Oracle® Database Appliance
Release Notes

Release 12.2.1.4.0 for Linux x86-64

ORACLE®

Oracle Database Appliance Release Notes, Release 12.2.1.4.0 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
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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
Changes in This Release

Oracle Database Appliance 12.2.1.4.0 contains several new features and enhancements.

- What's New in This Release
  Release 12.2.1.4.0 includes new features and the latest Oracle Database release updates.

1.1 What's New in This Release

Release 12.2.1.4.0 includes new features and the latest Oracle Database release updates.

New Features for Oracle Database Appliance

- Support to expand the storage for X7-2-HA, X6-2-HA, X6-2S, and X6-2M hardware models.

  For more information about configuring storage, see the *Oracle Database Appliance Deployment Guide* for your hardware model.

- Oracle Database 12.2.0.1.180417 Release Update (RU)

- Oracle Database 12.1.0.2.180417 Bundle Patch (BP)

- Oracle Database 11.2.0.4.180417 Patch Set Update (PSU)

Oracle Database Appliance Bundle Patches

- **Oracle Database Appliance Patch Bundle for X7-2S, X7-2M, and X7-2-HA (Bare Metal), X6-2S, X6-2M, and X6-2L:** Use patch 28216794 to update Oracle Database Appliance to release 12.2.1.4.0. The patch is available in My Oracle Support.

- **Oracle Database Appliance X6-2-HA, X5-2, and X4-2, X3-2, and V1 Patch Bundle:** Use patch 28216780 to update Oracle Database Appliance to release 12.2.1.4.0. The patch is available in My Oracle Support.

For steps to download and apply the patches, see the topic *Downloading Oracle Database Appliance Software* in this book.

GI Clone, Database RDBMS Clone, and ISO Image Patches for Oracle Database Appliance

Oracle Database Appliance patches are available in My Oracle Support. When selecting a patch, ensure that you select the 12.2.1.4.0 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 12.2.0.1.180417 RDBMS Software Clone file to create new 12.2.0.1 database homes.

- **12.1.0.2 Database**: Use the Oracle 12.1.0.2.180417 RDBMS Software Clone file to create new 12.1.0.2 database homes.

- **11.2.0.4 Database**: Use the Oracle 11.2.0.4.180417 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.)
>
> After re-imaging, run `/opt/oracle/oak/onecmd/cleanup.pl`, configure the public network with the command `/opt/oracle/oak/bin/oakcli configure firstnet`, and then deploy Oracle Database Appliance.

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

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 12.2.1.4.0 release from the drop down box.

- **VM ISO Image (DOM0)**: Use to reimage Oracle Database Appliance as a Virtualized Platform.

- **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 12.2.0.1.180417 RDBMS Software Clone file to create new 12.2.0.1 database homes.

- **12.1.0.2 Database**: Use the Oracle 12.1.0.2.180417 RDBMS Software Clone file to create new 12.1.0.2 database homes.

- **11.2.0.4 Database**: Use the Oracle 11.2.0.4.180417 RDBMS Software Clone file to create new 11.2.0.4 database homes.

Related Topics

- Oracle Database Appliance Patches

2

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.

- 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 12.2.1.4.0.

- 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:

2.1 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 12.2.1.4.0.

Table 2-1   Component Versions for X7-2-HA, X7-2M, and X7-2S in 12.2.1.4.0

Component Name	X7-2-HA	X7-2S and X7-2M	X7-2-HA Virtualized Platform
Controller	13.00.00.00	QDV1RE14	13.00.00.00
Expander	306	Not applicable	306
SSD	A122	Not applicable	A122 For the HDD/SSD option: A374/A122
HDD	A374	Not applicable	A374
NVMe (firmware version)	Not applicable	QDV1RE14	Not applicable
OS Disk (SSD firmware version)	0112	0112	0112
ILOM (Oracle Integrated Lights Out Manager)	4.0.2.20.b.r123704	4.0.2.20.b.r123704	4.0.2.20.b.r123704
BIOS	41021300	41021300	41021300

Table 2-1   (Cont.) Component Versions for X7-2-HA, X7-2M, and X7-2S in 12.2.1.4.0

Component Name	X7-2-HA	X7-2S and X7-2M	X7-2-HA Virtualized Platform
IPMI (Intelligent Platform Management Interface)	1.8.12.4	1.8.12.4	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.11	2.4.1.0.11	2.4.1.0.11
OAK	12.2.1.4.0	12.2.1.4.0	12.2.1.4.0
Oracle Linux	6.9	6.9	6.9
Kernel	4.1.12-112.16.8.el6uek.x86_64	4.1.12-112.16.8.el6uek.x86_64	4.1.12-94.4.1.el6uek.x86_64
OVM (Oracle VM Server)	Not applicable	Not applicable	3.4.4
GI_HOME	12.2.0.1.180417	12.2.0.1.180417	12.2.0.1.180417
DB_HOME	12.2.0.1.180417 12.1.0.2.180417 11.2.0.4.180417	12.2.0.1.180417 12.1.0.2.180417 11.2.0.4.180417	12.2.0.1.180417 12.1.0.2.180417 11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7	5.7.7	5.7.7
Java Development Kit (JDK)	1.8.0_172	1.8.0_172	1.8.0_172

2.2 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:

- Error after running the cleanup script

> **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.

2.3 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:

- Error starting Oracle ACFS Database after patching database home
- Upgrade fails if database is not running

- Repository in offline or unknown status after patching
- Errors after restarting CRS
- 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.

2.4 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:

- Old configuration details persisting in custom environment
- Node restarts when an NVMe device is powered off
- Incorrect SGA and PGA values displayed
- Unable to use the Web Console on Microsoft web browsers
- Unable to use the backup report saved from the Web Console in command line
- Unable to create an Oracle ASM Database for Release 12.1
- Unable to patch an empty Oracle Database 12.1 dbhome
- ODACLI does not work
- 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.

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.

- 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 are issues 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 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 12.2.1.4.0

Component Name	Version
Controller	4.650.00-7176
NVMe (firmware version)	KPYA7R3Q
OS Disk	0R3Q
ILOM (Oracle Integrated Lights Out Manager)	X6-2S, X6-2M: 3.2.9.23.r116695 X6-2L: 4.0.0.24.r121140
BIOS	X6-2S, X6-2M: 38070200 X6-2L: 39090000
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	For new install: 2.4.1.0.11 For upgrade: 2.4.1.0.9
OAK	12.2.1.4.0
Oracle Linux	6.9

Table 3-1   (Cont.) Component Versions for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in 12.2.1.4.0

Component Name	Version
Kernel	4.1.12-112.16.8.el6uek.x86_64
GI_HOME	12.2.0.1.180417
DB_HOME	12.2.0.1.180417
	12.1.0.2.180417
	11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7

3.2 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.

- Database creation fails for odb-01s DSS databases

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

The following are issues updating Oracle Database Appliance X6-2S, X6-2M or X6-2L:

- Cannot use the -local option to upgrade GI
- Error: patch zip does not exist

3.4 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:

- Node restarts when an NVMe device is powered off
- Error in node number information when running network CLI commands
- 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 X6-2-HA

Learn what's new and known issues with 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:

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

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

Table 4-1   Component Versions for Oracle Database Appliance X6-2-HA in 12.2.1.4.0

Component Name	Version
Controller_INT	4.650.00-7176
Controller_Ext	13.00.00.00
Expander	0306
SSD_LOCAL	A29A
SSD_SHARED	A29A
ILOM (Oracle Integrated Lights Out Manager)	4.0.2.26.a r123797
BIOS	38100300
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.11
OAK	12.2.1.4.0
Oracle Linux	6.9
Kernel	4.1.12-112.16.8.el6uek.x86_64
OVM (Oracle VM Server)	3.4.4
Dom0 Kernel	4.1.12-112.16.8.el6uek.x86_64
GI_HOME	12.2.0.1.180417

Table 4-1   (Cont.) Component Versions for Oracle Database Appliance X6-2-HA in 12.2.1.4.0

Component Name	Version
DB_HOME	12.2.0.1.180417
	12.1.0.2.180417
	11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7

4.2 Issues Deploying Oracle Database Appliance X6-2-HA

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

4.3 Issues Updating Oracle Database Appliance X6-2-HA

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

- Error when upgrading virtualized platforms to 12.2.1.4.0
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform
- Unrecognized token messages appear in /var/log/messages

4.4 Issues Managing Oracle Database Appliance X6-2-HA

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

- Unable to create an Oracle ASM Database for Release 12.1
- Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.2
- 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
- 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 X5-2

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

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

5.1 Component Versions for Oracle Database Appliance X5-2

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

Table 5-1   Component Versions for Oracle Database Appliance X5-2 for 12.2.1.4.0

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)	4.0.2.26.a r123797
BIOS	30130400
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.11
OAK	12.2.1.4.0
Oracle Linux	6.9
Kernel	4.1.12-112.16.8.el6uek.x86_64
OVM (Oracle VM Server)	3.4.4
Dom0 Kernel	4.1.12-112.16.8.el6uek.x86_64

Table 5-1   (Cont.) Component Versions for Oracle Database Appliance X5-2 for 12.2.1.4.0

Component Name	Version
GI_HOME	12.2.0.1.180417
DB_HOME	12.2.0.1.180417
	12.1.0.2.180417
	11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7

5.2 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

5.3 Issues Updating Oracle Database Appliance X5-2

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

- Error when upgrading virtualized platforms to 12.2.1.4.0
- Server patch does not update the kernel version
- FLASH disk group is not mounted when patching or provisioning the server
- Do not use the local patching option on a virtualized platform
- Unrecognized token messages appear in /var/log/messages

5.4 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

6

Oracle Database Appliance X4-2

Learn what's new and known issues with 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:

6.1 Component Versions for Oracle Database Appliance X4-2

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

Table 6-1   Component Versions for Oracle Database Appliance X4-2 in 12.2.1.4.0

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)	4.0.2.27.a-es-r123795
BIOS	25060300
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.11
OAK	12.2.1.4.0

Table 6-1   (Cont.) Component Versions for Oracle Database Appliance X4-2 in 12.2.1.4.0

Component Name	Version
Oracle Linux	6.9
Kernel	4.1.12-112.16.8.el6uek.x86_64
OVM (Oracle VM Server)	3.4.4
Dom0 Kernel	4.1.12-112.16.8.el6uek.x86_64
GI_HOME	12.2.0.1.180417
DB_HOME	12.2.0.1.180417
	12.1.0.2.180417
	11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7

6.2 Issues Deploying Oracle Database Appliance X4-2

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

6.3 Issues Updating Oracle Database Appliance X4-2

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

- Error when upgrading virtualized platforms to 12.2.1.4.0
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform

6.4 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

7

Oracle Database Appliance X3-2

Learn what's new and known issues 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:

7.1 Component Versions for Oracle Database Appliance X3-2

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

Table 7-1   Component Versions for Oracle Database Appliance X3-2 in 12.2.1.4.0

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)	4.0.2.27-es-r124478
BIOS	17140200
IPMI (Intelligent Platform Management Interface)	1.8.12.4
HMP (Oracle Hardware Management Pack)	2.4.1.0.11
OAK	12.2.1.4.0
Oracle Linux	6.9
Kernel	4.1.12-112.16.8.el6uek.x86_64
OVM (Oracle VM Server)	3.4.4
Dom0 Kernel	4.1.12-112.16.8.el6uek.x86_64

Table 7-1   (Cont.) Component Versions for Oracle Database Appliance X3-2 in 12.2.1.4.0

Component Name	Version
GI_HOME	12.2.0.1.180417
DB_HOME	12.2.0.1.180417
	12.1.0.2.180417
	11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7

7.2 Issues Deploying Oracle Database Appliance X3-2

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

7.3 Issues Updating Oracle Database Appliance X3-2

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

- Error when upgrading virtualized platforms to 12.2.1.4.0
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform

7.4 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

8

Oracle Database Appliance V1

Learn what's new and known issues 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 12.2.1.4.0 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:

8.1 Component Versions for Oracle Database Appliance V1

The matrix displays the component versions available for Oracle Database Appliance
V1 in the 12.2.1.4.0 release.

Table 8-1   Component Versions for Oracle Database Appliance V1 in 12.2.1.4.0

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)	2.4.1.0.11
OAK	12.2.1.4.0
Oracle Linux	6.9
Kernel	4.1.12-112.16.8.el6uek.x86_64
OVM (Oracle VM Server)	3.4.4
Dom0 Kernel	4.1.12-112.16.8.el6uek.x86_64
GI_HOME	12.2.0.1.180417

Table 8-1   (Cont.) Component Versions for Oracle Database Appliance V1 in 12.2.1.4.0

Component Name	Version
DB_HOME	12.2.0.1.180417
	12.1.0.2.180417
	11.2.0.4.180417
Oracle Auto Service Request (Oracle ASR)	5.7.7

8.2 Issues Deploying Oracle Database Appliance V1

There are no known issues deploying Oracle Database Appliance.

8.3 Issues Updating Oracle Database Appliance V1

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

- Error when upgrading virtualized platforms to 12.2.1.4.0
- Server patch does not update the kernel version
- Do not use the local patching option on a virtualized platform

8.4 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.

- **Patching from Previous Releases**
  Understand the minimum versions for patching Oracle Database Appliance to later releases.

- **Minimum Software Version Requirements**
  Review the minimum software version requirements for upgrading to this release of Oracle Database Appliance.

- **Downloading and Applying Oracle Database Appliance Patches**
  This topic describes the steps to download and apply Oracle Database Appliance 12.2.1.4.0 patch bundle.

- **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 Patching from Previous Releases

Understand the minimum versions for patching Oracle Database Appliance to later releases.

Patching Oracle Database Appliance Release 12.1.2.6 or Later

Oracle recommends that you patch your Oracle Database Appliance deployment to within the previous four releases. There may be a minimum patch-level requirement for upgrades to certain releases. Use the following table as an indicator for minimum requirements for patching to a release.

Table A-1   Minimum Patch Requirements for Oracle Database Appliance Releases

Supported Oracle Database Appliance Release	Minimum Release Requirement for Patching
12.2.1.4.0	• 12.2.1.3.0 • 12.2.1.2.0 • 12.1.2.12
12.2.1.3.0	• 12.2.1.2.0 • 12.1.2.12
12.2.1.2.0	• 12.1.2.12 **Note:** 12.2.1.2.0 is not supported on virtualized platform.
12.1.2.12	• 12.1.2.11 • 12.1.2.10 • 12.1.2.9 • 12.1.2.8
12.1.2.11	• 12.1.2.10 • 12.1.2.9 • 12.1.2.8 • 12.1.2.7
12.1.2.10	• 12.1.2.9 • 12.1.2.8 • 12.1.2.7 • 12.1.2.6
12.1.2.9	• 12.1.2.8 • 12.1.2.7 • 12.1.2.6
12.1.2.8	• 12.1.2.7 • 12.1.2.6
12.1.2.7	• 12.1.2.6
12.1.2.6	• 12.1.2.5

Release 12.2.1.1.0 is only supported on X7–2 models and hence is not listed in the table.

Patching Oracle Database Appliance Release 12.1.2.5 or Earlier

The following table lists the upgrade paths for Oracle Database Appliance Release 12.1.2.5 or earlier.

Table A-2   Minimum Patch Requirements for Releases Earlier than Release 12.1.2.5

Oracle Database Appliance Release	Minimum Release Requirement for Patching
12.1.2.5	12.1.2.0 to 12.1.2.4
12.1.2.0.0	2.2.0.0.0 to 2.10.0.0.0
2.2.0.0.0	2.1.0.3.1 or earlier

Patching Oracle Database Appliance Release 12.1.2.1.0 to Release 12.1.2.5.0 or Later

Consider the following when patching Oracle Database Appliance Release 12.1.2.1.0:

- Patch Oracle Database Appliance Release 12.1.2.1.0 to Release 12.1.2.5.0 and then apply the patches for 12.1.2.6.0.

- If the file `/opt/oracle/oak/pkgrepos/orapkgs/DB/12.1.0.2.1/Patches/19303936/p19392646_121020_Linux-x86-64.zip` does not exist, then download and unpack `p21086542_121230_Linux-x86-64.zip` together with two files `p21645601_121250_Linux-x86-64_*of2.zip`. On both nodes, ensure that you unpack `*21086542*` first and then two`p21645601*.zip`.

- Follow the 12.1.2.5.0 patch 21645601 README to complete the 12.1.2.5.0 patching. Then download two `p22328442_121260_Linux-x86-64_*of2.zip`. On both nodes, ensure that you unpack two `p22328442*zip`.

A.2 Minimum Software Version Requirements

Review the minimum software version requirements for upgrading to this release of Oracle Database Appliance.

To upgrade to Oracle Database Appliance Release 12.2.1.4.0, your deployment must be on Release 12.1.2.12 or later.

A.3 Downloading and Applying Oracle Database Appliance Patches

This topic describes the steps to download and apply Oracle Database Appliance 12.2.1.4.0 patch bundle.

Use the patch bundle to update to the latest quarterly release after Oracle Database Appliance is deployed. The patch updates the Oracle Database Appliance server, storage, and database components. For detailed information about pre-installation requirements, and post-installation configuration, see the *Oracle Database Appliance Deployment and User's Guide* for your hardware model.

1. From an external client machine, log on to My Oracle Support.

2. Locate the patch bundle for your Oracle Database Appliance hardware model.

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

   28216794

   For Oracle Database Appliance X7-2-HA virtualized platform, X6-2-HA, X5-2, and X4-2, X3-2, and V1:

   28216780

3. Select the patch version for Oracle Appliance Kit 12.2.1.4.0.

4. Click **Download** to download the zip files onto your external client.

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

```
p28216794_122140_Linux-x86-64_1of3.zip
p28216794_122140_Linux-x86-64_2of3.zip
p28216794_122140_Linux-x86-64_3of3.zip
```

For Oracle Database Appliance X7-2-HA virtualized platform, X6-2-HA, X5-2, and X4-2, X3-2, and V1:

```
p28216780_122140_Linux-x86-64_1of3.zip
p28216780_122140_Linux-x86-64_2of3.zip
p28216780_122140_Linux-x86-64_3of3.zip
```

5. Upload the files from your local system to a temporary location on Oracle Database Appliance.

> **Note:**
>
> If you use a USB drive to transfer the file, then format it first as FAT32, ext3, or ext4. NTFS file formats are not supported.

6. Extract the software.

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

Unzip p28216794_122140_Linux-x86-64_1of3.zip to extract the file oda-sm-12.2.1.4.0-180703-server1of3.zip.

Unzip p28216794_122140_Linux-x86-64_2of3.zip to extract the file oda-sm-12.2.1.4.0-180703-server2of3.zip.

Unzip p28216794_122140_Linux-x86-64_3of3.zip to extract the file oda-sm-12.2.1.4.0-180703-server3of3.zip.

For Oracle Database Appliance X7-2-HA virtualized platform, X6-2-HA, X5-2, and X4-2, X3-2, and V1:

```
# oakcli unpack -package /tmp/p28216780_122140_Linux-x86-64_1of3.zip
# oakcli unpack -package /tmp/p28216780_122140_Linux-x86-64_2of3.zip
# oakcli unpack -package /tmp/p28216780_122140_Linux-x86-64_3of3.zip
```

7. Update the repository with the latest patches.

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

```
# /opt/oracle/dcs/bin/odacli update-repository -f
oda-sm-12.2.1.4.0-180703-server1of3.zip,oda-sm-12.2.1.4.0-180703-server2of3.zip,
oda-sm-12.2.1.4.0-180703-server3of3.zip.zip
```

For Oracle Database Appliance X7-2-HA virtualized platform, X6-2-HA, X5-2, and X4-2, X3-2, and V1:

```
#/opt/oracle/oak/bin/oakcli update -patch 12.2.1.4.0 --server --local
```

Related Topics

- https://updates.oracle.com/Orion/PatchDetails/process_form?patch_num=28216794
- https://updates.oracle.com/Orion/PatchDetails/process_form?patch_num=28216780

A.4 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 12.2.1.4.0 from the release list.

Table A-3   Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Release 12.2.1.4.0

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for X7 ODACLI/DCS stack	28216794	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

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Table A-3   (Cont.) Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Release 12.2.1.4.0

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 12.2.0.1.180417 for ODACLI/DCS stack	27119402	Use to create 12.2.0.1.180417 database homes for the ODACLI/DCS stack.	• Updating the Patch Repository • Creating a Database Home
Oracle Database Appliance RDBMS Clone 12.1.0.2.180417 for ODACLI/DCS stack	23494992 Select release 12.2.1.4.0	Use to create new 12.1.0.2.180417 database homes for the ODACLI/DCS stack.	• Updating the Patch Repository • Creating a Database Home
Oracle Database Appliance RDBMS Clone 11.2.0.4.180417 for ODACLI/DCS stack	23494997 Select release 12.2.1.4.0	Use to create new 11.2.0.4.180417 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 12.2.1.4.0	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

Table A-3   (Cont.) Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Release 12.2.1.4.0

Patch Type	Patch Number	Description	Resources
(Optional) Oracle Database Appliance ISO Image for X7-2-HA	12999313 From the drop-down list, select 12.2.1.4.0	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.5 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 12.2.1.4.0 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-4   Oracle Database Appliance X7-2-HA Patches

Patch Type	Patch Number	Description	Resources
VM ISO Image (DOM0)	16186163 From the drop-down list, select 12.2.1.4.0	Use to reimage Oracle Database Appliance as a Virtualized Platform.	• Creating an Oracle Database Appliance Virtualized Platform • Installing a Virtualized OS ISO Image

Table A-4   (Cont.) Oracle Database Appliance X7-2-HA Patches

Patch Type	Patch Number	Description	Resources
VM Template (ODA_BASE)	16186172 From the drop-down list, select 12.2.1.4.0	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 12.2.0.1.180417 Release Update (RU)	27449599	Use to create new 12.2.0.1.180417 database homes.	• Downloading an RDBMS Clone File
RDBMS Clone file for 12.1.0.2.180417 Bundle Patch (BP)	19520042	Use to create new 12.1.0.2.180417 database homes.	• Downloading an RDBMS Clone File
RDBMS Clone file for 11.2.0.4.180417 Patch Set Update (PSU)	17770873	Use to create new 11.2.0.4.180417 database homes.	• Downloading an RDBMS Clone File

Related Topics

• https://support.oracle.com/rs?type=doc&id=888888.1

A.6 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 12.2.1.4.0 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-5   Oracle Database Appliance X6-2-HA Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Patch Bundle for 12.2.1.4.0	28216780	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 From the drop-down list, select 12.2.1.4.0	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

Table A-5   (Cont.) Oracle Database Appliance X6-2-HA Patches

Patch Type	Patch Number	Description	Resources
VM ISO Image (DOM0)	16186163 From the drop-down list, select 12.2.1.4.0	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 12.2.1.4.0	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
RDBMS Clone file for 12.2.0.1.180417 Release Update (RU)	27449599	Use to create a 12.1.0.2.180417 database home.	• Downloading an RDBMS Clone File • Creating a Database Home
RDBMS Clone file for 12.1.0.2.180417 Bundle Patch (BP)	19520042	Use to create a 12.1.0.2.180417 database home.	• Downloading an RDBMS Clone File
RDBMS Clone file for 11.2.0.4.180417 Patch Set Update (PSU)	17770873	Use to create a 11.2.0.4.180417 database home.	• Downloading an RDBMS Clone File

Table A-5   (Cont.) Oracle Database Appliance X6-2-HA Patches

Patch Type	Patch Number	Description	Resources
ISO Image	12999313 From the drop-down list, select 12.2.1.4.0	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.7 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 12.2.1.4.0 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-6   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	28216794	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: • 12.2.0.1.180417 Release Update (RU) • 12.1.0.2.180417 Bundle Patch (BP) • 11.2.0.4.180417 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
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

Table A-6   (Cont.) Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance patch bundle for 12.2.1.4.0	28216794	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 12.2.1.4.0	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 12.2.0.1.180417 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 12.1.0.2.180417 database homes for the ODACLI/DCS stack.	Downloading an RDBMS Clone File
RDBMS Clone files for Oracle Database 11.2.0.4 for ODACLI/DCS stack	23494997	Use to create new 11.2.0.4.180417 database homes for the ODACLI/DCS stack.	Downloading an RDBMS Clone File

Table A-6   (Cont.) Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches

Patch Type	Patch Number	Description	Resources
(Optional) ISO Image	23530609 From the drop-down list, select 12.2.1.4.0	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 are issues updating Oracle Database Appliance X6-2S, X6-2M or X6-2L:

A.8 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 12.2.1.4.0 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-7   Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance patch bundle for 12.2.1.4.0	28216780	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 12.2.1.4.0	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 12.2.1.4.0	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 12.2.0.1.180417 Release Update (RU)	27449599	Use to create 12.2.0.1.180417 database homes.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance
RDBMS Clone file for 12.1.0.2.180417 Bundle Patch (BP)	19520042	Use to create new 12.1.0.2.180417 database homes.	How to Upgrade and Update the Oracle Database on Oracle Database Appliance

Table A-7   (Cont.) Oracle Database Appliance X5-2, X4-2, X3-2, and V1 Patches

Patch Type	Patch Number	Description	Resources
RDBMS Clone file for 11.2.0.4.180417 Patch Set Update (PSU)	17770873	Use to create new 11.2.0.4.180417 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 12.2.1.4.0	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:

- **Error starting Oracle ACFS Database after patching database home**
  When Oracle ACFS and Oracle ASM databases exist in the same Oracle homes, they may fail to start, after patching.

- **Performance degradation on virtualized platform**
  Performance can be significantly affected on the virtualized platform for Oracle Database Appliance, if certain configuration changes are not made.

- **Node restarts when an NVMe device is powered off**
  On certain hardware models of Oracle Database Appliance, the node restarts when an NVMe device is powered off.

- **Unable to use the Web Console on Microsoft web browsers**
  Oracle Appliance Manager Web Console does not display correctly on Microsoft Edge and Microsoft Internet Explorer web browsers.

- **Unable to use the backup report saved from the Web Console in command line**
  You cannot use `odacli` to recover the database from a database backup report saved from Oracle Appliance Manager Web Console.

- **Error in patching 12.2.0.1 Oracle Database homes to the latest patchset**
  Error in patching 12.2.0.1 Oracle Database homes to the latest patchset

- **Repository in offline or unknown status after patching**
  After rolling or local patching of both nodes to 12.2.1.4.0, repositories are in offline or unknown state on node 0 or 1.

- **Errors after restarting CRS**
  If the Cluster Ready Services (CRS) are stopped or restarted, before stopping the repository and virtual machines, then this may cause errors.

- **Old configuration details persisting in custom environment**
  The configuration file `/etc/security/limits.conf` contains default entries even in the case of custom environments.

- **Upgrade fails if database is not running**
  Upgrade from Oracle Database 12.1 to 12.2 fails, if the database is not running.

- **Incorrect SGA and PGA values displayed**
  For online transaction processing (OLTP), In-Memory (IMDB), and decision support services (DSS) databases created with odb36 database shape, the PGA and SGA values are displayed incorrectly.

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

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

- **ODACLI does not work**
  ODACLI does not work because of two `dcscli.jar` files in the directory `/opt/oracle/dcs/bin/` with different versions.

- **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.

- **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 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 Error starting Oracle ACFS Database after patching database home

When Oracle ACFS and Oracle ASM databases exist in the same Oracle homes, they may fail to start, after patching.

You can use Oracle ASM and Oracle ACFS for storage for Oracle database homes. Oracle recommends that you segregate Oracle ACFS and Oracle ASM databases into separate Oracle homes. When Oracle ACFS and Oracle ASM databases exist in the same Oracle Database home, databases may fail to start, after patching.
This can happen when an Oracle ACFS database starts before any Oracle ASM based database has started for the first time. This only occurs immediately after database home patching or Oracle binary relinking. In the non-ASM databases that start before the Oracle ASM database, the non-ASM database starts without issue but after the Oracle ASM database starts, the following errors might occur:

```
ORA-27140: attach to post/wait facility failed
ORA-27300: OS system dependent operation:invalid_egid failed with status: 1
ORA-27301: OS failure message: Operation not permitted
ORA-27302: failure occurred at: skgpwinit6
ORA-27303: additional information: startup egid = 1001 (oinstall), current egid =
1006 (asmadmin)
```

You can prevent this error by adding an Oracle ASM disk group dependency to the non-ASM databases, before patching Oracle Database home.

Follow these steps to add an Oracle ASM disk group dependency:

1. Run all steps as the oracle home owner or user. Set the environment to the GI home.

2. Determine the databases to be reviewed:

   ```
   $ /opt/oracle/oak/bin/oakcli show databases
   ```

3. Check the current configuration as per the Oracle ACFS databases:

    ```
    crsctl stat res ora.DBName.db -p | grep DEPENDENCIES | grep uniform:global
    ```

    Continue to the next step, if nothing is returned.

4. Update the dependency after setting environment for that database home:

    ```
    srvctl modify database -db DBName -diskgroup DATA
    ```

5. Confirm the update:

    ```
    crsctl stat res ora.DBName.db -p | grep DEP | grep uniform:global
    ```

    The change must include the following:

    ```
    START_DEPENDENCIES=hard(uniform:global:ora.DATA.dg,ora.redo.datastore.acfs,ora.da
    ta.datastore.acfs,ora.reco.datastore.acfs,ora.flash.flashdata.acfs)
    weak(type:ora.listener.type,global:type:ora.scan_listener.type,uniform:ora.ons,gl
    obal:ora.gns)
    pullup(global:ora.DATA.dg,ora.redo.datastore.acfs,ora.data.datastore.acfs,ora.rec
    o.datastore.acfs,ora.flash.flashdata.acfs)
    ```

Hardware Models

All supported models of Oracle Database Appliance

Workaround

Restart all Oracle ACFS databases.

This issue is tracked with Oracle bugs 25795974 and 28058830.

B.2 Performance degradation on virtualized platform

Performance can be significantly affected on the virtualized platform for Oracle Database Appliance, if certain configuration changes are not made.

On virtualized platforms, the default scaling governor feature (`scaling_governor`) is set to on-demand instead of performance mode, causing stack stability issues, due to degraded CPU clockspeed.

Hardware Models

Oracle Database Appliance virtualized platforms

Workaround

Explicitly specify the `scaling governor`, `max_cstate`, and `max grant` table frames in `dom0`.

1. Add the cmd line options `cpufreq=xen:performance max_cstate=1 gnttab_max_frames=256` in the `/etc/default/grub` file.

    ```
    GRUB_CMDLINE_XEN="dom0_mem=max:4096MM allowsuperpage
    extra_guest_irqs=256,2048 nr_irqs=2048 dom0_vcpus_pin dom0_max_vcpus=20
    cpufreq=xen:performance max_cstate=1 gnttab_max_frames=256 "
    ```

2. Make the following changes to the GRUB (GRand Unified Boot Loader) file:

    For non-X7-2 hardware models:

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

For X7-2 hardware models:

```
# grub2-mkconfig -o /boot/efi/EFI/redhat/grub.cfg
```

3. Reboot the node.

4. Verify the cmd line is effective:

```
# xenpm  get-cpuidle-states|grep "Max possible C-state"
Max possible C-state: C1

# xenpm get-cpufreq-para|grep current_governor
current_governor: performance
```

This issue is tracked with Oracle bug 28057749.

B.3 Node restarts when an NVMe device is powered off

On certain hardware models of Oracle Database Appliance, the node restarts when an NVMe device is powered off.

On Oracle Database Appliance with Oracle Automatic Storage Management Filter Driver (Oracle ASMFD) configured, the node restarts when an NVMe device is powered off.

Hardware Models

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

Workaround

None.

This bug is tracked with Oracle bug 28090492.

B.4 Unable to use the Web Console on Microsoft web browsers

Oracle Appliance Manager Web Console does not display correctly on Microsoft Edge and Microsoft Internet Explorer web browsers.

Models

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

Workaround

To access the Web Console, use either Google Chrome or Firefox.

This issue is tracked with Oracle bug 27028446.

B.5 Unable to use the backup report saved from the Web Console in command line

You cannot use `odacli` to recover the database from a database backup report saved from Oracle Appliance Manager Web Console.

Models

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

Workaround

Recover the database with the `odacli recover-database` command, using the Backup Report saved with `odacli`, and not the Web Console.

This issue is tracked with Oracle bug 27742604.

B.6 Error in patching 12.2.0.1 Oracle Database homes to the latest patchset

Error in patching 12.2.0.1 Oracle Database homes to the latest patchset

There may be an upgrade error when trying to patch 12.2.0.1 Oracle Database homes to the latest patch, if you are upgrading an existing 12.1.0.2 database to the patched Oracle Database home.

Models

Oracle Database Appliance X7-2-HA, X7-2S, X7-2M, X6-2S, X6-2M, X6-2L, X5-2, X4-2, X3-2, V1

Workaround

Create a new 12.2 Oracle Database home using the 12.2 January 18 clones or manually apply patch for bug 24923080 to the patched 12.2.0.1 Oracle Database homes, and then attempt the upgrade.

This issue is tracked with Oracle bug 27983436.

B.7 Repository in offline or unknown status after patching

After rolling or local patching of both nodes to 12.2.1.4.0, repositories are in offline or unknown state on node 0 or 1.

The command `oakcli start repo <reponame>` fails with the error:

```
OAKERR8038 The filesystem could not be exported as a crs resource
OAKERR:5015 Start repo operation has been disabled by flag
```

Models

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

Workaround

Log in to `oda_base` of any node and run the following two commands:

```
oakcli enable startrepo -node 0
oakcli enable startrepo -node 1
```

The commands start the repositories and enable them to be available online.

This issue is tracked with Oracle bug 27539157.

B.8 Errors after restarting CRS

If the Cluster Ready Services (CRS) are stopped or restarted, before stopping the repository and virtual machines, then this may cause errors.

Repository status is unknown and High Availability Virtual IP is offline if the Cluster Ready Services (CRS) are stopped or restarted before stopping the repository and virtual machines.

Hardware Models

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

Workaround

Follow these steps:

1. Start the High Availability Virtual IP on node1.

   `# /u01/app/GI_version/grid/bin/srvctl start havip -id havip_0`

2. Stop the `oakVmAgent.py` process on `dom0`.

3. Run the lazy unmount option on the `dom0` repository mounts:

   `umount -l mount_points`

This issue is tracked with Oracle bug 20461930.

B.9 Old configuration details persisting in custom environment

The configuration file `/etc/security/limits.conf` contains default entries even in the case of custom environments.

On custom environments, when a single user is configured for both grid and oracle, the default grid user entries for the image are not removed from the `/etc/security/limits.conf` file.

Models

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

Workaround

This issue does not affect the functionality. Manually edit the `/etc/security/limits.conf` file and remove invalid entries.

This issue is tracked with Oracle bug 27036374.

B.10 Upgrade fails if database is not running

Upgrade from Oracle Database 12.1 to 12.2 fails, if the database is not running.

Models

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

Workaround

Start the database manually before performing the upgrade.

This issue is tracked with Oracle bug 27054542.

B.11 Incorrect SGA and PGA values displayed

For online transaction processing (OLTP), In-Memory (IMDB), and decision support services (DSS) databases created with odb36 database shape, the PGA and SGA values are displayed incorrectly.

For OLTP databases created with odb36 shape, following are the issues:

- `sga_target` is set as 128 GB instead of 144 GB
- `pga_aggregate_target` is set as 64 GB instead of 72 GB

For DSS databases created with with odb36 shape, following are the issues:

- `sga_target` is set as 64 GB instead of 72 GB
- `pga_aggregate_target` is set as 128 GB instead of 144 GB

For IMDB databases created with Odb36 shape, following are the issues:

- `sga_target` is set as 128 GB instead of 144 GB
- `pga_aggregate_target` is set as 64 GB instead of 72 GB
- `inmmory_size` is set as 64 GB instead of 72 GB

Models

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

Workaround

Reset the PGA and SGA sizes manually

This issue is tracked with Oracle bug 27036374.

B.12 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.13 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.14 ODACLI does not work

ODACLI does not work because of two `dcscli.jar` files in the directory `/opt/oracle/dcs/bin/` with different versions.

ODA CLI commands do not work.

For example:

```
odacli: '/opt/oracle/dcs/bin/dcscli-2.4.*-SNAPSHOT.jar' is not an odacli command.
```

Hardware Models

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

Workaround

1. Navigate to the `/opt/oracle/dcs/bin` directory.

   ```
   ls dcscli-*
   ```

2. Verify whether there are two CLI jar files.

3. Delete the older CLI jar file.

This issue is tracked with Oracle bug 27807116.

B.15 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.16 Do not use the local patching option on a virtualized platform

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

When you patch Oracle Database Appliance from Release 12.1.2.*x* to Release 12.2.1.*x*, 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 12.2.1.4.0 --server
```

B.17 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.18 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

1. Verify the zookeeper status on the both nodes before starting `dcsagent`:

   ```
   /opt/zookeeper/bin/zkServer.sh status
   ```

   For a single-node environment, the status should be: leader, or follower, or standalone.

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

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

B.19 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.

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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:

- **Cannot use the -local option to upgrade GI**
  Upgrade of Oracle Grid Infrastructure from 12.1.0.2 to 12.2.0.1 does not work, if you specify the `-local` option for upgrade.

- **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.

- **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 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 Cannot use the -local option to upgrade GI

Upgrade of Oracle Grid Infrastructure from 12.1.0.2 to 12.2.0.1 does not work, if you specify the `-local` option for upgrade.

A warning message is displayed, if you specify the `-local` option in the upgrade command when upgrading Oracle Grid Infrastructure from 12.1.0.2 to 12.2.0.1. Specifying the `-local` option in the upgrade command upgrades all components other than the grid infrastructure.

```
WARNING: Current GI version is 12.1.0.2.170418
INFO: Cannot upgrade grid with local patching.
INFO: Do not specify -local to upgrade grid.
Do you want to continue: [Y/N]?: N
```

Hardware Models

Oracle Database Appliance X6-2, X5-2, X4-2, X3-2, and V1 bare metal systems

Workaround

Do not use the `-local` option to upgrade Oracle Grid Infrastructure from 12.1.0.2 to 12.2.0.1.

This issue is tracked with Oracle bug 27937143.

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 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.4 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.5 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:

- Error when upgrading virtualized platforms to 12.2.1.4.0
  When upgrading Oracle Database Appliance hardware models with virtualized platforms to 12.2.1.4.0, perform these manual steps before upgrading to release 12.1.2.12.

- Error when patching Oracle Database 11.2.0.4
  When patching Oracle Database 11.2.0.4, the log file may show some errors.

- 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.

- 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 12.2.0.1
  When upgrading a database from 11.2.0.4 dbhome to 12.2.0.1, 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.

- **Unrecognized Token Messages Appear in /var/log/messages**
  After updating Oracle Database Appliance, unrecognized token messages appear in `/var/log/messages`.

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

- **Error in node number information when running network CLI commands**
  Network information for node0 is always displayed for some `odacli` commands, when the `-u` option is not specified.

- **Database creation fails for odb-01s DSS databases**
  When attempting to create an DSS database with shape odb-01s, the job may fail with the following error:

D.1 Error when upgrading virtualized platforms to 12.2.1.4.0

When upgrading Oracle Database Appliance hardware models with virtualized platforms to 12.2.1.4.0, perform these manual steps before upgrading to release 12.1.2.12.

If you upgrade Oracle Database Appliance hardware models with a virtualized platform, to 12.1.2.12, then there is an error when using the driver domain functionality. To upgrade to Oracle Database Appliance release 12.2.1.4.0, follow the steps documented in the workaround section.

Hardware Models

Oracle Database Appliance X7-2-HA, X6-2-HA, X5-2, X4-2, X3-2, and V1 with a virtualized platform that use driver domain virtual machines

Workaround

Follow these steps to upgrade to Oracle Database Appliance release 12.2.1.4.0:

1. Deploy Oracle Database Appliance release 12.1.2.11 and create multiple virtual machines with driver domain enabled.

2. Shut down all running virtual machines and repository.

3. Apply the release 12.1.2.12 patch bundle.

4. Apply the release 12.2.1.4.0 patch bundle.

5. Start the repository. If you encounter the error `OAKERR:5015 Start repo operation has been disabled by flag`, then run the following command:

   ```
   oakcli enable startrepo -node 0/1
   ```

6. Start the virtual machines and confirm that they have started.

D.2 Error when patching Oracle Database 11.2.0.4

When patching Oracle Database 11.2.0.4, the log file may show some errors.

When patching Oracle Database 11.2.0.4 homes, the following error may be logged in `alert.log`.

```
ORA-00600: internal error code, arguments: [kgfmGetCtx0], [kgfm.c],
[2840], [ctx], [], [], [], [], [], [], [], []
```

Once the patching completes, the error will no longer be raised.

Hardware Models

Oracle Database Appliance X7-2-HA Virtualized Platform, X6-2-HA Bare Metal and Virtualized Platform, X5-2, X4-2, X3-2, and V1.

Workaround

There is no workaround for this issue.

This issue is tracked with Oracle bug 28032876.

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 12.2.1.4.0 --server
```

D.5 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.6 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.7 Errors when upgrading a database from 11.2.0.4 dbhome to 12.2.0.1

When upgrading a database from 11.2.0.4 dbhome to 12.2.0.1, 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 and 27074202.

D.8 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, 27682997, and 21780146. The issues are fixed in Oracle Database 12.1.0.2.170814.

D.9 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.10 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.11 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.12 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.

ORACLE

D.13 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.14 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 12.2.1.4.0

```
# oakli update -patch 12.2.1.4.0 --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.15 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.16 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.

D.17 Error in node number information when running network CLI commands

Network information for node0 is always displayed for some `odacli` commands, when the `-u` option is not specified.

If the `-u` option is not provided, then the `describe-networkinterface`, `list-networks` and the `describe-network odacli` commands always display the results for node0 (the default node), irrespective of whether the command is run from node0 or node1.

Hardware Models

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

Workaround

Specify the `-u` option in the `odacli` command, for details about the current node.

This issue is tracked with Oracle bug 27251239.

D.18 Database creation fails for odb-01s DSS databases

When attempting to create an DSS database with shape odb-01s, the job may fail with the following error:

```
CRS-2674: Start of 'ora.test.db' on 'rwsoda609c1n1' failed
CRS-5017: The resource action "ora.test.db start" encountered the following
error:
ORA-03113: end-of-file on communication channel
Process ID: 0
Session ID: 0 Serial number: 0
. For details refer to "(:CLSN00107:)" in
"/u01/app/grid/diag/crs/rwsoda609c1n2/crs/trace/crsd_oraagent_oracle.trc".
```

Hardware Models

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

Workaround

There is no workaround. Select an alternate shape to create the database.

This issue is tracked with Oracle bug 27768012.

E

Documentation Addendum

These topics contain corrections or additions that need to be made to published documentation.

- Setup Poster X7-2-HA
  Review this topic for corrections to the instructions in the Setup Poster for X7-2HA (PDF version).

E.1 Setup Poster X7-2-HA

Review this topic for corrections to the instructions in the Setup Poster for X7-2HA (PDF version).

- On Page 4, in Step D, in the procedure *3. Verify Virtual Machine Image and Cabling*, read the command as:

  ```
  /opt/oracle/oak/bin/oakcli validate -c storagetopology
  ```

- On Page 4, in Step B, in the procedure *4. Configure the Network*, read the command as:

  ```
  /opt/oracle/oak/bin/oakcli configure firstnet
  ```

- On Page 4, in Step F, in the procedure *5. Deploy ODA_BASE and Validate Storage*, read the command as:

  ```
  /opt/oracle/oak/bin/oakcli validate -c storagetopology
  ```

- On Page 4, in Step A, in the procedure *6. Deploy the Oracle Software on ODA_BASE*, read the command as:

  ```
  /opt/oracle/oak/bin/oakcli configure firstnet
  ```

- On Page 4, in Step C, in the procedure *6. Deploy the Oracle Software on ODA_BASE*, read the command as:

  ```
  vncserver
  ```

- On Page 4, in Step D, in the procedure *6. Deploy the Oracle Software on ODA_BASE*, you need not specify port 5901.

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