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| **Oracle Clusterware (CRS/GI) - ASM - Database Version Compatibility (Doc ID 337737.1)** | [IMG_256](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=425184818998600%26id=337737.1%26_adf.ctrl-state=jh7zjhme7_58%20/o%20To%20Bottom)  [To Bottom](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=425184818998600&id=337737.1&_adf.ctrl-state=jh7zjhme7_58 \\o To Bottom) | IMG_257 |

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| **In this Document**   |  |  | | --- | --- | |  | [Purpose](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=425184818998600&id=337737.1&_adf.ctrl-state=jh7zjhme7_58 \\l PURPOSE) |  |  |  | | --- | --- | |  | [Scope](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=425184818998600&id=337737.1&_adf.ctrl-state=jh7zjhme7_58 \\l SCOPE) |  |  |  | | --- | --- | |  | [Details](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=425184818998600&id=337737.1&_adf.ctrl-state=jh7zjhme7_58 \\l BODYTEXT) |  |  |  | | --- | --- | |  | [References](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=425184818998600&id=337737.1&_adf.ctrl-state=jh7zjhme7_58 \\l REF) |   IMG_260  **APPLIES TO:**  Oracle Database - Enterprise Edition - Version 10.1.0.2 and later  Information in this document applies to any platform.  Oracle Server Enterprise Edition    **PURPOSE**  You can have different release combinations of Oracle Clusterware, ASM and database software running on your cluster. However all cluster nodes must be running the same clusterware release, the only exception is during the short time period of the clusterware upgrade. The intent of the note is to show the version compatibility (support matrix) between Oracle Clusterware, ASM and database releases.    **SCOPE**  The intended audience for this note is system administrators and DBAs  **DETAILS**  The following table shows you the compatibility between various versions:     |  |  |  |  | | --- | --- | --- | --- | | **Clusterware** | **ASM** | **DB** | **Certified** | | 12.2 | 12.2 | 12.2 | Y | | 12.2 | 12.2 | 12.1 | Y | | 12.2 | 12.2 | 11.2(a) | Y | | 12.1 | 12.1 | 12.1 | Y | | 12.1 | 12.1 | 11.2(a) | Y | | 12.1 | 12.1 | 11.1(a) | Y | | 12.1 | 12.1 | 10.2(a) | Y | | 11.2 | 11.2(b) | 11.2 | Y | | 11.2 | 11.2(b) | 11.1 | Y | | 11.2 | 11.2(b) | 10.2 | Y | | 11.1 | 11.1 | 11.1(c) | Y | | 11.1 | 11.1 | 10.2 | Y | | 11.1 | 11.1 | 10.1 | Y | | 11.1 | 10.2 | 11.1 | Y | | 11.1 | 10.2 | 10.2 | Y | | 11.1 | 10.2 | 10.1 | Y | | 11.1 | 10.1(d) | 11.1 | Y | | 11.1 | 10.1(d) | 10.2 | Y | | 11.1 | 10.1 | 10.1 | Y | | 10.2 | 10.2 | 10.2 | Y | | 10.2 | 10.2 | 10.1 | Y | | 10.2 | 10.1(d) | 10.2 | Y | | 10.2 | 10.1 | 10.1 | Y | | 10.1 | 10.1 | 10.1 | Y |     (a) Pre-12.1 database instances require an ASM instance resident on the same node as the database instance. Pre-12.1 database instances cannot leverage the implicit HA of Flex ASM.  (b) The Matrix is valid after the (rolling) upgrade has been completed. During the upgrade you may use an older ASM version.  (c) Linux specific: see [Note 781628.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=337737.1&id=781628.1)  (d) The ASM version needs to be at least 10.1.0.3   1. The Oracle Grid Infrastructure (GI) /Clusterware (CRS) version must be of the highest version down to the 4th digit in the possible combinations at all times. This means, you have to upgrade Oracle Grid Infrastructure / Clusterware first. 2. Oracle Grid Infrastructure/Clusterware must be installed into its own ORACLE\_HOME (also referenced as CRS\_HOME) 3. You can have multiple ORACLE\_HOMEs for the database releases. 4. Starting with Oracle Database 10g Release 2, ASM and database can be installed in separate homes. Since Oracle Database 11g Release 2 ASM is part of the Grid Infrastructure. 5. When mixing software versions ASM functionality reverts to the functionality of the earliest release in use. For example, a 10.1.0.3 RDBMS instance working with a 10.2 ASM instance does not take advantage of new features in ASM. Conversely, 10.2 RDBMS instance working with a 10.1 ASM instance, will not take advantage of any of the new 10.2 features of ASM. 6. You can use different users for Oracle Grid Infrastructure/Clusterware and database homes as long as they belong to the same primary group. 7. Database users do not need access to the OCR and voting disk.   12.1: Further details on using older database versions with Grid Infrastructure can be found in the  [Grid Infrastructure Installation Guide](http://docs.oracle.com/database/121/CWLIN/postinst.htm /l CWLIN339 /o Using Earlier Oracle Database Releases with Oracle Grid Infrastructure /t _blank)  12.2: Further details on using older database versions with Grid Infrastructure can be found in the  [Grid Infrastructure Installation Guide](https://docs.oracle.com/database/122/CWLIN/using-earlier-oracle-database-releases-with-oracle-grid-infrastructure.htm)    ASM diskgroup compatibility is documented in  the book "Automatic Storage Management Administrator's Guide"        **REFERENCES**  [NOTE:781628.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=337737.1&id=781628.1) - ORA-07445[\_\_lwp\_kill()+48]/[\_INTEL\_NEW\_MEMCPY] When Running 11.1.0.6 Database With 11.1.0.7 Oracle Clusterware  [NOTE:363254.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=337737.1&id=363254.1) - Applying one-off Oracle Clusterware patches in a mixed version home environment |