ocr|ocrmirror [<filename>]   In this article we will show how to use the good OCR copy to replace the corrupt mirror copy and how to workaround the potential PROT-22 error during that operation.  **Solution**  1. Start with both OCR copies in the correct state:  $ ls -l /ora10g/app/oracle/oradata/V10  lrwxrwxrwx  1 oracle  dba  14 Jul 25 14:58 CrsVotingDisk -> /dev/raw/raw29  lrwxrwxrwx  1 oracle  dba  14 Jul 25 14:58 OracleClusterRegistry -> /dev/raw/raw28  lrwxrwxrwx  1 oracle  dba  14 Jul 25 14:58 OracleClusterRegistry2 -> /dev/raw/raw30  $ ocrcheck  Status of Oracle Cluster Registry is as follows :    Version                  :          2    Total space (kbytes)     :     200692    Used space (kbytes)      :       3752    Available space (kbytes) :     196940    ID                       :  495185602    Device/File Name         : /ora10g/app/oracle/oradata/V10/OracleClusterRegistry                               Device/File integrity check succeeded    Device/File Name         : /ora10g/app/oracle/oradata/V10/OracleClusterRegistry2                               Device/File integrity check succeeded    Cluster registry integrity check succeeded  2. Corrupt the mirror copy for testing/demo purpose:  $ dd if=/dev/zero of=OracleClusterRegistry2 bs=1024k count=200  In reality, one might observe that the timestamp has not been modified for sometime compare with others:  root@ranode1:/root # ls -l /u0\*/storage/\* -rw-r----- 1 root dba 272756736 Apr 10 19:19 /u01/storage/ocr1           <<<<<<<<<  -rw-r----- 1 root dba 272756736 May 14 15:14 /u02/storage/ocr2  -rw-r----- 1 root dba 272756736 May 14 15:14 /u03/storage/ocr3  3. Verify that ocrcheck reports the problem – mirror copy needs to be synchronized with the other device:  $ ocrcheck  Status of Oracle Cluster Registry is as follows :    Version                  :          2     Total space (kbytes)     :     200692     Used space (kbytes)      :       3752     Available space (kbytes) :     196940     ID                       :  495185602     Device/File Name         : /ora10g/app/oracle/oradata/V10/OracleClusterRegistry                               Device/File integrity check succeeded     Device/File Name         : /ora10g/app/oracle/oradata/V10/OracleClusterRegistry2                               **Device/File needs to be synchronized with the other device**  Similar messages also reported for above example:  **root@racnode1:/root # /grid/11.2.0.3/bin/ocrcheck  Status of Oracle Cluster Registry is as follows :           Version                                   : 3           Total space (kbytes)              : 262120            Used space (kbytes)            : 3412            Available space (kbytes)     : 258708            ID                                              : 733779010            Device/File Name                 : /u01/storage/ocr1                                                              Device/File needs to be synchronized with the other device              <<<<<<<<<<<            Device/File Name                  : /u02/storage/ocr2                                                               Device/File integrity check succeeded            Device/File Name                  : /u03/storage/ocr3                                                               Device/File integrity check succeeded            Device/File not configured            Device/File not configured            Cluster registry integrity check succeeded            Logical corruption check succeeded**  4. Correct the problem using ocrconfig with -replace ocrmirror option, as root user:  # ocrconfig -replace ocrmirror /ora10g/app/oracle/oradata/V10/OracleClusterRegistry2  PROT-22: Storage too small  This fails with "PROT-22: Storage too small" error.  The problem is due to an Oracle bug where this operation requires the OCR mirror partition/file to be larger than the original by up to 128MB.  The bug has been fixed in the 10.2.0.2 patchset.   To work around this error, increase the partition/filesize.  If that is the partition (as it was in our case), resize it by 128MB (e.g. with fdisk), reboot all nodes in the cluster (so that all nodes recognize the new partition size) and then perform the replace. After the reboot, as root user issue:  # ocrconfig -replace ocrmirror /ora10g/app/oracle/oradata/V10/OracleClusterRegistry2   And check for the OCR status:  $ ocrcheck  Status of Oracle Cluster Registry is as follows :    Version                  :          2    Total space (kbytes)     :     200692    Used space (kbytes)      :       3752    Available space (kbytes) :     196940    ID                       :  495185602    Device/File Name         : /ora10g/app/oracle/oradata/V10/OracleClusterRegistry                               Device/File integrity check succeeded    Device/File Name         : /ora10g/app/oracle/oradata/V10/OracleClusterRegistry2                               Device/File integrity check succeeded            Cluster registry integrity check succeeded  Now both OCR files in the correct state.  5. For 11.2 onwards, one can also use ocrconfig -delete and ocrconfig -add option to recreate the OCR mirror as root user, for example:  **# ocrconfig -delete /u01/storage/ocr1  Add the ocr1 back using # ocrconfig -add /u01/storage/ocr1**    **References**  [NOTE:428681.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=317628.1&id=428681.1) - OCR / Vote disk Maintenance Operations: (ADD/REMOVE/REPLACE/MOVE) | | |