Oracle® Database Appliance

Release Notes

Release 12.2.1.2.0 for Linux x86-64
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Oracle Database Appliance Release Notes, Release 12.2.1.2.0 for Linux x86-64

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Preface

Oracle Database Appliance is an optimized, prebuilt database system that is easy to deploy, operate, and manage. By integrating hardware and software, Oracle Database Appliance eliminates the complexities of nonintegrated, manually assembled solutions. Oracle Database Appliance reduces the installation and software deployment times from weeks or months to just a few hours while preventing configuration and setup errors that often result in suboptimal, hard-to-manage database environments.

Audience

This guide is intended for anyone who configures, maintains, or uses Oracle Database Appliance:

- System administrators
- Network administrators
- Database administrators
- Application administrators and users

This book does not include information about Oracle Database architecture, tools, management, or application development that is covered in the main body of Oracle Documentation, unless the information provided is specific to Oracle Database Appliance. Users of Oracle Database Appliance software are expected to have the same skills as users of any other Linux-based Oracle Database installations.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Documents

For more information about Oracle Database Appliance, go to http://www.oracle.com/goto/oda/docs and click the appropriate release. The following documents are published in the Oracle Database Appliance online documentation library:

- *Oracle Database Appliance Release Notes*
- *Oracle Database Appliance Licensing Information User Manual*
- *Oracle Database Appliance Security Guide*
- *Oracle Database Appliance Accessibility Guide*
- *Oracle Database Appliance X7-2 Deployment and User's Guide*
- *Oracle Database Appliance X6-2-HA Deployment and User's Guide*
- *Oracle Database Appliance X6-2S/M/L Deployment and User's Guide*
- *Oracle Database Appliance Getting Started Guide*
- *Oracle Database Appliance Administration and Reference Guide*
- Oracle Database Appliance Setup Posters and Booklets (a full-size printed copy ships with Oracle Database Appliance)
- *Oracle Database Appliance Owner's Guide*
- *Oracle Database Appliance Service Manual*
- *Oracle Database Appliance Series Safety and Compliance Guide*

The following My Oracle Support Notes contain additional information:

- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1
- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=2144642.1

The following documents are published in the Oracle Database Appliance Plug-ins for Oracle Enterprise Manager online documentation library at http://docs.oracle.com/cd/E70264_01/index.htm:

- *Oracle Database Appliance Plug-in for Oracle Enterprise Manager 13c User's Guide*
- *Oracle Database Appliance Plug-in for Oracle Enterprise Manager 12c User's Guide*

For more information about using Oracle Database, go to http://docs.oracle.com/en/database/ and select the database release from the menu. See the following documents in the Oracle Database online documentation library:

- *Oracle Database Security Guide*
- *Oracle Database Administrator's Guide*
- *Oracle Database SQL Language Quick Reference*
- *Oracle Database Backup and Recovery User's Guide*
- *Oracle Database Backup and Recovery Reference*
- *Oracle Database Utilities*

- *Oracle Automatic Storage Management Administrator's Guide*

For more information about Oracle Integrated Lights Out Manager 3.2, see https://docs.oracle.com/cd/E37444_01/.

For more details about other Oracle products that are mentioned in Oracle Database Appliance documentation, see the Oracle Documentation home page at `http://docs.oracle.com`.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action or terms defined in the text.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
# prompt	The pound (#) prompt indicates a command that is run as the root user.

1

Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA

Learn what's new and known issues with Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA.

- What's New for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA
  Release 12.2.1.2.0 includes new features, the latest Oracle Database release updates, and Oracle Linux security updates for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA systems.
- Component Versions for Oracle Database Appliance X7-2 Models
  The matrix displays the component versions available for Oracle Database Appliance for X7-2S, X7-2M, and X7-2-HA in release 12.2.1.2.0.
- Issues Deploying Oracle Database Appliance X7-2 Models
  Review the following known issues before deploying Oracle Database Appliance 7-2S, X7-2M, and X7-2-HA bare metal platforms:
- Issues Updating Oracle Database Appliance X7-2 Models
  The following are known issues updating Oracle Database Appliance 7-2S, X7-2M, and X7-2-HA bare metal platforms:
- Issues Managing Oracle Database Appliance X7-2 Models
  The following are known issues managing Oracle Database Appliance 7-2S, X7-2M, and X7-2-HA bare metal platforms:

1.1 What's New for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA

Release 12.2.1.2.0 includes new features, the latest Oracle Database release updates, and Oracle Linux security updates for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA systems.

The following features are available for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA:

- Supported Oracle Database Releases:
  - Oracle Database 12.2.0.1 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)
- Integrated Backup and Recovery through the command-line interface
- Ability to use the Web Console to apply Oracle Database Appliance patch bundles efficiently.
- After you upgrade to 12.2.1.2 DCS Server (GI), you will no longer need to copy a patch to both nodes. When the DCS Server version is 12.2.1.2, you only needed to run the command `odacli update-repository` from the first node. The

patch bundle files are copied from one node to another and updates the repository on all nodes.

- New commands:
  - odacli list-osconfigurations: displays the current HugePage and memlock values and suggests values based on the total available space
  - odacli update-osconfigurations: updates the HugePage and memlock values with the suggested values.
  - Backup and recovery commands
- Integrated VLAN capability on Oracle Database Appliance X7-2 bare metal models
- Supported Virtualization Options:
  - Support for Oracle Linux Kernel-based Virtual Machine (KVM) virtualization on Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA bare metal platform. KVM virtualization does not offer hard partitioning.
  - Support for Oracle VM Server (OVM or Xen) virtualization on Oracle Database Appliance X7-2-HA Virtualized Platform. You must reimage the system to deploy the virtualized platform. The Oracle Database Appliance X7-2-HA virtualized platform uses the oakcli command-line interface.

GI Clone, Database RDBMS Clone, and ISO Image Patches

Oracle Database Appliance patches are available in My Oracle Support. When selecting a patch, ensure that you select the 12.2.1.2.0 release from the drop down box.

- **Oracle Database Appliance 12.2.1.1.0 GI Clone for ODACLI/DCS stack**: Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Grid Infrastructure components for deployment on an Oracle Database Appliance in the "shipped from factory" state, or an Oracle Database Appliance that has been re-imaged using the OS ISO Image. This patch is for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Bare Metal platforms.
- **12.2.0.1 Database**: Use the Oracle 12.2.0.1.170814 RDBMS Software Clone file to create new 12.2.0.1 database homes.
- **12.1.0.2 Database**: Use the Oracle 12.1.0.2.171017 RDBMS Software Clone file to create new 12.1.0.2 database homes.
- **11.2.0.4 Database**: Use the Oracle 11.2.0.4.170814 RDBMS Software Clone file to create new 11.2.0.4 database homes.
- **(Optional) ISO Image**: Use to perform a bare metal restore (re-image) of the operating system. Bare metal is a non-virtualized Oracle Database Appliance configuration. Use only when you must re-image the operating system.

> **Note:**
>
> Re-imaging a server using the Oracle Database Appliance ISO image installs the new OS on the local disks on that server. After re-imaging, use the Oracle Database Appliance GI Clone for ODACLI/DCS stack to deploy Oracle Database Appliance (bare metal platform.) The bundle contains the latest Grid Infrastructure components (ILOM, BIOS, Controller, Expander, disk firmware, and other components.)

GI Clone, Database RDBMS Clone, and ISO Image Patches for a Virtualized Platform

To deploy a virtualized platform on Oracle Database Appliance X7-2-HA, use the VM ISO Image (DOM0) patch to re-image the server with an OS that includes virtualization capabilities. After re-imaging, use the VM Template (ODA_BASE) to deploy ODA_Base for the virtualized platform.

> **Note:**
>
> When you re-image using the VM ISO Image, the system uses the oakcli stack, including the Configurator to deploy the appliance and the command-line interface to manage the appliance.

Oracle Database Appliance patches are available in My Oracle Support. When selecting a patch, ensure that you select the 12.2.1.2.0 release from the drop down box.

- **VM Template (ODA_BASE)**: Use to deploy ODA_Base for the virtualized platform. The bundle contains the latest Grid Infrastructure components for deployment.
- **12.2.0.1 Database**: Use the Oracle 12.2.0.1.170814 RDBMS Software Clone file to create new 12.2.0.1 database homes.
- **12.1.0.2 Database**: Use the Oracle 12.1.0.2.171017 RDBMS Software Clone file to create new 12.1.0.2 database homes.
- **11.2.0.4 Database**: Use the Oracle 11.2.0.4.170814 RDBMS Software Clone file to create new 11.2.0.4 database homes.
- **VM ISO Image (DOM0)**: Use to reimage Oracle Database Appliance as a Virtualized Platform.

Related Topics

- Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches
  Download the patches available for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.
- Oracle Database Appliance X7-2-HA Virtualized Platform Patches
  Download the patches available for a virtualized Oracle Database Appliance X7-2-HA platform in My Oracle Support, get information on the prerequisites, and how to apply the patches.

1.2 Component Versions for Oracle Database Appliance X7-2 Models

The matrix displays the component versions available for Oracle Database Appliance for X7-2S, X7-2M, and X7-2-HA in release 12.2.1.2.0.

Table 1-1 Component Versions for X7-2-HA, X7-2M, and X7-2S in 12.2.1.2.0

Component Name	X7-2-HA	X7-2S and X7-2M	X7-2-HA Virtualized Platform
Controller	13.00.00.00	QDV1RD09	13.00.00.00
Expander	304	Not applicable	306
SSD	A087 For the HDD/SSD option: A374/A087	A087	A087 For the HDD/SSD option: A374/A122
NVMe (firmware version)	Not applicable	QDV1RD09	Not applicable
OS Disk (SSD firmware version)	0112	0112	0112
ILOM (Oracle Integrated Lights Out Manager)	4.0.0.22.r120818	4.0.0.22.r120818	4.0.0.22.r120818
BIOS	41017100	41017100	41017100
IPMI (Intelligent Platform Management Interface)	1.8.12.4	1.8.12.4	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64	2.4.1.0.4-1.el6.x86_64	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0	12.2.1.2.0	12.2.1.2.0
Oracle Linux	6.8	6.8	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64	4.1.12-94.4.1.el6uek.x86_64	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	Not applicable	Not applicable	3.4.3
GI_HOME	12.1.0.2.171017	12.1.0.2.171017	12.1.0.2.171017
DB_HOME	12.1.0.2.171017	12.1.0.2.171017	12.1.0.2.171017
Oracle Auto Service Request (Oracle ASR)	5.7.6	5.7.6	5.7.6

1.3 Issues Deploying Oracle Database Appliance X7-2 Models

Review the following known issues before deploying Oracle Database Appliance 7-2S, X7-2M, and X7-2-HA bare metal platforms:

- Apply the server bundle before provisioning
- Error after running the cleanup script
- After re-imaging with 12.2.1.2.0 virtualized ISO, the network setup is incorrect

> **Note:**
>
> An Oracle Database Appliance X7-2-HA Virtualized Platform uses the oakcli stack. See Issues with Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1 for other issues deploying, updating, and managing a virtualized platform.

1.4 Issues Updating Oracle Database Appliance X7-2 Models

The following are known issues updating Oracle Database Appliance 7-2S, X7-2M, and X7-2-HA bare metal platforms:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Error: patch zip does not exist
- Do not use the local patching option on a virtualized platform

> **Note:**
>
> An Oracle Database Appliance X7-2-HA Virtualized Platform uses the oakcli stack. See Issues with Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1 for issues updating a virtualized platform.

1.5 Issues Managing Oracle Database Appliance X7-2 Models

The following are known issues managing Oracle Database Appliance 7-2S, X7-2M, and X7-2-HA bare metal platforms:

- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- Unable to patch dbhome
- Error CRS-01019: The OCR Service Exited
- CRSD is unresponsive when patching Oracle Database 12.1 ASM
- Upgrading an SE database results in an error: Fail to run datapatch
- The DB Console option is disabled when creating an 11.2.0.4 database

> **Note:**
>
> An Oracle Database Appliance X7-2-HA Virtualized Platform uses the oakcli stack. See Issues with Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1 for issues that impact a virtualized platform.

2

Oracle Database Appliance X6-2-HA

Learn what's new and known issues with Oracle Database Appliance X6-2-HA.

- What's New in Oracle Database Appliance X6-2-HA
  Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X6-2-HA.
- Component Versions for Oracle Database Appliance X6-2-HA
  The matrix displays the component versions available for Oracle Database Appliance X6-2-HA.
- Issues Deploying Oracle Database Appliance X6-2-HA
  There are no known issues deploying Oracle Database Appliance X6-2-HA.
- Issues Updating Oracle Database Appliance X6-2-HA
  The following are known issues updating Oracle Database Appliance X6-2-HA:
- Issues Managing Oracle Database Appliance X6-2-HA
  The following are known issues managing Oracle Database Appliance X6-2-HA:

2.1 What's New in Oracle Database Appliance X6-2-HA

Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X6-2-HA.

- Beginning with Oracle Database 12c release 1 (12.1.0.2), the default database location is Oracle Automatic Storage Management (Oracle ASM). When creating a database, you can use the `-storage acfs` parameter to create an Oracle Database in Oracle ACFS.
- You no longer need to copy the patch to both nodes.
- The following Oracle Grid Infrastructure and Oracle RDBMS updates are in this patch release:
  - Oracle Database 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)

Oracle Database Appliance Patch Bundle

Release 12.2.1.2.0 does not include a patch bundle for Oracle Database Appliance X6-2-HA.

Related Topics

- Oracle Database Appliance X6-2-HA Patches
  Download the patches available for Oracle Database Appliance X6-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.

2.2 Component Versions for Oracle Database Appliance X6-2-HA

The matrix displays the component versions available for Oracle Database Appliance X6-2-HA.

Table 2-1 Component Versions for Oracle Database Appliance X6-2-HA in 12.2.1.2.0

Component Name	Version
Controller_INT	4.650.00-7176
Controller_Ext	13.00.00.00
Expander	0291
SSD_LOCAL	A29A
SSD_SHARED	A29A
ILOM (Oracle Integrated Lights Out Manager)	4.0.0.22.r120818
BIOS	41017100
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0
Oracle Linux	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	3.4.3
Dom0 Kernel	4.1.12-94.4.1.el6uek.x86_64
GI_HOME	12.1.0.2.171017
DB_HOME	12.1.0.2.171017
Oracle Auto Service Request (Oracle ASR)	5.7.6

2.3 Issues Deploying Oracle Database Appliance X6-2-HA

There are no known issues deploying Oracle Database Appliance X6-2-HA.

2.4 Issues Updating Oracle Database Appliance X6-2-HA

The following are known issues updating Oracle Database Appliance X6-2-HA:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Server patch does not update the kernel version
- Server patch does not set an active version of Oracle Clusterware
- Do not use the local patching option on a virtualized platform
- Virtual Machine Task Blocked
- Unrecognized token messages appear in /var/log/messages

2.5 Issues Managing Oracle Database Appliance X6-2-HA

The following are known issues managing Oracle Database Appliance X6-2-HA:

3

Oracle Database Appliance X6-2S, X6-2M, and X6-2L

Learn more about what's new and known issues with Oracle Database Appliance X6-2S, X6-2M, and X6-2L.

- What's New for Oracle Database Appliance X6-2S, X6-2M, and X6-2L
  Release 12.2.1.2.0 includes new features, the latest Oracle Database release updates, and Oracle Linux security updates for Oracle Database Appliance X6-2S, X6-2M, and X6-2L.
- Component Versions for X6-2S, X6-2M, and X6-2L Models
  The matrix display the component versions available for Oracle Database Appliance for X6-2S, X6-2M, and X6-2L.
- Issues Deploying Oracle Database Appliance X6-2S, X6-2M, or X6-2L
  Review known issues before deploying Oracle Database Appliance X6-2S, X6-2M, or X6-2L.
- Issues Updating Oracle Database Appliance X6-2S, X6-2M, and X6-2L
  The following is an issue updating Oracle Database Appliance X6-2S, X6-2M or X6-2L:
- Issues Managing Oracle Database Appliance X6-2S, X6-2M, and X6-2L
  The following are known issues managing Oracle Database Appliance X6-2S, X6-2M, and X6-2L:

3.1 What's New for Oracle Database Appliance X6-2S, X6-2M, and X6-2L

Release 12.2.1.2.0 includes new features, the latest Oracle Database release updates, and Oracle Linux security updates for Oracle Database Appliance X6-2S, X6-2M, and X6-2L.

The following features are available for Oracle Database Appliance X6-2S, X6-2M, and X6-2L:

- Supported Oracle Database Releases:
  - Oracle Database 12.2.0.1 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)
- Integrated Backup and Recovery through the command-line interface
- Ability to use the Web Console to apply Oracle Database Appliance patch bundles efficiently.
- After you upgrade to 12.2.1.2 DCS Server (GI), you will no longer need to copy a patch to both nodes. When the DCS Server version is 12.2.1.2, you only needed to run the command `odacli update-repository` from the first node. The

patch bundle files are copied from one node to another and updates the repository on all nodes.

- New commands:
  - odacli list-osconfigurations: displays the current HugePage and memlock values and suggests values based on the total available space
  - odacli update-osconfigurations: updates the HugePage and memlock values with the suggested values.
  - Backup and recovery commands

Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patch Bundle

Use patch 26433721 to update Oracle Database Appliance to release 12.2.1.2.0. The patch is available in My Oracle Support and consists of two zip files. You must concatenate the two zip files before updating the repository.

Related Topics

- Oracle Database Appliance X6-2S/M/L Patches
  Download the patches available for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in My Oracle Support, get information on the prerequisites, and how to apply the patches.
- Updating Oracle Database Appliance Software

3.2 Component Versions for X6-2S, X6-2M, and X6-2L Models

The matrix display the component versions available for Oracle Database Appliance for X6-2S, X6-2M, and X6-2L.

Table 3-1 Component Versions for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in 12.2.1.2.0

Component Name	Version
Controller	4.650.00-7176
NVMe (firmware version)	KPYA7R3Q
OS Disk	0112
ILOM (Oracle Integrated Lights Out Manager)	4.0.0.22.r120818
BIOS	X6-2S, X6-2M: 41017100 X6-2L: 38070200
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0
Oracle Linux	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64
GI_HOME	12.1.0.2.171017
DB_HOME	12.1.0.2.171017

Table 3-1 (Cont.) Component Versions for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in 12.2.1.2.0

Component Name	Version
Oracle Auto Service Request (Oracle ASR)	5.7.6

3.3 Issues Deploying Oracle Database Appliance X6-2S, X6-2M, or X6-2L

Review known issues before deploying Oracle Database Appliance X6-2S, X6-2M, or X6-2L.

-

3.4 Issues Updating Oracle Database Appliance X6-2S, X6-2M, and X6-2L

The following is an issue updating Oracle Database Appliance X6-2S, X6-2M or X6-2L:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Error: patch zip does not exist
- Patch zip files require concatenation

3.5 Issues Managing Oracle Database Appliance X6-2S, X6-2M, and X6-2L

The following are known issues managing Oracle Database Appliance X6-2S, X6-2M, and X6-2L:

- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- Unable to patch dbhome
- Upgrading an SE database results in an error: Fail to run datapatch
- After replacing a disk, the disk is not added to Oracle ASM
- Error CRS-01019: The OCR Service Exited
- The DB Console option is disabled when creating an 11.2.0.4 database

4

Oracle Database Appliance X5-2

Learn what's new and known issues with Oracle Database Appliance X5-2.

- What's New for Oracle Database Appliance X5-2
  Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X5-2.
- Component Versions for Oracle Database Appliance X5-2
  The matrix displays the component versions available for Oracle Database Appliance X5-2.
- Issues Deploying Oracle Database Appliance X5-2
  Review known issues before deploying Oracle Database Appliance X5-2.
- Issues Updating Oracle Database Appliance X5-2
  The following are known issues after updating Oracle Database Appliance X5-2:
- Issues Managing Oracle Database Appliance X5-2
  The following are known issues managing Oracle Database Appliance X5-2:

4.1 What's New for Oracle Database Appliance X5-2

Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X5-2.

- Beginning with Oracle Database 12c release 1 (12.1.0.2), the default database location is Oracle Automatic Storage Management (Oracle ASM). When creating a database, you can use the `-storage acfs` parameter to create an Oracle Database in Oracle ACFS.
- You no longer need to copy the patch to both nodes.
- The following Oracle Grid Infrastructure and Oracle RDBMS updates are in this patch release:
  - Oracle Database 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)

Oracle Database Appliance Bundle Patch

Use patch 27119652 to update Oracle Database Appliance to release 12.2.1.2.0. The patch is available in My Oracle Support.

Related Topics

- Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches
  Download the patches available for Oracle Database Appliance X5-2, X4-2, X3-2, and V1 in My Oracle Support, get information on the prerequisites, and how to apply the patches.

4.2 Component Versions for Oracle Database Appliance X5-2

The matrix displays the component versions available for Oracle Database Appliance X5-2.

Table 4-1 Component Versions for Oracle Database Appliance X5-2 for 12.2.1.2.0

Component Name	Version
Controller_INT	4.650.00-7176
Controller_Ext	13.00.00.00
Expander	0018
SSD_LOCAL	n/a
SSD_SHARED	A29A
HDD_LOCAL	A7EO
HDD_SHARED	A3A0, PAG1
ILOM (Oracle Integrated Lights Out Manager)	4.0.0.22.r120818
BIOS	30110000
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0
Oracle Linux	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	3.4.3
Dom0 Kernel	4.1.12-94.4.1.el6uek.x86_64
GI_HOME	12.1.0.2.171017
DB_HOME	12.1.0.2.171017
Oracle Auto Service Request (Oracle ASR)	5.7.6

4.3 Issues Deploying Oracle Database Appliance X5-2

Review known issues before deploying Oracle Database Appliance X5-2.

- FLASH disk group is not mounted when patching or provisioning the server

4.4 Issues Updating Oracle Database Appliance X5-2

The following are known issues after updating Oracle Database Appliance X5-2:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Server patch does not update the kernel version
- Server patch does not set an active version of Oracle Clusterware

- FLASH disk group is not mounted when patching or provisioning the server
- Do not use the local patching option on a virtualized platform
- Virtual Machine Task Blocked
- Unrecognized token messages appear in /var/log/messages

4.5 Issues Managing Oracle Database Appliance X5-2

The following are known issues managing Oracle Database Appliance X5-2:

- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- Unable to patch dbhome from 12.1.0.2.170814 to 12.2.0.1.171017
- Error CRS-01019: The OCR Service Exited
- CRSD is unresponsive when patching Oracle Database 12.1 ASM
- Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2
- ODA_BASE is in read-only mode or cannot start
- OAKERR:7007 error encountered while starting VM
- The DB Console option is disabled when creating an 11.2.0.4 database

5

Oracle Database Appliance X4-2

Learn what's new and known issues with Oracle Database Appliance X4-2.

- What's New in Oracle Database Appliance X4-2
  Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X4-2.
- Component Versions for Oracle Database Appliance X4-2
  The matrix displays the component versions available for Oracle Database Appliance X4-2.
- Issues Deploying Oracle Database Appliance X4-2
  There are no known issues deploying Oracle Database Appliance X4-2.
- Issues Updating Oracle Database Appliance X4-2
  The following are known issues after updating Oracle Database Appliance X4-2.
- Issues Managing Oracle Database Appliance X4-2
  The following are known issues managing Oracle Database Appliance X4-2:

5.1 What's New in Oracle Database Appliance X4-2

Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X4-2.

- Beginning with Oracle Database 12c release 1 (12.1.0.2), the default database location is Oracle Automatic Storage Management (Oracle ASM). When creating a database, you can use the `-storage acfs` parameter to create an Oracle Database in Oracle ACFS.
- You no longer need to copy the patch to both nodes.
- The following Oracle Grid Infrastructure and Oracle RDBMS updates are in this patch release:
  - Oracle Database 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)

Oracle Database Appliance Patch Bundle

Use patch 27119652 to update Oracle Database Appliance to release 12.2.1.2.0. The patch is available in My Oracle Support.

Related Topics

- Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches
  Download the patches available for Oracle Database Appliance X5-2, X4-2, X3-2, and V1 in My Oracle Support, get information on the prerequisites, and how to apply the patches.

5.2 Component Versions for Oracle Database Appliance X4-2

The matrix displays the component versions available for Oracle Database Appliance X4-2.

Table 5-1 Component Versions for Oracle Database Appliance X4-2 in 12.2.1.2.0

Component Name	Version
Controller_INT	11.05.03.00
Controller_Ext	11.05.03.00
Expander	0018
SSD_LOCAL	n/a
SSD_SHARED	944A
HDD_LOCAL	A7EO
HDD_SHARED	A7EO
ILOM (Oracle Integrated Lights Out Manager)	3.2.9.22 es r115963
BIOS	25040100
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0
Oracle Linux	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	3.4.3
Dom0 Kernel	4.1.12-94.4.1.el6uek.x86_64
GI_HOME	12.1.0.2.171017
DB_HOME	12.1.0.2.171017
Oracle Auto Service Request (Oracle ASR)	5.7.6

5.3 Issues Deploying Oracle Database Appliance X4-2

There are no known issues deploying Oracle Database Appliance X4-2.

5.4 Issues Updating Oracle Database Appliance X4-2

The following are known issues after updating Oracle Database Appliance X4-2.

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform
- Virtual Machine Task Blocked

5.5 Issues Managing Oracle Database Appliance X4-2

The following are known issues managing Oracle Database Appliance X4-2:

- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- Unable to patch dbhome from 12.1.0.2.170814 to 12.2.0.1.171017
- CRSD is unresponsive when patching Oracle Database 12.1 ASM
- Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2
- ODA_BASE is in read-only mode or cannot start
- OAKERR:7007 error encountered while starting VM
- The DB Console option is disabled when creating an 11.2.0.4 database

6

Oracle Database Appliance X3-2

Learn what's new and known issues for Oracle Database Appliance X3-2.

- What's New for Oracle Database Appliance X3-2
  Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X3-2.
- Component Versions for Oracle Database Appliance X3-2
  The matrix displays the component versions available for Oracle Database Appliance X3-2.
- Issues Deploying Oracle Database Appliance X3-2
  There are no known issues deploying Oracle Database Appliance X3-2.
- Issues Updating Oracle Database Appliance X3-2
  The following are known issues after updating Oracle Database Appliance X3-2.
- Issues Managing Oracle Database Appliance X3-2
  The following are known issues managing Oracle Database Appliance X3-2:

6.1 What's New for Oracle Database Appliance X3-2

Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance X3-2.

- Beginning with Oracle Database 12c release 1 (12.1.0.2), the default database location is Oracle Automatic Storage Management (Oracle ASM). When creating a database, you can use the `-storage acfs` parameter to create an Oracle Database in Oracle ACFS.
- You no longer need to copy the patch to both nodes.
- The following Oracle Grid Infrastructure and Oracle RDBMS updates are in this patch release:
  - Oracle Database 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)

Oracle Database Appliance Patch Bundle

Use patch 27119652 to update Oracle Database Appliance to release 12.2.1.2.0. The patch is available in My Oracle Support.

Related Topics

- Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches
  Download the patches available for Oracle Database Appliance X5-2, X4-2, X3-2, and V1 in My Oracle Support, get information on the prerequisites, and how to apply the patches.

6.2 Component Versions for Oracle Database Appliance X3-2

The matrix displays the component versions available for Oracle Database Appliance X3-2.

Table 6-1 Component Versions for Oracle Database Appliance X3-2 in 12.2.1.2.0

Component Name	Version
Controller_INT	11.05.03.00
Controller_Ext	11.05.03.00
Expander	0018
SSD_LOCAL	n/a
SSD_SHARED	944A
HDD_LOCAL	A4C0
HDD_SHARED	A7EO
ILOM (Oracle Integrated Lights Out Manager)	3.2.9.22 es r115963
BIOS	17120100
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0
Oracle Linux	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	3.4.3
Dom0 Kernel	4.1.12-94.4.1.el6uek.x86_64
GI_HOME	12.1.0.2.171017
DB_HOME	12.1.0.2.171017
Oracle Auto Service Request (Oracle ASR)	5.7.6

6.3 Issues Deploying Oracle Database Appliance X3-2

There are no known issues deploying Oracle Database Appliance X3-2.

6.4 Issues Updating Oracle Database Appliance X3-2

The following are known issues after updating Oracle Database Appliance X3-2.

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform
- Virtual Machine Task Blocked

6.5 Issues Managing Oracle Database Appliance X3-2

The following are known issues managing Oracle Database Appliance X3-2:

- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- Unable to patch dbhome from 12.1.0.2.170814 to 12.2.0.1.171017
- CRSD is unresponsive when patching Oracle Database 12.1 ASM
- Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2
- ORA-28000 error when creating a database with the DB Console
- ODA_BASE is in read-only mode or cannot start
- OAKERR:7007 error encountered while starting VM
- The DB Console option is disabled when creating an 11.2.0.4 database

7

Oracle Database Appliance V1

Learn what's new and known issues for Oracle Database Appliance V1.

- What's New for Oracle Database Appliance V1
  Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance V1.
- Component Versions for Oracle Database Appliance V1
  The matrix displays the component versions available for Oracle Database Appliance V1 in the 12.2.1.2.0 release.
- Issues Deploying Oracle Database Appliance V1
  There are no known issues deploying Oracle Database Appliance.
- Issues Updating Oracle Database Appliance V1
  The following are known issues after updating Oracle Database Appliance V1.
- Issues Managing Oracle Database Appliance V1
  The following are known issues managing Oracle Database Appliance V1:

7.1 What's New for Oracle Database Appliance V1

Release 12.2.1.2.0 includes support for Oracle Database 12.2.0.1, and Oracle Database Appliance RDBMS clone files for Oracle Database Appliance V1.

- Beginning with Oracle Database 12c release 1 (12.1.0.2), the default database location is Oracle Automatic Storage Management (Oracle ASM). When creating a database, you can use the `-storage acfs` parameter to create an Oracle Database in Oracle ACFS.
- You no longer need to copy the patch to both nodes.
- The following Oracle Grid Infrastructure and Oracle RDBMS updates are in this patch release:
  - Oracle Database 12.2.0.1.170814 Release Update (RU)
  - Oracle Database 12.1.0.2.170814 Bundle Patch (BP)
  - Oracle Database 11.2.0.4.170814 Patch Set Update (PSU)

Oracle Database Appliance Patch Bundle

Use patch 27119652 to update Oracle Database Appliance to release 12.2.1.2.0. The patch is available in My Oracle Support.

7.2 Component Versions for Oracle Database Appliance V1

The matrix displays the component versions available for Oracle Database Appliance V1 in the 12.2.1.2.0 release.

Table 7-1 Component Versions for Oracle Database Appliance V1 in 12.2.1.2.0

Component Name	Version
Controller_INT	11.05.03.00
Controller_Ext	n/a
Expander	0342
SSD_LOCAL	n/a
SSD_SHARED	E12B
HDD_LOCAL	SF04, SA03
HDD_SHARED	0B25, A880
ILOM (Oracle Integrated Lights Out Manager)	3.0.16.22.f r110119
BIOS	12010311
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.4-1.el6.x86_64
OAK	12.2.1.2.0
Oracle Linux	6.8
Kernel	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	3.4.3
Dom0 Kernel	4.1.12-94.4.1.el6uek.x86_64
GI_HOME	12.1.0.2.171017
DB_HOME	12.1.0.2.171017
Oracle Auto Service Request (Oracle ASR)	5.7.6

7.3 Issues Deploying Oracle Database Appliance V1

There are no known issues deploying Oracle Database Appliance.

7.4 Issues Updating Oracle Database Appliance V1

The following are known issues after updating Oracle Database Appliance V1.

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform
- Virtual Machine Task Blocked

7.5 Issues Managing Oracle Database Appliance V1

The following are known issues managing Oracle Database Appliance V1:

- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- Unable to patch dbhome from 12.1.0.2.170814 to 12.2.0.1.171017
- Error CRS-01019: The OCR Service Exited
- CRSD is unresponsive when patching Oracle Database 12.1 ASM
- Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2
- ODA_BASE is in read-only mode or cannot start
- OAKERR:7007 error encountered while starting VM
- The DB Console option is disabled when creating an 11.2.0.4 database

A

Oracle Database Appliance Patches

Get information about Oracle Database Appliance patches, the download locations, and how to apply the patches.

Topics:

- Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches
  Download the patches available for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.
- Oracle Database Appliance X7-2-HA Virtualized Platform Patches
  Download the patches available for a virtualized Oracle Database Appliance X7-2-HA platform in My Oracle Support, get information on the prerequisites, and how to apply the patches.
- Oracle Database Appliance X6-2-HA Patches
  Download the patches available for Oracle Database Appliance X6-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.
- Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches
  Download the patches available for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in My Oracle Support, get information on the prerequisites, and how to apply the patches.
- Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches
  Download the patches available for Oracle Database Appliance X5-2, X4-2, X3-2, and V1 in My Oracle Support, get information on the prerequisites, and how to apply the patches.

A.1 Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches

Download the patches available for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.

When downloading a patch from My Oracle Support, select 12.2.1.2.0 from the release list.

Table A-1 Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Release 12.2.1.2.0

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for X7 ODACLI/DCS stack	27141226	Use this patch bundle to update the server before deploying Oracle Database Appliance. The patch updates the Oracle Database Appliance server and DCS agent. You can use the patch with the initial deployment and update to the latest release. This patch is used on Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Bare Metal models.	• Updating Oracle Database Appliance Software • Downloading Oracle Database Appliance Software
Oracle Database Appliance GI Clone for ODACLI/DCS stack	27119393	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Grid Infrastructure (GI) database components for deployment on an Oracle Database Appliance in the "shipped from factory" state, or an Oracle Database Appliance that has been re-imaged using the OS ISO Image. This patch is for Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Bare Metal.	• Updating the Patch Repository • Copying the Oracle Database Appliance GI and DB Software • Deploying a Single Node Bare Metal Platform • Deploying a Multi-Node Bare Metal Platform
Oracle Database Appliance RDBMS Clone 12.2.0.1.170814 for ODACLI/DCS stack	27119402	Use to create 12.2.0.1.170814 database homes for the ODACLI/DCS stack.	• Updating the Patch Repository • Creating a Database Home
Oracle Database Appliance RDBMS Clone 12.1.0.2.170814 for ODACLI/DCS stack	23494992 Select release 12.2.1.2.0	Use to create new 12.1.0.2.170814 database homes for the ODACLI/DCS stack.	• Updating the Patch Repository • Creating a Database Home

Table A-1 (Cont.) Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Release 12.2.1.2.0

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 11.2.0.4.170814 for ODACLI/DCS stack	23494997 Select release 12.2.1.2.0	Use to create new 11.2.0.4.170814 database homes for the ODACLI/DCS stack.	• Updating the Patch Repository • Creating a Database Home
(Optional) Oracle Database Appliance ISO Image for X7-2S, X7-2M	23530609 From the drop-down list, select 12.2.1.2.0	Use the ISO image only when you must re-image the operating system to perform a bare metal restore (re-image) of the operating system. Re-imaging a server installs the new OS on the local disks on that server. Bare metal is a non-virtualized Oracle Database Appliance configuration. This patch is for Oracle Database Appliance X7-2S and X7-2M.	• Performing a Bare Metal Restore
(Optional) Oracle Database Appliance ISO Image for X7-2-HA	12999313 From the drop-down list, select 12.2.1.2.0	Use the ISO image only when you must re-image the operating system to perform a bare metal restore (re-image) of the operating system. Re-imaging a server installs the new OS on the local disks on that server. Bare metal is a non-virtualized Oracle Database Appliance configuration. This patch is for Oracle Database Appliance X7-2-HA Bare Metal.	• Performing a Bare Metal Restore

A.2 Oracle Database Appliance X7-2-HA Virtualized Platform Patches

Download the patches available for a virtualized Oracle Database Appliance X7-2-HA platform in My Oracle Support, get information on the prerequisites, and how to apply the patches.

When downloading a patch from My Oracle Support, select 12.2.1.2.0 from the release list.

> **Note:**
>
> The patches in the table are only applicable to an Oracle Database Appliance X7-2-HA Virtualized Platform.

Table A-2 Oracle Database Appliance X7-2-HA Patches

Patch Type	Patch Number	Description	Resources
VM ISO Image (DOM0)	16186163 From the drop-down list, select 12.2.1.2.0	Use to reimage Oracle Database Appliance as a Virtualized Platform.	• Creating an Oracle Database Appliance Virtualized Platform • Installing a Virtualized OS ISO Image
VM Template (ODA_BASE)	16186172 From the drop-down list, select 12.2.1.2.0	Use to deploy ODA_Base for the virtualized platform. Includes the GI + Database clone files for deployment. Before deploying the VM Template, reimage the system with the Oracle Database Appliance Virtualized Platform ISO (patch 16186163.)	• Creating an Oracle Database Appliance Virtualized Platform • Installing the Virtualized Platform Template and Deploying the Appliance
RDBMS Clone file for 12.2.0.1.170814 Release Update (RU)	27449599	Use to create new 12.2.0.1.170814 database homes.	• Downloading an RDBMS Clone File
RDBMS Clone file for 12.1.0.2.170814 Bundle Patch (BP)	19520042	Use to create new 12.1.0.2.170814 database homes.	• Downloading an RDBMS Clone File
RDBMS Clone file for 11.2.0.4.170814 Patch Set Update (PSU)	17770873	Use to create new 11.2.0.4.170814 database homes.	• Downloading an RDBMS Clone File

Related Topics

- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1

A.3 Oracle Database Appliance X6-2-HA Patches

Download the patches available for Oracle Database Appliance X6-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.

When downloading a patch from My Oracle Support, select 12.2.1.2.0 from the release list.

> **Note:**
>
> If you have Oracle Database Appliance 12.1.2.11, 12.1.2.10, 12.1.2.9, or 12.1.2.8 with Oracle Database 12.1, review the following before updating:
>
> - If the database uses Oracle Automatic Storage Management (Oracle ASM), then you must upgrade Oracle Database Appliance to version 12.1.2.12 and upgrade your databases to 12.1.0.2.170814 before upgrading to Oracle Database Appliance 12.2.1.1 or 12.2.1.2.
> - If the database uses Oracle Automatic Storage Management Cluster File System (Oracle ACFS), then you can skip upgrading to version 12.1.2.12 and upgrade to Oracle Database Appliance 12.2.1.1 or 12.2.1.2.

Table A-3 Oracle Database Appliance X6-2-HA Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Patch Bundle for 12.2.1.2.0	27119652	Use to patch, or update, the Oracle Database Appliance server, storage, and database components.	• Installing the Oracle Database Appliance Patch Bundle

Table A-3 (Cont.) Oracle Database Appliance X6-2-HA Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance End-User Bundle with GI+Database Clone	12978712 From the drop-down list, select 12.2.1.2.0	Use to perform an initial deployment of the Oracle Database Appliance. The bundle contains the latest Grid Infrastructure and RDBMS components for deployment on an Oracle Database Appliance in the "shipped from factory" state, or an Oracle Database Appliance that has been reimaged using the OS ISO Image. If Oracle Database Appliance is already deployed, use the Oracle Database Appliance patch bundle to update to the latest release.	• Deploying Oracle Software on Oracle Database Appliance • Deploying Bare Metal Platforms on Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 12.2.1.2.0	Use to reimage Oracle Database Appliance as a Virtualized Platform.	• Deploying Oracle Software on Oracle Database Appliance • Deploying Virtualized Platform Software • Installing a Virtualized OS ISO Image
VM Template (ODA_BASE)	16186172 From the drop-down list, select 12.2.1.2.0	Use to deploy ODA_Base for the virtualized platform. Includes the GI + Database clone files for deployment. Before deploying the VM Template, reimage the system with the Oracle Database Appliance Virtualized Platform ISO (patch 16186163.)	• Deploying Oracle Software on Oracle Database Appliance • Deploying Virtualized Platform Software • Installing the Virtualized Platform Template

Table A-3 (Cont.) Oracle Database Appliance X6-2-HA Patches

Patch Type	Patch Number	Description	Resources
RDBMS Clone file for 12.2.0.1	27449599	Use to create a 12.1.0.2.170814 database home.	• Downloading an RDBMS Clone File • Creating a Database Home
RDBMS Clone file for 12.1.0.2	19520042	Use to create a 12.1.0.2.170814 database home.	• Downloading an RDBMS Clone File
RDBMS Clone file for 11.2.0.4	17770873	Use to create a 11.2.0.4.170814 database home.	• Downloading an RDBMS Clone File
ISO Image	12999313 From the drop-down list, select 12.2.1.2.0	Re-imaging a server installs the new OS on the local disks on that server. Use only when you must reimage the operating system to perform a bare metal restore (reimage) of the operating system. Bare metal is a non-virtualized Oracle Database Appliance configuration. You must apply the GI Clone patch using the `--server` option to update ILOM, BIOS, Controller, Expander, disk firmware, and other components after reimaging.	• Re-imaging Oracle Database Appliance

A.4 Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches

Download the patches available for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in My Oracle Support, get information on the prerequisites, and how to apply the patches.

When downloading a patch from My Oracle Support, select 12.2.1.2.0 from the release list.

Note:

If you have Oracle Database X6-2S or X6-2M on version 12.1.2.7, you must apply patch 24391174 before applying patch 27141226.

Note:

If you have Oracle Database Appliance 12.1.2.11, 12.1.2.10, 12.1.2.9, or 12.1.2.8 with Oracle Database 12.1, review the following before updating:

- If the database uses Oracle Automatic Storage Management (Oracle ASM), then you must upgrade Oracle Database Appliance to version 12.1.2.12 and upgrade your databases to 12.1.0.2.170814 before upgrading to Oracle Database Appliance 12.2.1.1 or 12.2.1.2.
- If the database uses Oracle Automatic Storage Management Cluster File System (Oracle ACFS), then you can skip upgrading to version 12.1.2.12 and upgrade to Oracle Database Appliance 12.2.1.1 or 12.2.1.2.

Table A-4 Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for X6 ODACLI/DCS stack	27141226	Use this patch bundle to update to the latest release. The patch updates the Oracle Database Appliance server and DCS agent. Use this patch before deploying Oracle Database Appliance to update to the latest version. The patch includes the following Oracle Database updates and patches: • 12.2.0.1.171017 Release Update (RU) • 12.1.0.2.171017 Bundle Patch (BP) • 11.2.0.4.171017 Patch Set Update (PSU) This patch is used on Oracle Database Appliance X6-2S, X6-2M, and X6-2-HA Bare Metal models.	• Updating Oracle Database Appliance Software • Updating the Patch Repository

Table A-4 (Cont.) Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance X6-2 S and X6-2 M 12.1.2.8 DCSIMAGE	24391174	If you have Oracle Database X6-2S or X6-2M on release 12.1.2.7, then you must apply this patch before updating to a higher version. To check the version, use the command `# rpm -qa |grep dcs-agent`	Updating Oracle Database Appliance Software
Oracle Database Appliance patch bundle for 12.2.1.2.0	26433721	Use this patch bundle to update to the latest release after Oracle Database Appliance is deployed. The patch updates the Oracle Database Appliance server, storage, and database components.	Updating Oracle Database Appliance Software
GI Clone	27119393 From the list, select 12.2.1.2.0	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Grid Infrastructure and RDBMS components for deployment on an Oracle Database Appliance in the "shipped from factory" state, or an Oracle Database Appliance that has been re-imaged using the OS ISO Image. If Oracle Database Appliance is already deployed, use the Oracle Database Appliance patch bundle to update to the latest release.	Deploying Oracle Database Appliance
RDBMS Clone 12.2.0.1 for ODACLI/DCS stack	27119402	Use to create 12.2.0.1.170814 database homes for the ODACLI/DCS stack.	Downloading an RDBMS Clone File
RDBMS Clone files for Oracle Database 12.1.0.2 for ODACLI/DCS stack	23494992	Use to create new 12.1.0.2.170814 database homes for the ODACLI/DCS stack.	Downloading an RDBMS Clone File

Table A-4 (Cont.) Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches

Patch Type	Patch Number	Description	Resources
RDBMS Clone files for Oracle Database 11.2.0.4 for ODACLI/DCS stack	23494997	Use to create new 11.2.0.4.170814 database homes for the ODACLI/DCS stack.	Downloading an RDBMS Clone File
(Optional) ISO Image	23530609 From the drop-down list, select 12.2.1.2.0	Use the ISO image only when you must re-image the operating system to perform a bare metal restore (re-image) of the operating system. Re-imaging a server installs the new OS on the local disks on that server. Bare metal is a non-virtualized Oracle Database Appliance configuration.	Performing a Bare Metal Restore

Related Topics

- Issues Updating Oracle Database Appliance X6-2S, X6-2M, and X6-2L
  The following is an issue updating Oracle Database Appliance X6-2S, X6-2M or X6-2L:

A.5 Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches

Download the patches available for Oracle Database Appliance X5-2, X4-2, X3-2, and V1 in My Oracle Support, get information on the prerequisites, and how to apply the patches.

When downloading a patch from My Oracle Support, select 12.2.1.2.0 from the release list.

> **Note:**
>
> If you have Oracle Database Appliance 12.1.2.11 or earlier with Oracle Database 12.1, review the following before updating:
>
> - If the database uses Oracle Automatic Storage Management (Oracle ASM), then you must upgrade Oracle Database Appliance to version 12.1.2.12 and upgrade your databases to 12.1.0.2.170814 before upgrading to Oracle Database Appliance 12.2.1.1 or 12.2.1.2.
> - If the database uses Oracle Automatic Storage Management Cluster File System (Oracle ACFS), then you can skip upgrading to version 12.1.2.12 and upgrade to Oracle Database Appliance 12.2.1.1 or 12.2.1.2.

Table A-5 Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance patch bundle for 12.2.1.2.0	27119652	Use to patch, or update, the Oracle Database Appliance server, storage, and database components.	Installing the Oracle Database Appliance Patch Bundle
Oracle Database Appliance End User Bundle with GI +Database Clone	12978712	Use to perform an initial deployment of the Oracle Database Appliance. The bundle contains the latest Grid Infrastructure and RDBMS components for deployment on an Oracle Database Appliance in the "shipped from factory" state, or an Oracle Database Appliance that has been re-imaged using the OS ISO Image. If Oracle Database Appliance is already deployed, use the Oracle Database Appliance patch bundle to update to the latest release.	Deploying Bare Metal Platforms on Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 12.2.1.2.0	Re-images Oracle Database Appliance as a Virtualized Platform.	Deploying Virtualized Platforms on Oracle Database Appliance
VM Template (ODA_BASE)	16186172 From the drop-down list, select 12.2.1.2.0	Use to deploy ODA_Base for the virtualized platform. Includes the GI + Database clone files for deployment.	Deploying Virtualized Platforms on Oracle Database Appliance
RDBMS Clone file for for Oracle Database 12.2.0.1	27449599	Use to create 12.2.0.1.170814 database homes.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance
RDBMS Clone file for 12.1.0.2	19520042	Use to create new 12.1.0.2.170814 database homes.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance

Table A-5 (Cont.) Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches

Patch Type	Patch Number	Description	Resources
RDBMS Clone file for 11.2.0.4	17770873	Use to create new 11.2.0.4.170814 database homes.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance
RDBMS Clone file for 11.2.0.3.15	14777276	Use to create new 11.2.0.3.15 database homes. The End User RDBMS Clone file for 11.2.0.3.15 is supported for X5-2, X4-2, X3-2, and V1 running Appliance Manager releases greater than 12.1.2.4.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance
RDBMS Clone files for Oracle Database 11.2.0.2.12	14349293	Use to create new 11.2.0.2.12 database homes. The End User RDBMS Clone file for 11.2.0.2.12 is supported for X4-2, X3-2, and V1 running Appliance Manager releases greater than 12.1.2.4. Oracle Database 11.2.0.2 is not supported for Oracle Database Appliance X5-2.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance
(Optional) ISO Image	12999313 From the drop-down list, select 12.2.1.2.0	Re-imaging a server installs the new OS on the local disks on that server. Use only when you must re-image the operating system to perform a bare metal restore (re-image) of the operating system. Bare metal is a non-virtualized Oracle Database Appliance configuration. You must apply the GI Clone patch using the `--server` option to update ILOM, BIOS, Controller, Expander, disk firmware, and other components after re-imaging.	Performing a Bare Metal Restore

Caution:

Use of any 11.2 database on Oracle ASM with Oracle Database Appliance X5-2 is subject to data corruption. If you used OAK 12.1.2.2 to create any 11.2.0.2.x or 11.2.0.3.x databases on Oracle Database Appliance X5-2, you must immediately migrate to 11.2.0.4.x or 12.1.0.2.x on ACFS.

B

Issues with Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA

The following are known issues deploying, updating, and managing Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
  Unless the workaround is applied before patching, upgrade to 12.2.1.2 fails during grid patching.
- Apply the server bundle before provisioning
  Apply the patch `oda-sm-12.2.1.1.0-171030-server.zip` before creating (deploying) Oracle Database Appliance. Apply the patch on all nodes.
- During provisioning, error: Failed to activate ASR assets
  When deploying the appliance, Oracle ASR installation fails with the following error: `error: Failed to activate ASR assets`.
- Error: patch zip does not exist
  The `odacli update-repository` job fails with *patch-name*.zip file does not exist in the `/tmp` directory.
- An error might occur when updating the patch repository
  When updating the patch repository, you might get an internal error (Error DCS-10001) stating that the zip file does not appear in the `/tmp` directory.
- Unable to patch dbhome
  In some cases, the dbhome patch update fails due to a timezone issue in opatch.
- Error CRS-01019: The OCR Service Exited
  An issue with Oracle Database 12.2.1.2 might cause an internal error CRS-01019: THE OCR SERVICE EXITED. If this occurs, the Cluster Ready Services daemon (crsd) is down.
- Do not use the local patching option on a virtualized platform
  When patching a virtualized platform, the --local option is not supported.
- The command oakcli validate returns errors on a virtualized platform
  The commands `oakcli validate -a` and `oakcli validate -c` return some errors on a virtualized platform.
- After re-imaging with 12.2.1.2.0 virtualized ISO, the network setup is incorrect
  The built-in SFP ports are not being recognized after re-imaging with the 12.2.1.2.0 virtualized OS image.
- Error after running the cleanup script
  After running the `cleanup.pl` script, the following error message appears: `DCS-10001:Internal error encountered: Fail to start hand shake.`
- Do not create a network on the p1p2 interface
  Do not create a network on the p1p2 interface on Oracle Database Appliance X7-2-HA. The p1p2 interface is configured and reserved for high availability.

- Unable to create an Oracle Database 11g Standard Edition RAC database with Oracle ACFS
  Unable to create an Oracle Database 11g Standard Edition RAC database with Oracle Automatic Storage Management Cluster File System (Oracle ACFS) storage.
- The DB Console option is disabled when creating an 11.2.0.4 database
  When using Oracle Database 12.2.0.1 grid infrastructure (GI) to create an 11.2.0.4 database, the option to configure Oracle Enterprise Manager DB Console is disabled.

B.1 GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file

Unless the workaround is applied before patching, upgrade to 12.2.1.2 fails during grid patching.

Insufficient permissions in the `config.sh` file prevents upgrading the grid infrastructure (GI) patch. The issue is that the permission of the `/u01/app/oraInventory/locks` directory is not sufficient to access the inventory locks directory (`/u01/app/oraInventory/locks`).

Perform the workaround before applying the GI patch to prevent the issue.

If you do not apply the workaround before upgrading to 12.2.1.2, errors similar to the following occur and the upgrade fails:

```
There is no directory as: /u01/app/12.2.0/grid/perl/bin/ exist in the server
ERROR : Ran '/bin/su grid -c "/opt/oracle/oak/onecmd/tmp/gridconfig.sh"'
```

and it returns code (127). The output is as follows:

```
/u01/app/12.2.0.1/grid/crs/config/config.sh: line 48: /u01/app/12.2.0/grid/perl/bin/
perl: No such file or directory
ERROR : /bin/su grid -c "/opt/oracle/oak/onecmd/tmp/gridconfig.sh" did not complete
successfully.
Exit code 127 #Step -1#
```

Hardware Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L

Workaround

To prevent the issue, perform the following steps before upgrading Oracle Database Appliance:

1. Check `oraInventory` for a `locks` directory.

   ```
   ls -al /u01/app/oraInventory/locks
   ```

   - If the locks directory does not exist on either node, then there is no issue.
   - If the locks directory exists on both nodes, then go to Step 2.
   - If the locks directory exists only on node 1, then see MOS Note 2360709.1 for how to check for and detach Oracle_Home on the second node before removing the `locks` directory.

- If the `locks` directory exists only on the second node, then see MOS Note 2360709.1.

2. Remove the `locks` directory on both nodes.

```
rm -R /u01/app/oraInventory/locks
```

3. Perform the upgrade.

> **Note:**
>
> If you do not perform the workaround before upgrading, a failure might happen at a different point and require a different procedure, depending on the point of failure. See My Oracle Support Note 2360709.1 for more information.

Related Topics

- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=2360709.1

B.2 Apply the server bundle before provisioning

Apply the patch `oda-sm-12.2.1.1.0-171030-server.zip` before creating (deploying) Oracle Database Appliance. Apply the patch on all nodes.

When you apply the server patch bundle after creating the appliance and then try to upgrade a database to a database home (dbhome) created as part of deploying the appliance, the job fails and the database cannot be upgraded.

Hardware Models

Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA

Workaround

Apply the server patch bundle before creating the appliance to avoid the issue.

For X7-2-HA, you must save and apply the server patch on both nodes.

B.3 During provisioning, error: Failed to activate ASR assets

When deploying the appliance, Oracle ASR installation fails with the following error: `error: Failed to activate ASR assets`.

Hardware Models

Oracle Database Appliance X7-2S, X7-2M, X7-2-HA, X6-2S, X6-2M, and X6-2L.

Workaround

After deploying the appliance, manually register the asset.

1. Manually register the asset.

```
# /opt/asrmanager/bin/asr activate_asset -i  IP Address
hostname : 2 service tags
```

```
Successfully submitted activation for the asset
Host Name: hostname
IP Address: IP Address
Serial Number: serial number
The e-mail address associated with the registration id for this asset's ASR
Manager will receive an e-mail highlighting the asset activation status and
any additional instructions for completing activation.
Please use My Oracle Support http://support.oracle.com to complete the
activation process.
The Oracle Auto Service Request documentation can be accessed on http://
oracle.com/asr

# /opt/asrmanager/bin/asr list_asset
IP_ADDRESS   HOST_NAME     SERIAL_NUMBER PARENT_SERIAL ASR PROTOCOL SOURCE
LAST_HEARTBEAT PRODUCT_NAME
----------   ---------     ------------- ------------- --- -------- ------
-------------- ------------
IP Address hostname serial number                  Y   SNMP     FMA    NA
            ORACLE SERVER X7-2 x86/x64 System
```

2. Verify that the system is listed.

```
# /opt/asrmanager/bin/asr list_asset
IP_ADDRESS   HOST_NAME     SERIAL_NUMBER PARENT_SERIAL ASR PROTOCOL SOURCE
LAST_HEARTBEAT PRODUCT_NAME
----------   ---------     ------------- ------------- --- -------- ------
-------------- ------------
IP Address hostname serial number                  Y   SNMP     FMA    NA
            ORACLE SERVER X7-2 x86/x64 System

Please use My Oracle Support 'http://support.oracle.com' to view the  activation
status.
```

B.4 Error: patch zip does not exist

The `odacli update-repository` job fails with *patch-name*.zip file does not exist in the `/tmp` directory.

When updating the repository, the update is not able to validate the copied file and the job fails. An error similar to the following appears:

```
CS-10001:Internal error encountered: /tmp/oda-sm-12.2.1.2.0-171124-GI-12.2.0.1.zip
does not exist in the /tmp directory.
```

Hardware Models

Oracle Database Appliance X7-2S, X7-2M, X7-2-HA, X6-2S, X6-2M, and X6-2L.

Workaround

An invalid `null_null` auth-key is in ZooKeeper. Remove the invalid key, restart the `dcsagent` on each node, then execute the command `odacli update-repository` .

1. Navigate to the `/bin` directory in ZooKeeper.

```
# cd /opt/zookeeper/bin
```

2. Connect with zookeeper.

```
# ./zkCli.sh
```

3. List all of the auth-keys.

   ```
   # ls /ssh-auth-keys
   ```

4. Delete the invalid key.

   ```
   # rmr /ssh-auth-keys/null_null
   ```

5. Quit from zookeeper.

   ```
   quit
   ```

6. Restart the `dcsagent` on each node.

   ```
   /opt/oracle/dcs/bin/restartagent.sh
   ```

7. Execute the command `odacli update-repository` .

B.5 An error might occur when updating the patch repository

When updating the patch repository, you might get an internal error (Error DCS-10001) stating that the zip file does not appear in the `/tmp` directory.

The update repository action fails because Oracle Database Appliance 'Failed to fetch private IP Address of RemoteNode'. After re-imaging or after cleaning the system, the network object is not synced up across the nodes and the private IP addresses of both the nodes are not available.

Hardware Models

Oracle Database Appliance X7-2-HA

Workaround

1. Restart the `dcsagent` on each node.
2. Update the patch repository.

B.6 Unable to patch dbhome

In some cases, the dbhome patch update fails due to a timezone issue in opatch.

An error similar to the following appears in the job details:

```
DCS-10001:Internal error encountered:  run datapatch after bundlePatch application
on the database home dbhomeID
```

Hardware Models

Oracle Database Appliance X7-2S, X7-2M, X7-2-HA, X6-2S, X6-2M, and X6-2L

Workaround

1. Open the `/u01/app/oracle/product/*/*/inventory/ContentsXML/comps.xml` file.
2. Search for four (4) character timezone (TZ) information.

   For example, HADT and HAST.
3. Take a backup of those files.
4. Convert the 4-character timezone to a 3-character timezone.

For example, convert HADT and HAST to HST.

5. Patch dbhome.

B.7 Error CRS-01019: The OCR Service Exited

An issue with Oracle Database 12.2.1.2 might cause an internal error CRS-01019: THE OCR SERVICE EXITED. If this occurs, the Cluster Ready Services daemon (crsd) is down.

Hardware Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L

Workaround

Restart the CRS daemon.

1. Stop crs.

```
# crsctl stop crs -f
```

2. Start crs.

```
 # crsctl start crs -wait
```

This issue is tracked with Oracle bug 27060167.

B.8 Do not use the local patching option on a virtualized platform

When patching a virtualized platform, the --local option is not supported.

On a virtualized platform, attempting to use the --local option to patch a single node will result in an error.

When you use the --local option, the patch server fails with following error:

```
# oakcli update -patch 12.2.1.2.0 --server --local
ERROR: -local is not supported for server patching, on VM systems.
```

Hardware Models

Oracle Database Appliance X7-2-HA

Workaround

Use the following to update the software on Oracle Database Appliance, which applies the patch to both nodes.

```
# oakcli update -patch 12.2.1.2.0 --server
```

B.9 The command oakcli validate returns errors on a virtualized platform

The commands `oakcli validate -a` and `oakcli validate -c` return some errors on a virtualized platform.

With one exception, the options in the command `validate` are not supported in Oracle Database Appliance 12.2.1.1.0 release.

> **Note:**
>
> The command `oakcli validate -c storagetopology` is supported.

Hardware Models

Oracle Database Appliance X7-2-HA virtualized platform.

Workaround

A workaround is not available.

This issue is tracked with Oracle bug 27022056 and 27021403.

B.10 After re-imaging with 12.2.1.2.0 virtualized ISO, the network setup is incorrect

The built-in SFP ports are not being recognized after re-imaging with the 12.2.1.2.0 virtualized OS image.

The issue occurs when using a fiber network. When the 10g/25g NICs are connected to 10g fiber, they are not identified during OS imaging. See ODA X7-2 HA Network Issue On Virtualized Platform, the built-in SFP ports are not being recognized (Doc ID 2358976.1) for more information.

Hardware Models

Oracle Database Appliance X7-2-HA

Workaround

1. Unplug all network cables and transceivers.
2. Re-image the machine with the virtualized ISO image.
3. Plug in the network cables and transceivers.
4. Reboot both nodes.
5. Run ifconfig and check the firmware of the Broadcom ports (`eth2` and `eth3`). They should be 20.06.04.07 or higher.

```
# ethtool -i eth2
driver: bnxt_en
```

```
version: 1.7.0
firmware-version: 20.6.156/1.8.1 pkg 20.06.04.07 <<<<<<<<<<<<
bus-info: 0000:18:00.0
supports-statistics: yes
supports-test: no
supports-eeprom-access: yes
supports-register-dump: no
supports-priv-flags: no

# ethtool -i eth3
driver: bnxt_en version: 1.7.0 firmware-version: 20.6.156/1.8.1 pkg 20.06.04.07
<<<<<<<<<<<<
bus-info: 0000:18:00.1
supports-statistics: yes
supports-test: no
supports-eeprom-access: yes
supports-register-dump: no
supports-priv-flags: no
```

- If the firmware version is okay, go to Step 6.
- If the firmware is not at least version 20.06.04.07, then go to My Oracle Support and follow the instructions in DOC ID 2358976.1 for how to download and apply the firmware update.

6. If your switch speed is set to 10Gb, then execute the following `ethtool` commands to manually force the speed to 10000 and turn off `autoneg`.

```
ethtool -s eth2 speed 10000 autoneg off
ethtool -s eth3 speed 10000 autoneg off
```

> **Note:**
>
> This is required because the ports come from the factory set to 25Gb and the optical transceivers do not auto-negotiate back to 10Gb when a 10Gb optical transceiver is used.

7. Run the command `oakcli configure firstnet` to configure the network.

```
# oakcli configure firstnet
```

Related Topics

- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=2358976.1

B.11 Error after running the cleanup script

After running the `cleanup.pl` script, the following error message appears:
`DCS-10001:Internal error encountered: Fail to start hand shake.`

The following are the steps to reproduce the issue:

1. Run `cleanup.pl` on the first node (Node0). Wait until the cleanup script finishes, then reboot the node.
2. Run `cleanup.pl` on the second node (Node1). Wait until the cleanup script finishes, then reboot the node.

3. After both nodes are started, use the command-line interface to list the jobs on Node0. An internal error appears.

```
# odacli list-jobs
DCS-10001:Internal error encountered: Fail to start hand shake to localhost:7070
```

Hardware Models

Oracle Database Appliance X7-2-HA

Workaround

Restart the `dcsagent` on Node0 after running the `cleanup.pl` script.

```
# initctl stop initdcsagent
# initctl start initdcsagent
```

B.12 Do not create a network on the p1p2 interface

Do not create a network on the p1p2 interface on Oracle Database Appliance X7-2-HA. The p1p2 interface is configured and reserved for high availability.

Hardware Models

Oracle Database Appliance X7-2-HA

Workaround

A workaround is not available.

This issue is tracked with Oracle bug 27048925.

B.13 Unable to create an Oracle Database 11g Standard Edition RAC database with Oracle ACFS

Unable to create an Oracle Database 11g Standard Edition RAC database with Oracle Automatic Storage Management Cluster File System (Oracle ACFS) storage.

Standard Edition for Oracle Database 11.2.0.4 includes support for Oracle RAC and RAC One. When trying to create Standard Edition 2-node RAC database in a multi-node Oracle Database Appliance (HA model) with Oracle ACFS storage, the following message appears: The current home was detected to have Standard Edition licensing. You must choose Oracle ASM for database storage.

Hardware Models

Oracle Database Appliance X7-2-HA, X6-2-HA, X5-2, X4-2, X3-2, and V1

Workaround

A workaround is not available.

This issue is tracked with Oracle bug 27071989.

B.14 The DB Console option is disabled when creating an 11.2.0.4 database

When using Oracle Database 12.2.0.1 grid infrastructure (GI) to create an 11.2.0.4 database, the option to configure Oracle Enterprise Manager DB Console is disabled.

An issue with the Enterprise Manager Control (emctl) command line utility and Enterprise Manager Configuration Assistant (emca) occurs when using the 12.2.0.1 GI to create an 11.2.0.4 database.

Hardware Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L that are using the 12.2.0.1 GI.

Workaround

Manually configure Oracle Enterprise Manager DB Console after creating the database.

If the appliance is a multi-node system, perform the steps on both nodes. The example assumes a multi-node system:

1. Create a `dbconsole.rsp` response file, as follows, based on your environment.

   To obtain the cluster name for your environment, run the command `$GI_HOME/bin/cemutlo -n`

   ```
   DB_UNIQUE_NAME=db_unique_name
   SERVICE_NAME=db_unique_name.db_domain
   PORT=scan listener port
   LISTENER_OH=$GI_HOME
   SYS_PWD=admin password
   DBSNMP_PWD=admin password
   SYSMAN_PWD=admin password
   CLUSTER_NAME=cluster name
   ASM_OH=$GI_HOME
   ASM_SID=+ASM1
   ASM_PORT=asm listener port
   ASM_USER_NAME=ASMSNMP
   ASM_USER_PWD=admin password
   ```

2. Run the command to configure the dbcontrol using the response file. The command will fail with an error. You will use the steps in the output in Step 4.

   ```
   $ORACLE_HOME/bin/emca -config dbcontrol db -repos create -cluster -silent -
   respFile dbconsole.rsp

   Error securing Database Control. Database Control has not been brought-up on
   nodes node1 node2
   Execute the following command(s) on nodes: node1 node2

   1. Set the environment variable ORACLE_UNQNAME to the Database unique name.
   2. /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl config emkey -repos
   -sysman_pwd Password for SYSMAN user -host node -sid  Database unique
   name
   3. /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl secure dbconsole
   -sysman_pwd Password for SYSMAN user -host node -sid  Database unique
   ```

```
name
4. /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl start dbconsole

To secure Em Key, run /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl
config emkey -remove_from_repos -sysman_pwd Password for SYSMAN user
```

3. Use vi editor to open `$ORACLE_HOME/bin/emctl`, then change the setting `CRS_HOME=` to `CRS_HOME=/u01/app/12.2.0.1/grid`
4. Run the steps reported by `emca` in Step 2 with the proper values.
5. Configure dbconsole in Node1, so that agent in Node0 reports to the dbconsole in Node0, and the agent in Node1 reports to the dbconsole in Node1:

```
$ORACLE_HOME/bin/emca -reconfig dbcontrol -silent -cluster -EM_NODE node0
host -EM_NODE_LIST node1 host -DB_UNIQUE_NAME db_unique_name
-SERVICE_NAME db_unique_name.db_domain
```

6. If the appliance is multiple nodes, then configure the dbconsole for the second node. Configure dbconsole in Node0, so that agent in Node1 reports to the dbconsole in Node1, and the agent in Node0 reports to the dbconsole in Node0:

```
$ORACLE_HOME/bin/emca -reconfig dbcontrol -silent -cluster -EM_NODE node1
host -EM_NODE_LIST node1 host -DB_UNIQUE_NAME db_unique_name
-SERVICE_NAME db_unique_name.db_domain
```

7. Use vi editor to open `$ORACLE_HOME/bin/emctl`, then change the setting `CRS_HOME=` to `CRS_HOME=/u01/app/12.2.0.1/grid`
8. Check the db console configuration status.

```
# /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl  status agent
   - https://public IP for Node0:1158/em
   - https://public IP for Node1:1158/em
```

C

Issues with Oracle Database Appliance X6-2S, X6-2M, and X6-2L

The following are known issues deploying, updating, and managing Oracle Database Appliance X6-2S, X6-2M, and X6-2L:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
  Unless the workaround is applied before patching, upgrade to 12.2.1.2 fails during grid patching.
- Unable to patch an empty Oracle Database 12.1 dbhome
  Cannot patch an empty Oracle Database Home (dbhome) due to an issue with Oracle Database auto patch.
- Patch zip files require concatenation
  The patch to update Oracle Database Appliance to release 12.1.2.12.0 consists of two zip files. You must concatenate the two zip files before updating the repository.
- Upgrading an SE database results in an error: Failed to run datapatch
  After successfully upgrading an Oracle Database Standard Edition (SE) to 12.1.0.2, the following error appears in the log file: `Failed to run datapatch`
- After replacing a disk, the disk is not added to Oracle ASM
  When replacing or adding disks to Oracle Database Appliance X6-2S, X6-2M, or X6-2L, the disk is recognized as good, but it is not added to Oracle Automatic Storage Management (ASM).
- Unable to upgrade an Oracle Database from version 12.1 to 12.2
  When attempting to upgrade an Oracle Database from version 12.1 to 12.2 on a bare metal system, the upgrade pre-check fails and the database is not upgraded.
- Unable to create an Oracle ASM Database for Release 12.1
  Known issues with Oracle Automatic Storage Management (Oracle ASM) are preventing the REDO diskgroup from mounting for Oracle Database Release 12.1.

C.1 GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file

Unless the workaround is applied before patching, upgrade to 12.2.1.2 fails during grid patching.

Insufficient permissions in the `config.sh` file prevents upgrading the grid infrastructure (GI) patch. The issue is that the permission of the `/u01/app/oraInventory/locks` directory is not sufficient to access the inventory locks directory (`/u01/app/oraInventory/locks`).

Perform the workaround before applying the GI patch to prevent the issue.

If you do not apply the workaround before upgrading to 12.2.1.2, errors similar to the following occur and the upgrade fails:

```
There is no directory as: /u01/app/12.2.0/grid/perl/bin/ exist in the server
ERROR : Ran '/bin/su grid -c "/opt/oracle/oak/onecmd/tmp/gridconfig.sh"'
```

and it returns code (127). The output is as follows:

```
/u01/app/12.2.0.1/grid/crs/config/config.sh: line 48: /u01/app/12.2.0/grid/perl/bin/
perl: No such file or directory
ERROR : /bin/su grid -c "/opt/oracle/oak/onecmd/tmp/gridconfig.sh" did not complete
successfully.
Exit code 127 #Step -1#
```

Hardware Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L

Workaround

To prevent the issue, perform the following steps before upgrading Oracle Database Appliance:

1. Check `oraInventory` for a `locks` directory.

   ```
   ls -al /u01/app/oraInventory/locks
   ```

   - If the locks directory does not exist on either node, then there is no issue.
   - If the locks directory exists on both nodes, then go to Step 2.
   - If the locks directory exists only on node 1, then see MOS Note 2360709.1 for how to check for and detach Oracle_Home on the second node before removing the `locks` directory.
   - If the `locks` directory exists only on the second node, then see MOS Note 2360709.1.

2. Remove the `locks` directory on both nodes.

   ```
   rm -R /u01/app/oraInventory/locks
   ```

3. Perform the upgrade.

> **Note:**
>
> If you do not perform the workaround before upgrading, a failure might happen at a different point and require a different procedure, depending on the point of failure. See My Oracle Support Note 2360709.1 for more information.

Related Topics

- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=2360709.1

C.2 Unable to patch an empty Oracle Database 12.1 dbhome

Cannot patch an empty Oracle Database Home (dbhome) due to an issue with Oracle Database auto patch.

When attempting to patch an empty dbhome, an error message similar to the following appears:

```
ERROR: 2017-12-19 18:48:02: Unable to apply db patch on the following
Homes :  /u01/app/oracle/product/12.1.0.2/dbhome_name
```

The following is an example excerpt from the `dbupdate` log:

```
  OPATCHAUTO-68036: Topology empty.
  OPATCHAUTO-68036: The topology was empty, unable to proceed.
  OPATCHAUTO-68036: Check the log for more information.
  OPatchAuto failed.
opatchauto failed with error code 42
```

Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L.

Workaround

The issue occurs when the dbhome does not have any databases. The workaround is to create a database for the dbhome before patching.

C.3 Patch zip files require concatenation

The patch to update Oracle Database Appliance to release 12.1.2.12.0 consists of two zip files. You must concatenate the two zip files before updating the repository.

Hardware Models

Oracle Database Appliance X6-2S, X6-2M, and X6-2L

Workaround

Perform the following to concatenate the files before updating the repository:

1. Download both zip files for patch 26433721 from My Oracle Support.

   `p26433721_1212120_Linux-x86-64_1of2.zip` and `p26433721_1212120_Linux-x86-64_2of2.zip`

2. Upload the files to a temporary location in the `/u01` directory in Oracle Database Appliance, then unzip the files.

   When inflated, the files are named `oda-sm-12.1.2.12.0-170920-server_1of2.zippart` and `oda-sm-12.1.2.12.0-170920-server_2of2.zippart`

3. Concatenate the two zip files into a single zip file. For example, a file named `p26433721_1212120_Linux-x86-64.zip`.

   ```
   # cat oda-sm-12.1.2.12.0-170920-server_1of2.zippart oda-sm-12.1.2.12.0-170920-server_2of2.zippart > p26433721_1212120_Linux-x86-64.zip
   ```

The file is named `p26433721_1212120_Linux-x86-64.zip`

Update the repository.

```
# /opt/oracle/dcs/bin/odacli update-repository -f /u01/tmpdir
p26433721_1212120_Linux-x86-64.zip

{
"jobId" : "c5288c4f-4a0e-4977-9aa4-4acbf81b65a1",
"status" : "Created",
"message" : "/u01/tmpdir/p26433721_1212120_Linux-x86-64.zip",
"reports" : [ ],
"createTimestamp" : "October 7, 2017 06:52:01 AM WSDT",
"resourceList" : [ ],
"description" : "Repository Update",
"updatedTime" : "October 7, 2017 06:52:01 AM WSDT"
}
```

4. Verify that the job completed successfully.

```
# odacli describe-job -i c5288c4f-4a0e-4977-9aa4-4acbf81b65a1
Job details
----------------------------------------------------------------

ID:  c5288c4f-4a0e-4977-9aa4-4acbf81b65a1
Description:  Repository Update
Status:  Success
Created:  October 7, 2017 6:52:01 AM WSDT
Message:  /u01/tmpdir/121212_patch.zip
Task Name                        Start Time
End Time                                          Status
-------------------- --------------------------------
---------------------------------- -------
Unzip patch bundle      October 7, 2017 6:52:01 AM WSDT     October 7, 2017
6:52:31 AM WSDT      Success
```

5. Update the agent, server, and database, as described in “Updating Oracle Database Appliance Software”.

> **See Also:**
>
> For more information about updating to release 12.1.2.12.0, including how to update the agent, server, and database, see Updating Oracle Database Appliance Software in the *Oracle Database Appliance X6-2S/X6-2M/X6-2L Deployment and User’s Guide*.

C.4 Upgrading an SE database results in an error: Failed to run datapatch

After successfully upgrading an Oracle Database Standard Edition (SE) to 12.1.0.2, the following error appears in the log file: `Failed to run datapatch`

Datapatch is a tool that enables automation of post-patch SQL actions for RDBMS patches. The error impacts all Standard Edition databases upgrading to release 12.1.0.2.

The following is an excerpt of the log:

```
...
The following patches will be applied: 25397136
(DATABASE BUNDLE PATCH 12.1.0.2.170418)

Installing patches...
Patch installation complete.  Total patches installed: 1

Validating logfiles...
Patch 26609798 apply: WITH ERRORS
  logfile:
/u01/app/oracle/cfgtoollogs/sqlpatch/26609798/21481992/26609798_apply_XT_2017S
ep28_06_58_16.log (errors)
    Error at line 1310: Warning: Package altered with compilation errors.

Please refer to MOS Note 1609718.1 and/or the invocation log
/u01/app/oracle/cfgtoollogs/sqlpatch/sqlpatch_95130_2017_09_28_06_57_51/sqlpat
ch_invocation.log
for information on how to resolve the above errors.

SQL Patching tool complete on Thu Sep 28 06:58:51 2017
2017-09-28 06:58:51,867 ERROR [Running DataPatch] []
c.o.d.a.r.s.d.DbOperations:  run datapatch
2017-09-28 06:58:51,867 WARN [Running DataPatch] [] c.o.d.a.r.s.d.DbActions:
Failed to run datapatch.
```

Hardware Models

Oracle Database Appliance X7-2S, X7-2M, X7-2-HA, X6-2S, X6-2M, X6-2L

Workaround

See My Oracle Support (MOS) Note: Datapatch Known Issues, Doc ID 1609718.1.

C.5 After replacing a disk, the disk is not added to Oracle ASM

When replacing or adding disks to Oracle Database Appliance X6-2S, X6-2M, or X6-2L, the disk is recognized as good, but it is not added to Oracle Automatic Storage Management (ASM).

Use the procedure to add or expand storage and wait the recommended time between tasks, but the new disks are not added to Oracle ASM.

Hardware Models

Oracle Database Appliance X6-2S, X6-2M, and X6-2L

Workaround

After expanding, adding, or replacing disks, restart `oakd`.

This issue is tracked with Oracle bug 26283996.

C.6 Unable to upgrade an Oracle Database from version 12.1 to 12.2

When attempting to upgrade an Oracle Database from version 12.1 to 12.2 on a bare metal system, the upgrade pre-check fails and the database is not upgraded.

The job details report displays an internal error message similar to the following:

```
odacli describe-job -i  database ID
 Job details
 ----------------------------------------------------------------
                     ID:  7857876b-8289-47c5-a6a9-dc4f9a9c6e19
            Description:  Database service upgrade with db ids: database ID
                 Status:  Failure
                Created:  December 12, 2017 3:39:51 PM CST
                Message:  DCS-10001:Internal error encountered: Databases failed to
upgrade are : [database ID].
```

The database is not upgraded and there is no impact to the database being upgraded.

Hardware Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L

Workaround

Set the `pga_aggregate_limit` to two times the `pga_aggregate_target` before upgrading to Oracle Database 12.2. The `pga_aggregate_limit` must be greater than 2G.

C.7 Unable to create an Oracle ASM Database for Release 12.1

Known issues with Oracle Automatic Storage Management (Oracle ASM) are preventing the REDO diskgroup from mounting for Oracle Database Release 12.1.

Unable to create an Oracle ASM database lower than 12.1.0.2.170117 BP (12.1.2.10).

Hardware Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, and X6-2L

Workaround

There is not a workaround. If you have Oracle Database 11.2 or 12.1 that is using Oracle Automatic Storage Management (Oracle ASM) and you want to upgrade to a higher release of Oracle Database, then you must be on at least Oracle Database Appliance 12.1.2.12.0 and Database Home 12.1.0.2.170814.

This issue is tracked with Oracle bug 21626377 and 21780146. The issues are fixed in Oracle Database 12.1.0.2.170814.

D

Issues with Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

The following are known issues deploying, updating, and managing Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1:

- GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file
  Unless the workaround is applied before patching, upgrade to 12.2.1.2 fails during grid patching.
- Insufficient space in the /boot directory to upgrade to 12.2.1.2
  ERROR: Unable to apply the patch <1> message appears when attempting to upgrade from Oracle Database Appliance 12.1.2.6 to 12.2.1.2.
- FLASH disk group is not mounted when patching or provisioning the server
  The FLASH disk group is not mounted after a reboot, including after provisioning, reimaging, or patching the server with Oracle Database Appliance 12.2.1.2.
- Do not use the local patching option on a virtualized platform
  When patching a virtualized platform, the --local option is not supported.
- Unable to upgrade an Oracle Database from version 12.1 to 12.2
  When attempting to upgrade an Oracle Database from version 12.1 to 12.2, the upgrade pre-check fails with error 254 and the database is not upgraded.
- Unable to upgrade an Oracle Database from version 11.2 to 12.1 or 12.2
  When attempting to upgrade an Oracle Database from version 11.2 to 12.1 or 12.2, the upgrade pre-check fails and the database is not upgraded.
- Error CRS-01019: The OCR Service Exited
  An issue with Oracle Database 12.2.1.2 might cause an internal error CRS-01019: THE OCR SERVICE EXITED. If this occurs, the Cluster Ready Services daemon (crsd) is down.
- CRSD is unresponsive when patching Oracle Database 12.1 ASM
  Run the database patch, after it finishes patching Node 0, the Clusterware does not run and patching on Node 1 hangs.
- Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2
  When upgrading a database from 11.2.0.4 dbhome to 12.2.0.2, receive `Error: No protocol specified` or `Exit Code 6`.
- Unable to create an Oracle ASM Database for Release 12.1
  Known issues with Oracle Automatic Storage Management (Oracle ASM) are preventing the REDO diskgroup from mounting for Oracle Database Release 12.1.
- Unable to patch an empty Oracle Database 12.1 dbhome
  Cannot patch an empty Oracle Database Home (dbhome) due to an issue with Oracle Database auto patch.
- Unable to patch dbhome from 12.1.0.2.170814 to 12.2.0.1.171017
  In some cases, the dbhome patch update fails due to a timezone issue in opatch.

- The DB Console option is disabled when creating an 11.2.0.4 database
  When using Oracle Database 12.2.0.1 grid infrastructure (GI) to create an 11.2.0.4 database, the option to configure Oracle Enterprise Manager DB Console is disabled.
- ODA_BASE is in read-only mode or cannot start
  The `/OVS` directory is full and ODA_BASE is in read-only mode.
- OAKERR:7007 Error encountered while starting VM
  When starting a virtual machine (VM), an error message appears that the domain does not exist.
- Server patch does not update the kernel version
  After applying the server patch and rebooting the node, the kernel version is not updated.
- Server patch does not set an active version of Oracle Clusterware
  The server patch does not set an active version of Oracle Clusterware. Before upgrading, link the Grid Software with the Reliable Datagram Sockets (RDS) protocol.
- Oracle ASR version is 5.7.6 instead of 5.7.7
  The Oracle Auto Service Request (Oracle ASR) version is 5.7.6 in Oracle Database Appliance 12.2.1.2.
- Unrecognized Token Messages Appear in /var/log/messages
  After updating Oracle Database Appliance, unrecognized token messages appear in `/var/log/messages`.
- Virtual machine task blocked
  After updating to Oracle Database Appliance 12.1.2.11.0, the IOs to local disks can get stuck and block tasks.
- High Availability IP (HAIP) addresses are not supported
  High Availability IP (HAIP) addresses are not supported on Oracle engineered systems.

D.1 GI upgrade to 12.2.1.2 fails due to incorrect permissions in the config.sh file

Unless the workaround is applied before patching, upgrade to 12.2.1.2 fails during grid patching.

Insufficient permissions in the `config.sh` file prevents upgrading the grid infrastructure (GI) patch. The issue is that the permission of the `/u01/app/oraInventory/locks` directory is not sufficient to access the inventory locks directory (`/u01/app/oraInventory/locks`).

Perform the workaround before applying the GI patch to prevent the issue.

If you do not apply the workaround before upgrading to 12.2.1.2, errors similar to the following occur and the upgrade fails:

```
There is no directory as: /u01/app/12.2.0/grid/perl/bin/ exist in the server
ERROR : Ran '/bin/su grid -c "/opt/oracle/oak/onecmd/tmp/gridconfig.sh"'
```

and it returns code (127). The output is as follows:

```
/u01/app/12.2.0.1/grid/crs/config/config.sh: line 48: /u01/app/12.2.0/grid/perl/bin/
perl: No such file or directory
ERROR : /bin/su grid -c "/opt/oracle/oak/onecmd/tmp/gridconfig.sh" did not complete
successfully.
Exit code 127 #Step -1#
```

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1 bare metal platform and virtualized platform

Oracle Database Appliance X7-2-HA virtualized platform

Workaround

To prevent the issue, perform the following steps before upgrading Oracle Database Appliance:

1. Check `oraInventory` for a `locks` directory.

   ```
   ls -al /u01/app/oraInventory/locks
   ```

   - If the locks directory does not exist on either node, then there is no issue.
   - If the locks directory exists on both nodes, then go to Step 2.
   - If the locks directory exists only on node 1, then see MOS Note 2360709.1 for how to check for and detach Oracle_Home on the second node before removing the `locks` directory.
   - If the `locks` directory exists only on the second node, then see MOS Note 2360709.1.

2. Remove the `locks` directory on both nodes.

   ```
   rm -R /u01/app/oraInventory/locks
   ```

3. Perform the upgrade.

> **Note:**
>
> If you do not perform the workaround before upgrading, a failure might happen at a different point and require a different procedure, depending on the point of failure. See My Oracle Support Note 2360709.1 for more information.

This issue is tracked with Oracle bug 27314077.

Related Topics

- https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=2360709.1

D.2 Insufficient space in the /boot directory to upgrade to 12.2.1.2

ERROR: Unable to apply the patch <1> message appears when attempting to upgrade from Oracle Database Appliance 12.1.2.6 to 12.2.1.2.

The error is due to the kernel file (`initramfs*94.3.9*.img`) in Oracle Database Appliance 12.1.2.6. The file expands to more than 48M during patching, which causes the local server patch to fail.

Hardware Models

Oracle Database Appliance X5-2, X4-2, X3-2, and V1

Workaround

1. Shrink the `initramfs` by running the following command:

   ```
   dracut --force --omit-drivers "oracleoks oracleacfs oracleadvm" "/boot/
   initramfs-$(uname -r).img" $(uname -r)
   ```

2. Apply the server patch using the --local option.

   ```
   # oakcli update -patch 12.2.1.2 --server --local
   ```

3. Reboot the system.

4. Remove the old kernel `rpms/initrdkdump.img` file.

   ```
   # rpm -e kernel-uek-4.1.12-94.3.9.el6uek.x86_64
   # rpm -e kernel-uek-firmware-4.1.12-94.3.9.el6uek.noarch
   # rm initrd-4.1.12-94.3.9.el6uek.x86_64kdump.img
   ```

This issue is tracked with Oracle bug 27314077.

D.3 FLASH disk group is not mounted when patching or provisioning the server

The FLASH disk group is not mounted after a reboot, including after provisioning, reimaging, or patching the server with Oracle Database Appliance 12.2.1.2.

This issue occurs when the node reboots and then you attempt to create an Oracle Automatic Storage Management Cluster File System (Oracle ACFS) database. When patching or provisioning a server with Oracle Database Appliance 12.2.1.2, you will encounter an SSH disconnect issue and an error.

```
# oakcli update -patch 12.2.1.2 --server

**************************************************************************
*****   For all X5-2 customers with 8TB disks, please make sure to     *****
*****   run storage patch ASAP to update the disk firmware to "PAG1".  *****
**************************************************************************
INFO: DB, ASM, Clusterware may be stopped during the patch if required
INFO: Both Nodes may get rebooted automatically during the patch if required
Do you want to continue: [Y/N]?: y
INFO: User has confirmed for the reboot
INFO: Patch bundle must be unpacked on the second Node also before applying the
```

```
patch
Did you unpack the patch bundle on the second Node? : [Y/N]? : y
Please enter the 'root'  password :
Please re-enter the 'root' password:
INFO: Setting up the SSH
.........Completed .....
... ...
INFO: 2017-12-26 00:31:22: -----------------Patching ILOM & BIOS-----------------
INFO: 2017-12-26 00:31:22: ILOM is already running with version 3.2.9.23r116695
INFO: 2017-12-26 00:31:22: BIOS is already running with version 30110000
INFO: 2017-12-26 00:31:22: ILOM and BIOS will not be updated
INFO: 2017-12-26 00:31:22: Getting the SP Interconnect state...
INFO: 2017-12-26 00:31:44: Clusterware is running on local node
INFO: 2017-12-26 00:31:44: Attempting to stop clusterware and its resources locally
Killed
# Connection to server.example.com closed.
```

The Oracle High Availability Services, Cluster Ready Services, Cluster Synchronization Services, and Event Manager are online. However, when you attempt to create an Oracle Automatic Storage Management Cluster File System (Oracle ACFS) database, you receive an error: `flash space is 0`.

Hardware Models

Oracle Database Appliance X5-2, X6-2-HA, and X7-2 HA SSD systems.

Workaround

Manually mount FLASH disk group before creating an Oracle ACFS database.

Perform the following steps as the GRID owner:

1. Set the environment variables as grid OS user:

   ```
   on node0
   export ORACLE_SID=+ASM1
   export ORACLE_HOME= /u01/app/12.2.0.1/grid
   ```

2. Log on to the ASM instance as `sysasm`

   ```
   $ORACLE_HOME/bin/sqlplus / as sysasm
   ```

3. Execute the following SQL command:

   ```
   SQL> ALTER DISKGROUP FLASH MOUNT
   ```

This issue is tracked with Oracle bug 27322213.

D.4 Do not use the local patching option on a virtualized platform

When patching a virtualized platform, the --local option is not supported.

On a virtualized platform, attempting to use the --local option to patch a single node will result in an error.

When you use the --local option, the patch server fails with following error:

```
# oakcli update -patch 12.2.1.2.0 --server --local
ERROR: -local is not supported for server patching, on VM systems.
```

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Workaround

Use the following to update the software on Oracle Database Appliance, which applies the patch to both nodes.

```
# oakcli update -patch 12.2.1.2.0 --server
```

D.5 Unable to upgrade an Oracle Database from version 12.1 to 12.2

When attempting to upgrade an Oracle Database from version 12.1 to 12.2, the upgrade pre-check fails with error 254 and the database is not upgraded.

The log file shows the following issues:

- ORA-00093: pga_aggregate_limit must be between 4096M and 100000G
- ORA-01078: failure in processing system parameters

After attempting the upgrade, the database might be offline.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1.

Workaround

Set the `pga_aggregate_limit` to two times the `pga_aggregate_target` before upgrading to Oracle Database 12.2. The `pga_aggregate_limit` must be greater than 2G.

This issue is tracked with Oracle bug 27251762.

D.6 Unable to upgrade an Oracle Database from version 11.2 to 12.1 or 12.2

When attempting to upgrade an Oracle Database from version 11.2 to 12.1 or 12.2, the upgrade pre-check fails and the database is not upgraded.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1.

Workaround

A workaround is not available.

This issue is tracked with Oracle bug 27332396.

D.7 Error CRS-01019: The OCR Service Exited

An issue with Oracle Database 12.2.1.2 might cause an internal error CRS-01019: THE OCR SERVICE EXITED. If this occurs, the Cluster Ready Services daemon (crsd) is down.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Oracle Database Appliance X7-2-HA virtualized platform

Workaround

Restart the CRS daemon.

1. Stop crs.

```
# crsctl stop crs -f
```

2. Start crs.

```
 # crsctl start crs -wait
```

This issue is tracked with Oracle bug 27060167.

D.8 CRSD is unresponsive when patching Oracle Database 12.1 ASM

Run the database patch, after it finishes patching Node 0, the Clusterware does not run and patching on Node 1 hangs.

The Cluster Ready Services daemon (crsd) process becomes unresponse and the Oracle High Availability Services daemon (OHASD) cannot clean the resource. The server becomes unresponsive when other process cannot complete on the CPU and the load on the server increases. This issue is related to bug 27060167.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Oracle Database Appliance X7-2-HA

Workaround

Kill the `crsd` processes running on both nodes, then restart the cluster.

This issue is tracked with Oracle bug 27366345.

D.9 Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2

When upgrading a database from 11.2.0.4 dbhome to 12.2.0.2, receive `Error: No protocol specified` or `Exit Code 6`.

Oracle Database Appliance performs pre-checks before applying the upgrade. If one or more of the pre-upgrade checks on the database results in warning conditions that required manual intervention, you should address the warnings as suggested before proceeding with the upgrade. If you receive the `No protocol specified` or `Exit Code 6`errors, then the warnings were not addressed before the upgrade.

Exit code 6 indicates successful execution with warnings.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Oracle Database Appliance X7-2-HA virtualized platform

Workaround

None.

This issue is tracked with Oracle bug 27381804.

D.10 Unable to create an Oracle ASM Database for Release 12.1

Known issues with Oracle Automatic Storage Management (Oracle ASM) are preventing the REDO diskgroup from mounting for Oracle Database Release 12.1.

Unable to create an Oracle ASM database lower than 12.1.0.2.17814 PSU (12.1.2.12).

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1.

Workaround

There is not a workaround. If you have Oracle Database 11.2 or 12.1 that is using Oracle Automatic Storage Management (Oracle ASM) and you want to upgrade to a higher release of Oracle Database, then you must be on at least Oracle Database Appliance 12.1.2.12.0 and Database Home 12.1.0.2.170814.

The upgrade path for Oracle Database 11.2 or 12.1 Oracle ASM is as follows:

- If you are on Oracle Database Appliance version 12.1.2.6.0 or later, then upgrade to 12.1.2.12 or higher before upgrading your database.
- If you are on Oracle Database Appliance version 12.1.2.5 or earlier, then upgrade to 12.1.2.6.0, and then upgrade again to 12.1.2.12 or higher before upgrading your database.

This issue is tracked with Oracle bug 21626377 and 21780146. The issues are fixed in Oracle Database 12.1.0.2.170814.

D.11 Unable to patch an empty Oracle Database 12.1 dbhome

Cannot patch an empty Oracle Database Home (dbhome) due to an issue with Oracle Database auto patch.

When attempting to patch an empty dbhome, an error message similar to the following appears:

```
ERROR: 2017-12-19 18:48:02: Unable to apply db patch on the following
Homes :  /u01/app/oracle/product/12.1.0.2/dbhome_name
```

The following is an example excerpt from the `dbupdate` log:

```
  OPATCHAUTO-68036: Topology empty.
  OPATCHAUTO-68036: The topology was empty, unable to proceed.
  OPATCHAUTO-68036: Check the log for more information.
  OPatchAuto failed.
opatchauto failed with error code 42
```

Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1.

Workaround

The issue occurs when the dbhome does not have any databases. The workaround is to create a database before patching.

This issue is tracked with Oracle bug 27292674 and 27126871.

D.12 Unable to patch dbhome from 12.1.0.2.170814 to 12.2.0.1.171017

In some cases, the dbhome patch update fails due to a timezone issue in opatch.

An error similar to the following appears in the job details:

```
DCS-10001:Internal error encountered:  run datapatch after bundlePatch application
on the database home dbhomeID
```

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Workaround

1. Open the `/u01/app/oracle/product/*/*/inventory/ContentsXML/comps.xml` file.
2. Search for four (4) character timezone (TZ) information.

   For example, HADT and HAST.
3. Take a backup of those files.

4. Convert the 4-character timezone to a 3-character timezone.

   For example, convert HADT and HAST to HST.

5. Patch dbhome.

This issue is tracked with Oracle bug 27313653 and 27331844.

D.13 The DB Console option is disabled when creating an 11.2.0.4 database

When using Oracle Database 12.2.0.1 grid infrastructure (GI) to create an 11.2.0.4 database, the option to configure Oracle Enterprise Manager DB Console is disabled.

An issue with the Enterprise Manager Control (emctl) command line utility and Enterprise Manager Configuration Assistant (emca) occurs when using the 12.2.0.1 GI to create an 11.2.0.4 database.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1 that are using the 12.2.0.1 GI.

Oracle Database Appliance X7-2-HA Virtualized Platform that is using the 12.2.0.1 GI.

Workaround

Manually configure Oracle Enterprise Manager DB Console after creating the database.

If the appliance is a multi-node system, perform the steps on both nodes. The example assumes a multi-node system:

1. Create a `dbconsole.rsp` response file, as follows, based on your environment.

   To obtain the cluster name for your environment, run the command `$GI_HOME/bin/cemutlo -n`

   ```
   DB_UNIQUE_NAME=pdb_unique_name
   SERVICE_NAME=db_unique_name.db_domain
   PORT=scan listener port
   LISTENER_OH=$GI_HOME
   SYS_PWD=admin password
   DBSNMP_PWD=admin password
   SYSMAN_PWD=admin password
   CLUSTER_NAME=cluster name
   ASM_OH=$GI_HOME
   ASM_SID=+ASM1
   ASM_PORT=asm listener port
   ASM_USER_NAME=ASMSNMP
   ASM_USER_PWD=admin password
   ```

2. Run the command to configure the dbcontrol using the response file. The command will fail with an error. You will use the steps in the output in Step 4.

   ```
   $ORACLE_HOME/bin/emca -config dbcontrol db -repos create -cluster -silent -
   respFile dbconsole.rsp

   Error securing Database Control. Database Control has not been brought-up on
   nodes node1 node2
   ```

```
Execute the following command(s) on nodes: node1 node2

1. Set the environment variable ORACLE_UNQNAME to the Database unique name.
2. /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl config emkey -repos
-sysman_pwd Password for SYSMAN user -host node -sid  Database unique
name
3. /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl secure dbconsole
-sysman_pwd Password for SYSMAN user -host node -sid  Database unique
name
4. /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl start dbconsole

To secure Em Key, run /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl
config emkey -remove_from_repos -sysman_pwd Password for SYSMAN user
```

3. Use vi editor to open `$ORACLE_HOME/bin/emctl`, then change the setting `CRS_HOME=` to `CRS_HOME=/u01/app/12.2.0.1/grid`
4. Run the steps reported by `emca` in Step 2 with the proper values.
5. Configure dbconsole in Node1 , so that agent in Node0 reports to the dbconsole in Node0, and the agent in Node1 reports to the dbconsole in Node1:

   ```
   $ORACLE_HOME/bin/emca -reconfig dbcontrol -silent -cluster -EM_NODE node0
   host -EM_NODE_LIST node1 host -DB_UNIQUE_NAME db_unique_name
   -SERVICE_NAME db_unique_name.db_domain
   ```

6. Use vi editor to open `$ORACLE_HOME/bin/emctl`, then change the setting `CRS_HOME=` to `CRS_HOME=/u01/app/12.2.0.1/grid`
7. Check the db console configuration status.

   ```
   # /u01/app/oracle/product/11.2.0.4/dbhome_1/bin/emctl  status agent
      - https://public IP for Node0:1158/em
      - https://public IP for Node1:1158/em
   ```

This issue is tracked with Oracle bug 27071994.

D.14 ODA_BASE is in read-only mode or cannot start

The `/OVS` directory is full and ODA_BASE is in read-only mode.

The `vmcore` file in the `/OVS/ var` directory can cause the `/OVS` directory (Dom 0) to become 100% used. When Dom 0 is full, ODA_BASE is in read-only mode or cannot start.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1.

Oracle Database Appliance X7-2-HA Virtualized Platform.

Workaround

Perform the following to correct or prevent this issue:

- Periodically check the file usage on Dom 0 and clean up the `vmcore` file, as needed.
- Edit the `oda_base vm.cfg` file and change the `on_crash = 'coredump-restart'` parameter to `on_crash = 'restart'`. Especially when ODA_BASE is using more than 200 GB (gigabytes) of memory.

This issue is tracked with Oracle bug 26121450.

D.15 OAKERR:7007 Error encountered while starting VM

When starting a virtual machine (VM), an error message appears that the domain does not exist.

If a VM was cloned in Oracle Database Appliance 12.1.2.10 or earlier, you cannot start the HVM domain VMs in Oracle Database Appliance 12.1.2.11.

This issue does not impact newly cloned VMs in Oracle Database Appliance 12.1.2.11 or any other type of VM cloned on older versions. The vm templates were fixed in 12.1.2.11.0.

When trying to start the VM (`vm4` in this example), the output is similar to the following:

```
# oakcli start vm vm4 -d
.
Start VM : test on Node Number : 0 failed.
DETAILS:
        Attempting to start vm on node:0=>FAILED.
<OAKERR:7007 Error  encountered while starting VM -  Error: Domain 'vm4' does not
exist.>
```

The following is an example of the `vm.cfg` file for `vm4`:

```
vif = ['']
name = 'vm4'
extra = 'NODENAME=vm4'
builder = 'hvm'
cpus = '0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23'
vcpus = 2
memory = 2048
cpu_cap = 0
vnc = 1
serial = 'pty'
disk =
[u'file:/OVS/Repositories/odarepo1/VirtualMachines/vm4/68c32afe2ba8493e89f018a

970c644ea.img,xvda,w']
maxvcpus = 2
maxmem = 2048
```

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Oracle Database Appliance X7-2-HA Virtualized Platform.

Workaround

Delete the extra `= 'NODENAME=`*`vm_name`*`'` line from the `vm.cfg` file for the VM that failed to start.

1. Open the `vm.cfg` file for the virtual machine (vm) that failed to start.
   - Dom0 : /Repositories/ vm_repo_name /.ACFS/snaps/ vm_name / VirtualMachines/ vm_name
   - ODA_BASE : /app/sharedrepo/ vm_repo_name /.ACFS/snaps/ vm_name / VirtualMachines/ vm_name

2. Delete the following line: `extra='NODENAME=vmname'`. For example, if virtual machine `vm4` failed to start, delete the line `extra = 'NODENAME=vm4'`.

```
vif = ['']
name = 'vm4'
extra = 'NODENAME=vm4'
builder = 'hvm'
cpus = '0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23'
vcpus = 2
memory = 2048
cpu_cap = 0
vnc = 1
serial = 'pty'
disk =
[u'file:/OVS/Repositories/odarepo1/VirtualMachines/vm4/68c32afe2ba8493e89f018a

970c644ea.img,xvda,w']
maxvcpus = 2
maxmem = 2048
```

3. Start the virtual machine on Oracle Database Appliance 12.1.2.11.0.

```
# oakcli start vm vm4
```

This issue is tracked with Oracle bug 25943318.

D.16 Server patch does not update the kernel version

After applying the server patch and rebooting the node, the kernel version is not updated.

This issue occurs with Oracle Database Appliance 12.1.2.11 and 12.1.2.12.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1

Workaround

1. Update to release 12.2.1.2.0

```
# oakli update -patch 12.2.1.2.0 --server --local
```

2. Remove the kernel rpm.

```
# rpm -e kernel-uek-4.1.12-103.3.8.1.el6uek.x86_64
```

3. Manually install the kernel rpm using `rpm -ivh`.

```
kernel-uek-4.1.12-103.3.8.1.el6uek.x86_64
```

4. Modify `/boot/grub/grub.conf` to boot from the new kernel. Change `default=1` to `default=0`

```
# cat /boot/grub/grub.conf
timeout=5
splashimage=(hd0,0)/grub/splash.xpm.gz
#hiddenmenu
serial --unit=0 --speed=115200  --word=8 --parity=no --stop=1
terminal --timeout=5 serial console
default=0
title Oracle Linux Server Unbreakable Enterprise Kernel
(4.1.12-103.3.8.1.el6uek.x86_64)
```

```
        root (hd0,0)
        kernel /vmlinuz-4.1.12-103.3.8.1.el6uek.x86_64 ro root=LABEL=rootfs
tsc=reliable nohpet nopmtimer hda=noprobe hdb=noprobe ide0=noprobe numa=off
console=tty0 console=ttyS0,115200n8 selinux=0 nohz=off crashkernel=256M@64M
loglevel=3 panic=60 ipv6.disable=1 transparent_hugepage=never NODENUM=0
PRODUCT=SUN_SERVER_X4-2 TYPE=V3 pci=noaer
        initrd /initramfs-4.1.12-103.3.8.1.el6uek.x86_64.img
title Oracle Linux Server (4.1.12-61.44.1.el6uek.x86_64)
        root (hd0,0)
         kernel /vmlinuz-4.1.12-61.44.1.el6uek.x86_64 ro root=LABEL=rootfs
tsc=reliable nohpet nopmtimer hda=noprobe hdb=noprobe ide0=noprobe numa=off
console=tty0 console=ttyS0,115200n8 selinux=0 nohz=off crashkernel=256M@64M
loglevel=3 panic=60 ipv6.disable=1 transparent_hugepage=never NODENUM=0
PRODUCT=SUN_SERVER_X4-2 TYPE=V3 pci=noaer
       initrd /initramfs-4.1.12-61.44.1.el6uek.x86_64.img
```

5. Reboot the node.
6. Confirm the new kernel is running on the system.

```
# uname -r 4.1.12-103.3.8.1.el6uek.x86_64
```

7. Repeat for Node 1.

This issue is tracked with Oracle bug 26887116.

D.17 Server patch does not set an active version of Oracle Clusterware

The server patch does not set an active version of Oracle Clusterware. Before upgrading, link the Grid Software with the Reliable Datagram Sockets (RDS) protocol.

For hardware with a CX3 card, the interconnect IPC should be linked with RDS, instead of UDP. If you are using UDP for the Oracle Grid Infrastructure home IP protocol, the following error message appears:

```
**************************************************************
The grid software on this system is linked with UDP/IP protocol. It should be
relinked with RDS protocol.

For more details, please refer to the 12.2.1.2.0 release notes and README.
**************************************************************
```

Hardware Models

Oracle Database Appliance X6-2-HA and X5-2

Workaround

During scheduled downtime, relink Oracle with RDS on both nodes.

```
cd $ORACLE_HOME/rdbms/lib  make -f ins_rdbms.mk ipc_rds
make -f ins_rdbms.mk ipc_rds
```

This issue is tracked with Oracle bug 27366876.

D.18 Oracle ASR version is 5.7.6 instead of 5.7.7

The Oracle Auto Service Request (Oracle ASR) version is 5.7.6 in Oracle Database Appliance 12.2.1.2.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1.

Workaround

None.

This issue is tracked with Oracle bug 27418286.

D.19 Unrecognized Token Messages Appear in /var/log/messages

After updating Oracle Database Appliance, unrecognized token messages appear in `/var/log/messages`.

Updating to Oracle Database Appliance 12.1.2.11.0 updates the Oracle VM Server version to 3.4.3. After updating, the following messages appear in `/var/log/messages`:

```
Unrecognized token: "max_seq_redisc"
Unrecognized token: "rereg_on_guid_migr"
Unrecognized token: "aguid_inout_notice"
Unrecognized token: "sm_assign_guid_func"
Unrecognized token: "reports"
Unrecognized token: "per_module_logging"
Unrecognized token: "consolidate_ipv4_mask"
```

You can ignore the messages for these parameters, they do not impact the InfiniBand compliant Subnet Manager and Administration (opensm) functionality. However, Oracle recommends removing the parameters to avoid flooding `/var/log/messages`.

Hardware Models

Oracle Database Appliance X6-2-HA and X5-2 with InfiniBand

Workaround

Perform the following to remove the parameters:

1. After patching, update the `/etc/opensm/opensm.conf` file in bare metal deployments and in Dom0 in virtualized platform environment to remove the parameters.

```
cat /etc/opensm/opensm.conf  | egrep -w
'max_seq_redisc|rereg_on_guid_migr|aguid_inout_notice|sm_assign_guid_func|repo
rts|per_module_logging|consolidate_ipv4_mask' | grep -v ^#
max_seq_redisc 0
rereg_on_guid_migr FALSE
aguid_inout_notice FALSE
sm_assign_guid_func uniq_count
reports 2
```

```
per_module_logging FALSE
consolidate_ipv4_mask 0xFFFFFFFF
```

2. Reboot. The messages will not appear after rebooting the node.

This issue is tracked with Oracle bug 25985258.

D.20 Virtual machine task blocked

After updating to Oracle Database Appliance 12.1.2.11.0, the IOs to local disks can get stuck and block tasks.

The issue is cased by an Oracle Linux bug when using Oracle VM 3.4.3. All Oracle Database Appliance guest virtual machines that use multiple VLANS and have VDISKS might encounter this bug, causing the IO to hang. The problem can manifest itself in different ways, depending on which process gets stuck. For example, after deploying ODA_BASE, the untar command cannot proceed or virtual machines can hang.

Hardware Models

Oracle Database Appliance X6-2-HA, X5-2, X4-2, X3-2, and V1 with guest virtual machines that use multiple VLANS and VDISKS.

Workaround

Oracle Database Appliance X6-2-HA and X5-2 Dom0 use grub2. For these models, perform the following to set the `gnttab_max_frames` to 256 on `dom0` of both nodes:

1. Increase the `gnttab_max_frames` in the update `/etc/default/grub` file by changing the following line:

   ```
   GRUB_CMDLINE_XEN="dom0_mem=max:4096MM allowsuperpage crashkernel=256M@64M extra_
   guest_irqs=256,2048 nr_irqs=2048 dom0_vcpus_pin dom0_max_vcpus=20"
   ```

   to

   ```
   GRUB_CMDLINE_XEN="dom0_mem=max:4096MM allowsuperpage crashkernel=256M@64M extra_
   guest_irqs=256,2048 nr_irqs=2048 dom0_vcpus_pin dom0_max_vcpus=20
   gnttab_max_frames=256"
   ```

2. Create a new configuration file based on the changes.

   ```
   grub2-mkconfig -o /boot/grub2/grub.cfg
   ```

3. Reboot.
4. Repeat the process on Dom0 of the second node.

Oracle Database Appliance X4-2, X3-2, and V1 Dom0 uses grub1. For these models, perform the following to set the `gnttab_max_frames` to 256 in the xen hypervisor on Dom0 of both nodes:

1. Open the `/boot/grub/grub.conf` file in Dom0.
2. Add the line `gnttab_max_frames=256` at the `xen.gz` command line.

   For example, change the following line:

   ```
   kernel /xen.gz dom0_mem=4096M crashkernel=256M@64M
   ```

   to

```
kernel /xen.gz dom0_mem=4096M crashkernel=256M@64M gnttab_max_frames=256
```

3. Reboot.
4. Repeat the process on Dom0 of the second node.

This issue is tracked with Oracle bug 26731461.

D.21 High Availability IP (HAIP) addresses are not supported

High Availability IP (HAIP) addresses are not supported on Oracle engineered systems.

If you use an HAIP address, then an error message will appear in your operating system log indicating that the address is not supported.

The following error messages might appear in system logs during boot of Oracle Database Appliance systems:

```
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651622] ** WARNING WARNING WARNING
WARNING WARNING        **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651624] **
                    **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651627] ** RDS/IB: Link local address
169.254.165.15 NOT SUPPORTED  **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651629] **
                    **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651631] ** HAIP IP addresses should
not be used on ORACLE **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651632] ** engineered systems
                    **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651634] **
                    **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651636] ** If you see this message,
Please refer to       **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651638] ** cluster_interconnects in
MOS note #1274318.1   **
Aug 11 15:31:11 odac1n1 kernel: [ 9932.651639]
```

You can ignore these messages. Functionality is not impacted.

Hardware Models

Oracle Database Appliance X6-2S, X6-2M, X6-2L, X6-2-HA, X5-2, X4-2, X3-2, and V1

This issue is tracked with Oracle bug 26623697.

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