Oracle® Database Appliance
Release Notes

Release 19.9 for Linux x86-64

F34599-02

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Oracle Database Appliance Release Notes, Release 19.9 for Linux x86-64

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Contents

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
- Documentation Accessibility
- Related Documents
- Conventions

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 X8-2 Deployment and User's 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 X5-2/X4-2 Deployment and User's 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*

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.

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What's New in This Release

Oracle Database Appliance release 19.9 supports Oracle Database 19*c* functionality on Oracle Database Appliance hardware models.

New Features

This release supports Oracle Database Appliance models X8-2-HA, X8-2M, X8-2S, X7-2-HA, X7-2M, X7-2S, X6-2S, X6-2M, X6-2L, X6-2-HA, and X5-2. You can either create a bare metal or virtualized platform deployment on Oracle Database Appliance or patch your existing bare metal or virtualized platform deployment to Oracle Database Appliance release 19.9. Read the chapter *Known Issues with Oracle Database Appliance in This Release* for critical fixes before deploying Oracle Database Appliance release 19.9.

For Oracle Database 19c features, see the Oracle Database Documentation Library at https://docs.oracle.com/en/database/oracle/oracle-database/index.html.

The following new features are available in this release:

- **Provisioning and Patching of Oracle Database Appliance Bare Metal Deployments**
  This release supports provisioning of bare metal deployments, and patching of bare metal deployments from Oracle Database Appliance releases 19.5 and later.

- **Provisioning and Patching of Oracle Database Appliance Virtualized Platform**
  This release supports provisioning of virtualized platform, and patching of virtualized platform from Oracle Database Appliance release 19.8.

- **Support for Managing Resource Allocation Using CPU Pools on Oracle Database Appliance**

  Oracle Database Appliance provides support for CPU pools to manage resources on Oracle Database Appliance bare metal and KVM deployments.

  See the chapter *Managing CPU Pools on Oracle Database Appliance* in the *Oracle Database Appliance Deployment and User's Guide* for your hardware model for more information.

- **Support for Oracle Linux Kernel Virtualization KVM**

  KVM virtualization uses a kernel-based virtual machine (KVM) to create a virtualized environment for your Linux applications. You can use Oracle KVM to optimize your system resource use for databases and applications on Oracle Database Appliance.

  See the chapter *Managing an Oracle Database Appliance KVM Deployment* in the *Oracle Database Appliance Deployment and User's Guide* for your hardware model.

- **Support for Transparent Database Encryption (TDE) on Oracle Database Appliance**

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Oracle Database uses authentication, authorization, and auditing mechanisms to secure data in the database. Oracle Database provides Transparent Data Encryption (TDE) to protect operating system data files where data is stored.

See *About Transparent Database Encryption (TDE)* in the *Oracle Database Appliance Deployment and User's Guide* for your hardware model for more information.

- **ODACLI Command Enhancements**
  There are new odacli commands and new options for existing odacli commands to manage CPU Pools, KVM deployments, and Transparent Database Encryption (TDE). A new command `odacli modify-dbstorage` enables to modify the database storage size.

  The option `--resetDBID`, `-rDBID` in the `odacli irestore-database` command is deprecated. The Database ID of a restored database is always reset to a value different from the Database ID of the source database.

  See the *Oracle Database Appliance Command Line Reference* chapter in the *Oracle Database Appliance Deployment and User's Guide* for your hardware model for more information.

- **Access to Oracle Database Appliance documentation from the Browser User Interface**
  You can access the Oracle Database Appliance documentation set for this release from the Browser User Interface. For the latest updates to the documentation for a release, see the online Oracle Database Appliance documentation library at https://docs.oracle.com/en/engineered-systems/oracle-database-appliance/index.html.

- **Oracle Grid Infrastructure and Oracle Database Updates**

  The following Oracle Grid Infrastructure and Oracle Database updates (October 2020 Oracle Database Release Update) for bare metal systems and virtualized platform deployments are available in this release:

  – 19.9.0.0.201020

  – 18.12.0.0.201020

  – 12.2.0.1.201020

  – 12.1.0.2.201020

  – 11.2.0.4.201020

Oracle Grid Infrastructure Clone, Oracle Database Clone, and ISO Image Patches

See the chapter *Oracle Database Appliance Release 19.9 Patches* for patch details and links.

Oracle Database Appliance patches are available in My Oracle Support. When selecting a patch, ensure that you select Oracle Database Appliance release 19.9 from the drop down list.

- **Oracle Database Appliance 19.9.0.0.0 Server Patch for ODACLI/DCS stack:**
  Use patch 31922078 to update your bare metal deployment to Oracle Database Appliance release 19.9.

- **Oracle Database Appliance 19.9.0.0.0 GI Clone for ODACLI/DCS stack:**
  Use patch 30403673 to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Oracle 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 operating system ISO Image. This patch is for all Oracle Database Appliance Hardware Models (bare metal).

- **Oracle Database Appliance 19.9.0.0.0 RDBMS Clone File for ODACLI/DCS stack:** Use the Oracle RDBMS 19.9.0.0.201020 Software Clone file to create 19.9.0.0.201020 Oracle Database homes. Patch 30403662 provides the database clone for this update. This patch is for all Oracle Database Appliance Hardware Models (bare metal).

- **Oracle Database Appliance 18.12.0.0.0 RDBMS Clone File for ODACLI/DCS stack:** Use the Oracle RDBMS 18.12.0.0.201020 Software Clone file to create 18.12.0.0.201020 Oracle Database homes. Patch 27604558 provides the database clone for this update. This patch is forall Oracle Database Appliance Hardware Models (bare metal).

- **Oracle Database Appliance 12.2.0.1 RDBMS Clone File for ODACLI/DCS stack:** Use the Oracle RDBMS 12.2.0.1.201020 Software Clone file to create 12.2.0.1.201020 database homes. Patch 27119402 provides the database clone for this update.

- **Oracle Database Appliance 12.1.0.2 RDBMS Clone File for ODACLI/DCS stack:** Use the Oracle RDBMS 12.1.0.2.201020 Software Clone file to create 12.1.0.2.201020 database homes. Patch 23494992 provides the database clone for this update.

- **Oracle Database Appliance 11.2.0.4 RDBMS Clone File for ODACLI/DCS stack:** Use the Oracle RDBMS 11.2.0.4.201020 Software Clone file to create 11.2.0.4.201020 database homes. Patch 23494997 provides this update.

- **Oracle Database Appliance 19.9.0.0.0 Server Patch for Virtualized Platform:** Use patch 31922080 to update your Virtualized Platform to Oracle Database Appliance release 19.9.

- **Oracle Database Appliance 19.9.0.0.0 ISO Image (Virtualized Platform):** Use patch 16186163 to re-image the server with an operating system that includes virtualization capabilities. After re-imaging, use the VM Template to deploy ODA_BASE for the Virtualized Platform. The bundle contains the latest Grid Infrastructure components for deployment.

- **Oracle Database Appliance 19.9.0.0.0 VM Template (ODA_BASE) for Virtualized Platform:** Use patch 16186172 to deploy ODA_BASE for the Virtualized Platform.

- **Oracle Database Appliance 19.9.0.0.0 RDBMS Clone for Virtualized Platform:** Use the Oracle RDBMS 19.9.0.0.201020 Software Clone file to create 19.9.0.0.201020 database homes for Virtualized Platform. Patch 30403653 provides this update.

- **Oracle Database Appliance 18.11.0.0.0 RDBMS Clone for Virtualized Platform:** Use the Oracle RDBMS 18.12.0.0.201020 Software Clone file to create 18.12.0.0.201020 database homes for Virtualized Platform. Patch 28864456 provides this update.

- **Oracle Database Appliance 12.2.0.1 RDBMS Clone File for Virtualized Platform:** Use the Oracle RDBMS 12.2.0.1.201020 Software Clone file to create 12.2.0.1.201020 database homes for Virtualized Platform. Patch 27449599 provides the database clone for this update.

- **Oracle Database Appliance 12.1.0.2 RDBMS Clone File for Virtualized Platform:** Use the Oracle RDBMS 12.1.0.2.201020 Software Clone file to

create 12.1.0.2.201020 database homes for Virtualized Platform. Patch 19520042 provides the database clone for this update.

- **Oracle Database Appliance 11.2.0.4 RDBMS Clone File for Virtualized Platform:** Use the Oracle RDBMS 11.2.0.4.201020 Software Clone file to create 11.2.0.4.201020 database homes for Virtualized Platform. Patch 17770873 provides the database clone for this update.

Desupport Notice for Oracle Java Development Kit (Oracle JDK), available in the /bin/java directory

Starting with Oracle Database Appliance Release 19.6, Java is installed in a new location. Java Runtime environment (JRE) is installed in the `/opt/oracle/dcs/java/` directory, and is updated during patching of Oracle Database Appliance. Patching of Oracle Java Development Kit (Oracle JDK), available in the `/bin/java` directory, during the Oracle Database Appliance server patching process is not supported. Oracle Java Development Kit (Oracle JDK), available in the `/bin/java` directory, is desupported.

Related Topics

- Oracle Database Appliance Checklists
- Oracle Database Appliance Command Line Interface Reference
- Oracle Database Appliance Command Line Interface for KVM
- Managing CPU Pools on Oracle Database Appliance
- Managing an Oracle Database Appliance KVM Deployment
- About Transparent Database Encryption (TDE) in Oracle Database Appliance
- About the Browser User Interface
- Using Oracle Data Guard for Disaster Management and Recovery on Oracle Database Appliance
- Known Issues with Oracle Database Appliance in This Release
  The following are known issues deploying, updating, and managing Oracle Database Appliance in this release.

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Component Versions for Oracle Database Appliance

Review the component versions available for Oracle Database Appliance for supported hardware models for this release.

- Component Versions for Oracle Database Appliance X8-2 Models
  The matrix displays the component versions available for Oracle Database Appliance for X8-2S, X8-2M, and X8-2-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.

- 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.

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

- Component Versions for X5-2 Models
  The matrix display the component versions available for Oracle Database Appliance X5-2 hardware models.

Component Versions for Oracle Database Appliance X8-2 Models

The matrix displays the component versions available for Oracle Database Appliance for X8-2S, X8-2M, and X8-2-HA.

Table 2-1   Component Versions for X8-2-HA, X8-2M, and X8-2S in Oracle Database Appliance Release 19.9

Component Name	X8-2-HA	X8-2S and X8-2M
Controller	16.00.08.00	Not applicable
Expander	0310	Not applicable
SSD	A959	Not applicable
NVMe (firmware version)	Not applicable	VDV1RL04
OS Disk (SSD firmware version)	0121	0121
ILOM (Oracle Integrated Lights Out Manager)	5.0.1.21.r136383	5.0.1.21.r136383
BIOS	52030400	52030400

Table 2-1   (Cont.) Component Versions for X8-2-HA, X8-2M, and X8-2S in Oracle Database Appliance Release 19.9

Component Name	X8-2-HA	X8-2S and X8-2M
IPMI (Intelligent Platform Management Interface)	1.8.18.0	1.8.18.0
HMP (Oracle Hardware Management Pack)	2.4.7.0.1	2.4.7.0.1
Oracle Linux	7.8	7.8
Kernel	kernel-uek-4.14.35-2025.400.9.el7uek.x86_64	kernel-uek-4.14.35-2025.400.9.el7uek.x86_64
OVM (Oracle VM Server)	3.4.4	3.4.4
OVM Kernel	kernel-uek-4.1.12-124.41.4.el6uek.x86_64	kernel-uek-4.1.12-124.41.4.el6uek.x86_64
GI_HOME	19.9.0.0.201020	19.9.0.0.201020
DB_HOME	19.9.0.0.201020	19.9.0.0.201020
Oracle Auto Service Request (Oracle ASR)	20.3.0	20.3.0

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.

Table 2-2   Component Versions for X7-2-HA, X7-2M, and X7-2S in Oracle Database Appliance Release 19.9

Component Name	X7-2-HA	X7-2S and X7-2M
Controller	16.00.08.00	Not applicable
Expander	0310	Not applicable
SSD	A170 For the HDD/SSD option: A374/A087	A170
NVMe (firmware version)	Not applicable	QDV1RF30
OS Disk (SSD firmware version)	0121	0121
ILOM (Oracle Integrated Lights Out Manager)	5.0.1.21.r136383	5.0.1.21.r136383
BIOS	41080800	41080800
IPMI (Intelligent Platform Management Interface)	1.8.18.0	1.8.18.0
HMP (Oracle Hardware Management Pack)	2.4.7.0.1	2.4.7.0.1
Oracle Linux	7.8	7.8

Table 2-2   (Cont.) Component Versions for X7-2-HA, X7-2M, and X7-2S in Oracle Database Appliance Release 19.9

Component Name	X7-2-HA	X7-2S and X7-2M
Kernel	kernel-uek-4.14.35-2025.400.9.el7uek.x86_64	kernel-uek-4.14.35-2025.400.9.el7uek.x86_64
OVM (Oracle VM Server)	3.4.4	3.4.4
OVM Kernel	kernel-uek-4.1.12-124.41.4.el6uek.x86_64	kernel-uek-4.1.12-124.41.4.el6uek.x86_64
GI_HOME	19.9.0.0.201020	19.9.0.0.201020
DB_HOME	19.9.0.0.201020	19.9.0.0.201020
Oracle Auto Service Request (Oracle ASR)	20.3.0	20.3.0

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 2-3   Component Versions for Oracle Database Appliance X6-2S, X6-2M, and X6-2L in Oracle Database Appliance Release 19.9

Component Name	Version
Controller	4.650.00-7176
NVMe (firmware version)	KPYAIR3Q
OS Disk	OR3Q
ILOM (Oracle Integrated Lights Out Manager)	X6-2SM: 5.0.1.21.r136383 X6-2L: 5.0.1.21.r136383
BIOS	X6-2SM:38320100 X6-2L:39320100
IPMI (Intelligent Platform Management Interface)	1.8.18.0
HMP (Oracle Hardware Management Pack)	2.4.7.0.1
Oracle Linux	7.8
Kernel	kernel-uek-4.14.35-2025.400.9.el7uek.x86_64
OVM (Oracle VM Server)	3.4.4
OVM Kernel	kernel-uek-4.1.12-124.41.4.el6uek.x86_64
GI_HOME	19.9.0.0.201020
DB_HOME	19.9.0.0.201020
Oracle Auto Service Request (Oracle ASR)	20.3.0

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

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

Table 2-4   Component Versions for Oracle Database Appliance X6-2-HA in Oracle Database Appliance Release 19.9

Component Name	Version
Controller_INT	4.650.00-7176
Controller_Ext	16.00.08.00
Expander	0310
SSD_LOCAL	OR3Q
SSD_SHARED	A29A
ILOM (Oracle Integrated Lights Out Manager)	5.0.1.21.r136383
BIOS	38320100
IPMI (Intelligent Platform Management Interface)	1.8.18.0
HMP (Oracle Hardware Management Pack)	2.4.7.0.1
Oracle Linux	7.8
Kernel	kernel-uek-4.14.35-1902.303.4.1.el7uek.x86_64
OVM (Oracle VM Server)	3.4.4
OVM Kernel	kernel-uek-4.1.12-124.41.4.el6uek.x86_64
GI_HOME	19.9.0.0.201020
DB_HOME	19.9.0.0.201020
Oracle Auto Service Request (Oracle ASR)	20.3.0

Component Versions for X5-2 Models

The matrix display the component versions available for Oracle Database Appliance X5-2 hardware models.

Table 2-5   Component Versions for Oracle Database Appliance X5-2 for Oracle Database Appliance Release 19.9

Component Name	Version
Controller_INT	4.650.00-7176
Controller_Ext	16.00.08.00
Expander	001E
SSD_LOCAL	n/a
SSD_SHARED	A29A
HDD_LOCAL	A7E0

Table 2-5   (Cont.) Component Versions for Oracle Database Appliance X5-2 for Oracle Database Appliance Release 19.9

Component Name	Version
HDD_SHARED	A3A0, PAG1, PD51
ILOM (Oracle Integrated Lights Out Manager)	5.0.1.21.r136383
BIOS	30320100
IPMI (Intelligent Platform Management Interface)	1.8.18.0
HMP (Oracle Hardware Management Pack)	2.4.7.0.1
Oracle Linux	7.8
Kernel	kernel-uek-4.14.35-2025.400.9.el7uek.x86_64
OVM (Oracle VM Server)	3.4.4
OVM Kernel	kernel-uek-4.1.12-124.41.4.el6uek.x86_64
GI_HOME	19.9.0.0.201020
DB_HOME	19.9.0.0.201020
Oracle Auto Service Request (Oracle ASR)	20.3.0

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Oracle Database Appliance 19.9 Patches

Get information about Oracle Database Appliance patches for this release, 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 installing this release of Oracle Database Appliance.

- **Oracle Database Appliance X8-2S, X8-2M, and X8-2-HA Patches**
  Download the patches available for Oracle Database Appliance X8-2S, X8-2M, and X8-2-HA in My Oracle Support, get information on the prerequisites, and how to apply the patches.

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

Patching from Previous Releases

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

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 3-1   Minimum Patch Requirements for Oracle Database Appliance Releases

Oracle Database Appliance Release (To patch to this release...)	Earliest Supported Release To Patch From (Your deployment must be on this release)
19.9.0.0	For bare metal systems: • 19.8.0.0 • 19.7.0.0 • 19.6.0.0 • 19.5.0.0 For virtualized platform deployments: • 19.8.0.0
19.8.0.0	For bare metal systems: • 19.7.0.0 • 19.6.0.0 • 19.5.0.0 For virtualized platform deployments: • 18.8.0.0
19.7.0.0	• 19.6.0.0 • 19.5.0.0
19.6.0.0	• 18.8.0.0
18.8.0.0	• 18.7.0.0 • 18.5.0.0 • 18.3.0.0
18.7.0.0	• 18.5.0.0 • 18.3.0.0
18.5.0.0	• 18.3.0.0
18.3.0.0	• 12.2.1.4.0 • 12.2.1.3.0 • 12.2.1.2.0 • 12.1.2.12
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

Table 3-1   (Cont.) Minimum Patch Requirements for Oracle Database Appliance Releases

Oracle Database Appliance Release (To patch to this release...)	Earliest Supported Release To Patch From (Your deployment must be on this release)
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
12.1.2.5	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

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

Minimum Software Version Requirements

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

You can provision Oracle Database Appliance release 19.9 on Oracle Database Appliance bare metal systems and virtualized platform deployments. You can patch your bare metal systems to Oracle Database Appliance release 19.9 from Oracle Database Appliance release 19.5 or later. You can patch your virtualized platform deployments to Oracle Database Appliance release 19.9 from Oracle Database Appliance release 19.8.

Oracle Database Appliance X8-2S, X8-2M, and X8-2-HA Patches

Download the patches available for Oracle Database Appliance X8-2S, X8-2M, and X8-2-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 Oracle Database Appliance release 19.9 from the release list.

Table 3-2   Oracle Database Appliance X8-2S, X8-2M, and X8-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for ODACLI/DCS Stack	31922078	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance
Oracle Database Appliance Server Patch for Virtualized Platforms	31922080	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance Virtualized Platform
Oracle Database Appliance GI Clone for ODACLI/DCS stack	30403673	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Oracle Grid Infrastructure and database components for deployment on an Oracle Database Appliance after re-imaging Oracle Database Appliance with the Oracle Database Appliance ISO Image for release 19.9.	Provisioning Oracle Database Appliance Software
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack	30403662	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack to create 19.9 database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack	27604558	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack to create 18c database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack	27119402	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack to create 12.2.0.1 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files

Table 3-2   (Cont.) Oracle Database Appliance X8-2S, X8-2M, and X8-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack	23494992	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack to create 12.1.0.2 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack	23494997	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack to create 11.2.0.4 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance ISO Image	30403643	Use the ISO image to re-image the operating system for Oracle Database Appliance 19.9. Re-imaging a server installs the new operating system on the local disks on that server.	Re-imaging Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 19.9	Use to reimage Oracle Database Appliance as a Virtualized Platform.	Deploying an Oracle Database Appliance Virtualized Platform
VM Template (ODA_BASE)	16186172 From the drop-down list, select 19.9	Use to deploy ODA_Base for 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 an Oracle Database Appliance Virtualized Platform
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform	30403653	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform to create 19.9 database homes for Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

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Table 3-2 (Cont.) Oracle Database Appliance X8-2S, X8-2M, and X8-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform	28864456	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform to create 18c database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platforms	27449599	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platform to create 12.2.0.1 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform	19520042	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform to create 12.1.0.2 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform	17770873	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform to create 11.2.0.4 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

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 Oracle Database Appliance release 19.9 from the release list.

Table 3-3   Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for ODACLI/DCS Stack	31922078	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance
Oracle Database Appliance Server Patch for Virtualized Platforms	31922080	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance Virtualized Platform
Oracle Database Appliance GI Clone for ODACLI/DCS stack	30403673	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Oracle Grid Infrastructure and database components for deployment on an Oracle Database Appliance after re-imaging Oracle Database Appliance with the Oracle Database Appliance ISO Image for release 19.9.	Provisioning Oracle Database Appliance Software
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack	30403662	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack to create 19.9 database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack	27604558	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack to create 18c database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack	27119402	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack to create 12.2.0.1 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files

Table 3-3 (Cont.) Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack	23494992	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack to create 12.1.0.2 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack	23494997	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack to create 11.2.0.4 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance ISO Image	30403643	Use the ISO image to re-image the operating system for Oracle Database Appliance 19.9. Re-imaging a server installs the new operating system on the local disks on that server.	Re-imaging Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 19.9	Use to reimage Oracle Database Appliance as a Virtualized Platform.	Deploying an Oracle Database Appliance Virtualized Platform
VM Template (ODA_BASE)	16186172 From the drop-down list, select 19.9	Use to deploy ODA_Base for 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 an Oracle Database Appliance Virtualized Platform
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform	30403653	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform to create 19.9 database homes for Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

Table 3-3   (Cont.) Oracle Database Appliance X7-2S, X7-2M, and X7-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform	28864456	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform to create 18c database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platforms	27449599	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platform to create 12.2.0.1 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform	19520042	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform to create 12.1.0.2 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform	17770873	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform to create 11.2.0.4 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

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 Oracle Database Appliance release 19.9 from the release list.

Table 3-4   Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for ODACLI/DCS Stack	31922078	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance
Oracle Database Appliance Server Patch for Virtualized Platforms	31481822	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance Virtualized Platform
Oracle Database Appliance GI Clone for ODACLI/DCS stack	30403673	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Oracle Grid Infrastructure and database components for deployment on an Oracle Database Appliance after re-imaging Oracle Database Appliance with the Oracle Database Appliance ISO Image for release 19.9.	Provisioning Oracle Database Appliance Software
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack	30403662	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack to create 19.9 database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack	27604558	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack to create 18c database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack	27119402	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack to create 12.2.0.1 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files

Table 3-4   (Cont.) Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack	23494992	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack to create 12.1.0.2 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack	23494997	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack to create 11.2.0.4 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance ISO Image	30403643	Use the ISO image to re-image the operating system for Oracle Database Appliance 19.9. Re-imaging a server installs the new operating system on the local disks on that server.	Re-imaging Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 19.9	Use to reimage Oracle Database Appliance as a Virtualized Platform.	Deploying an Oracle Database Appliance Virtualized Platform
VM Template (ODA_BASE)	16186172 From the drop-down list, select 19.9	Use to deploy ODA_Base for 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 an Oracle Database Appliance Virtualized Platform

Table 3-4   (Cont.) Oracle Database Appliance X6-2S, X6-2M, and X6-2L Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform	30403653	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform to create 19.9 database homes for Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platforms	27449599	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platform to create 12.2.0.1 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform	19520042	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform to create 12.1.0.2 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform	17770873	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform to create 11.2.0.4 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

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 Oracle Database Appliance release 19.9 from the release list.

Table 3-5   Oracle Database Appliance X6-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for ODACLI/DCS Stack	31922078	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance
Oracle Database Appliance Server Patch for Virtualized Platforms	31922080	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance Virtualized Platform
Oracle Database Appliance GI Clone for ODACLI/DCS stack	30403673	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Oracle Grid Infrastructure and database components for deployment on an Oracle Database Appliance after re-imaging Oracle Database Appliance with the Oracle Database Appliance ISO Image for release 19.9.	Provisioning Oracle Database Appliance Software
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack	30403662	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack to create 19.9 database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack	27604558	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack to create 18c database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack	27119402	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack to create 12.2.0.1 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files

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Table 3-5   (Cont.) Oracle Database Appliance X6-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack	23494992	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack to create 12.1.0.2 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack	23494997	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack to create 11.2.0.4 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance ISO Image	30403643	Use the ISO image to re-image the operating system for Oracle Database Appliance 19.9. Re-imaging a server installs the new operating system on the local disks on that server.	Re-imaging Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 19.9	Use to reimage Oracle Database Appliance as a Virtualized Platform.	Deploying an Oracle Database Appliance Virtualized Platform
VM Template (ODA_BASE)	16186172 From the drop-down list, select 19.9	Use to deploy ODA_Base for 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 an Oracle Database Appliance Virtualized Platform

Table 3-5   (Cont.) Oracle Database Appliance X6-2-HA Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform	30403653	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform to create 19.9 database homes for Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform	28864456	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform to create 18c database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platforms	27449599	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platform to create 12.2.0.1 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform	19520042	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform to create 12.1.0.2 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform	17770873	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform to create 11.2.0.4 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

Oracle Database Appliance X5-2 Patches

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

When downloading a patch from My Oracle Support, select Oracle Database Appliance release 19.9 from the release list.

Table 3-6   Oracle Database Appliance X5-2 Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance Server Patch for ODACLI/DCS Stack	31922078	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance
Oracle Database Appliance Server Patch for Virtualized Platforms	31922080	Use the server patch to update your deployment to Oracle Database Appliance release 19.9	Patching Oracle Database Appliance Virtualized Platform
Oracle Database Appliance GI Clone for ODACLI/DCS stack	30403673	Use to perform an initial deployment of Oracle Database Appliance. The bundle contains the latest Oracle Grid Infrastructure and database components for deployment on an Oracle Database Appliance after re-imaging Oracle Database Appliance with the Oracle Database Appliance ISO Image for release 19.9.	Provisioning Oracle Database Appliance Software
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack	30403662	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for ODACLI/DCS stack to create 19.9 database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack	27604558	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for ODACLI/DCS stack to create 18c database homes for the ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files

Table 3-6 (Cont.) Oracle Database Appliance X5-2 Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack	27119402	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for ODACLI/DCS stack to create 12.2.0.1 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack	23494992	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for ODACLI/DCS stack to create 12.1.0.2 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack	23494997	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for ODACLI/DCS stack to create 11.2.0.4 database homes for the 19.9 ODACLI/DCS stack.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance ISO Image	30403643	Use the ISO image to re-image the operating system for Oracle Database Appliance 19.9. Re-imaging a server installs the new operating system on the local disks on that server.	Re-imaging Oracle Database Appliance
VM ISO Image (DOM0)	16186163 From the drop-down list, select 19.9	Use to reimage Oracle Database Appliance as a Virtualized Platform.	Deploying an Oracle Database Appliance Virtualized Platform

Table 3-6   (Cont.) Oracle Database Appliance X5-2 Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
VM Template (ODA_BASE)	16186172 From the drop-down list, select 19.9	Use to deploy ODA_Base for 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 an Oracle Database Appliance Virtualized Platform
Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform	30403653	Use Oracle Database Appliance RDBMS Clone 19.9.0.0.201020 for Virtualized Platform to create 19.9 database homes for Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform	28864456	Use Oracle Database Appliance RDBMS Clone 18.12.0.0.201020 for Virtualized Platform to create 18c database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platforms	27449599	Use Oracle Database Appliance RDBMS Clone 12.2.0.1.201020 for Virtualized Platform to create 12.2.0.1 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files
Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform	19520042	Use Oracle Database Appliance RDBMS Clone 12.1.0.2.201020 for Virtualized Platform to create 12.1.0.2 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

Table 3-6   (Cont.) Oracle Database Appliance X5-2 Patches for Oracle Database Appliance Release 19.9

Patch Type	Patch Number	Description	Resources
Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform	17770873	Use Oracle Database Appliance RDBMS Clone 11.2.0.4.201020 for Virtualized Platform to create 11.2.0.4 database homes for the 19.9 Virtualized Platform.	Updating Oracle Database Appliance Repository with Database Clone Files

4

Known Issues with Oracle Database Appliance in This Release

The following are known issues deploying, updating, and managing Oracle Database Appliance in this release.

- Known Issues When Patching Oracle Database Appliance
  Understand the known issues when patching Oracle Database Appliance to this release.

- Known Issues When Deploying Oracle Database Appliance
  Understand the known issues when provisioning or deploying Oracle Database Appliance.

- Known Issues When Managing Oracle Database Appliance
  Understand the known issues when managing or administering Oracle Database Appliance.

Known Issues When Patching Oracle Database Appliance

Understand the known issues when patching Oracle Database Appliance to this release.

- Error in patching the server with --local option
  An error is encountered when patching the server with the `--local` option.

- Permissions error when unpacking the server patch on virtualized platform
  An error is encountered when patching the server on virtualized platform.

- Error in patching database homes with --local option
  An error is encountered when patching database homes with the `--local` option on virtualized platforms.

- Error in Oracle Grid Infrastructure upgrade
  Oracle Grid Infrastructure upgrade fails, though the `rootupgrade.sh` script ran successfully.

- Error when running ORAChk or updating the server or database home
  When running Oracle ORAchk or the commands `odacli create-prepatchreport`, `odacli update-server`, `odacli update-dbhome`, an error is encountered.

- Errors when running ORAChk or the odacli create-prepatchreport command
  When you run ORAchk or the `odacli create-prepatchreport` command, an error is encountered.

- Error in patching database homes
  An error is encountered when patching database homes on databases that have Standard Edition High Availability enabled.

- Error in server patching
  An error is encountered when patching the server.

- Server status not set to Normal when patching
  When patching Oracle Database Appliance, an error is encountered.

- Error when patching to 12.1.0.2.190716 Bundle Patch
  When patching Oracle Database release 12.1.0.2 to Oracle Database
  12.1.0.2.190716 Bundle Patch, an error is encountered.

- Patching of M.2 drives not supported
  Patching of M.2 drives (local disks SSDSCKJB48 and SSDSCKJB480G7) is not
  supported.

- 11.2.0.4 databases fail to start after patching
  After patching Oracle Database Appliance to release 18.3, databases of version
  11.2.0.4 fail to start.

- Patching errors on Oracle Database Appliance Virtualized Platform
  When applying the server patch for Oracle Database Appliance Virtualized
  Platform, an error is encountered.

- Patching Oracle Database home fails with errors
  When applying the patch for Oracle Database homes, an error is encountered.

- Error in patching Oracle Database Appliance
  When applying the server patch for Oracle Database Appliance, an error is
  encountered.

- Versions of some components not updated after cleaning up and reprovisioning
  Oracle Database Appliance
  Oracle Auto Service Request (ASR), or Oracle TFA Collector, or Oracle ORAchk
  versions are not updated after cleaning up and reprovisioning Oracle Database
  Appliance.

Error in patching the server with --local option

An error is encountered when patching the server with the `--local` option.

When running the command `oakcli update -patch 19.9.0.0.0 --server --local`,
the following error is encountered:

```
ERROR: 2020-11-20 21:52:32: Unable to run the command : /usr/bin/yum
--disablerepo=* --enablerepo=ODA_REPOS_LOC install
uptrack-updates-4.14.35-2025.400.9.el7uek.x86_64-20201001-0.noarch -y
ERROR: 2020-11-20 21:52:33: Failed to patch all the server components.
```

Hardware Models

All Oracle Database Appliance hardware models virtualized platform deployments

Workaround

Reapply the server patch.

This issue is tracked with Oracle bug 32183505.

Permissions error when unpacking the server patch on virtualized platform

An error is encountered when patching the server on virtualized platform.

When running the command `oakcli unpack -pack server_patch_zip`, the following error is encountered:

```
mv: missing destination file operand after
/opt/oracle/oak/ahf/oracle-ahf-202100.x86_64.rpm
Try 'mv --help' for more information.
sh: line 1: /opt/oracle/oak/ahf/oracle-ahf-202300.x86_64.rpm:
Permission
denied
Successfully unpacked the files to repository.
```

Hardware Models

All Oracle Database Appliance hardware models virtualized platform deployments

Workaround

Delete the file `/opt/oracle/oak/ahf/oracle-ahf-202100.x86_64.rpm`.

This issue is tracked with Oracle bug 32156614.

Error in patching database homes with --local option

An error is encountered when patching database homes with the `--local` option on virtualized platforms.

When running the command `oakcli update -patch 19.9.0.0.0 --database --local` on database homes, an error is encountered.

```
File does not exist: /opt/oracle/oak/pkgrepos/System/0/conf/
PatchImage.xml at
/opt/oracle/oak/lib/oakutilslib/PatchCommonUtils.pm line 420
ERROR: Unable to apply the patch
```

Hardware Models

All Oracle Database Appliance hardware models with High-Availability deployments

Workaround

Retry database patching without the `--local` option.

```
# oakcli update -patch 19.9.0.0.0 --database
```

This issue is tracked with Oracle bug 32182669.

Error in Oracle Grid Infrastructure upgrade

Oracle Grid Infrastructure upgrade fails, though the `rootupgrade.sh` script ran successfully.

The following messages are logged in the grid upgrade log file located under `/opt/oracle/oak/log/<NODENAME>/patch/19.8.0.0.0/`.

```
ERROR: The clusterware active state is UPGRADE_AV_UPDATED
INFO: ** Refer to the release notes for more information **
INFO: ** and suggested corrective action              **
```

This is because when the root upgrade scripts run on the last node, the active version is not set to the correct state.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Follow these steps:

1. As `root` user, run the following command on the second node:

    ```
    /u01/app/19.0.0.0/grid/rootupgrade.sh -f
    ```

2. After the command completes, verify that the active version of the cluster is updated to UPGRADE FINAL.

    ```
    /u01/app/19.0.0.0/grid/bin/crsctl query crs activeversion -f
    The cluster upgrade state is [UPGRADE FINAL]
    ```

3. Run Oracle Database Applaince server patching process again to upgrade Oracle Grid Infrastructure.

This issue is tracked with Oracle bug 31546654.

Error when running ORAChk or updating the server or database home

When running Oracle ORAchk or the commands `odacli create-prepatchreport`, `odacli update-server`, `odacli update-dbhome`, an error is encountered.

The following messages may be displayed:

```
- Table AUD$[FGA_LOG$] should use Automatic Segment Space Management
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

1. To verify the segment space management policy currently in use by the AUD$ and FGA_LOG$ tables, use the following SQL*Plus command:

```
select t.table_name,ts.segment_space_management from dba_tables t,
dba_tablespaces ts where ts.tablespace_name = t.tablespace_name
and
t.table_name in ('AUD$','FGA_LOG$');
```

2. The output should be similar to the following:

```
TABLE_NAME                     SEGMEN
------------------------------ ------
FGA_LOG$                       AUTO
AUD$                           AUTO
If one or both of the AUD$ or FGA_LOG$ tables return "MANUAL", use
the
DBMS_AUDIT_MGMT package to move them to the SYSAUX tablespace:

BEGIN
DBMS_AUDIT_MGMT.set_audit_trail_location(audit_trail_type =>
DBMS_AUDIT_MGMT.AUDIT_TRAIL_AUD_STD,--this moves table AUD$
audit_trail_location_value => 'SYSAUX');
END;

BEGIN
DBMS_AUDIT_MGMT.set_audit_trail_location(audit_trail_type =>
DBMS_AUDIT_MGMT.AUDIT_TRAIL_FGA_STD,--this moves table FGA_LOG$
audit_trail_location_value => 'SYSAUX');
END;
```

This issue is tracked with Oracle bug 27856448.

Errors when running ORAchk or the odacli create-prepatchreport command

When you run ORAchk or the `odacli create-prepatchreport` command, an error is encountered.

The following error messages may be seen:

```
One or more log archive destination and alternate log archive
destination settings are not as recommended
Software home check failed
```

Hardware Models

Oracle Database Appliance hardware models bare metal deployments

Workaround

Run the `odacli update-dbhome`, `odacli create-prepatchreport`, `odacli update-server` commands with the `-sko` option. For example:

```
odacli update-dbhome -j -v 19.9.0.0.0 -i dbhome_id -sko
```

This issue is tracked with Oracle bugs 30931017, 31631618, and 31921112.

Error in patching database homes

An error is encountered when patching database homes on databases that have Standard Edition High Availability enabled.

When running the command `odacli update-dbhome -v release_number` on database homes that have Standard Edition High Availability enabled, an error is encountered.

```
WARNING::Failed to run the datapatch as db <db_name> is not in running
state
```

Hardware Models

All Oracle Database Appliance hardware models with High-Availability deployments

Workaround

Follow these steps:

1. Locate the running node of the target database instance:

   ```
   srvctl status database -database dbUniqueName
   ```

   Or, relocate the single-instance database instance to the required node:

   ```
   odacli modify-database -g node_number (-th node_name)
   ```

2. On the running node, manually run the datapatch for non-CDB databases:

   ```
   dbhomeLocation/OPatch/datapatch
   ```

3. For CDB databases, locate the PDB list using SQL*Plus.

   ```
   select name from v$containers where open_mode='READ WRITE';
   dbhomeLocation/OPatch/datapatch -pdbs
   pdb_names_found_in_previous_step_divided_by_comma
   ```

This issue is tracked with Oracle bug 31654816.

Error in server patching

An error is encountered when patching the server.

When running the command `odacli update-server -v` *release_number*, the following error is encountered:

```
DCS-10001:Internal error encountered: patchmetadata for 19.6.0.0.0
missing
target version for GI.
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Follow these steps:

1. Change the file ownership temporarily to the appropriate `grid` user for the `osdbagrp` binary in the *grid_home*`/bin` location. For example:

   ```
   $ chown -R grid:oinstall /u01/app/18.0.0.0/grid/bin/osdbagrp
   ```

2. Run either the `update-registry -n gihome` or the `update-registry -n system` command.

This issue is tracked with Oracle bug 31125258.

Server status not set to Normal when patching

When patching Oracle Database Appliance, an error is encountered.

When patching the appliance, the `odacli update-server` command fails with the following error:

```
DCS-10001:Internal error encountered: Server upgrade state is not
NORMAL node_name
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

1. Run the command:

   ```
   Grid_home/bin/cluvfy stage -post crsinst -collect cluster -
   gi_upgrade -n all
   ```

2. Ignore the following two warnings:

   ```
   Verifying OCR Integrity ...WARNING
   PRVG-6017 : OCR backup is located in the same disk group "+DATA" as
   ```

```
OCR.

Verifying Single Client Access Name (SCAN) ...WARNING
RVG-11368 : A SCAN is recommended to resolve to "3" or more IP
```

3. Run the command again till the output displays only the two warnings above. The status of Oracle Custerware status should be `Normal` again.

4. You can verify the status with the command:

```
Grid_home/bin/crsctl query crs activeversion -f
```

This issue is tracked with Oracle bug 30099090.

Error when patching to 12.1.0.2.190716 Bundle Patch

When patching Oracle Database release 12.1.0.2 to Oracle Database 12.1.0.2.190716 Bundle Patch, an error is encountered.

The ODACLI job displays the following error:

```
DCS-10001:Internal error encountered: Failed to run SQL script:
datapatch script.
```

The data patch log contains the entry "`Prereq check failed, exiting without installing any patches.`".

Hardware Models

All Oracle Database Appliance hardware models bare metal deployments

Workaround

Install the same patch again.

This issue is tracked with Oracle bugs 30026438 and 30155710.

Patching of M.2 drives not supported

Patching of M.2 drives (local disks SSDSCKJB48 and SSDSCKJB480G7) is not supported.

These drives are displayed when you run the `odacli describe-component` command. Patching of neither of the two known versions 0112 and 0121 of the M.2 disk is supported. Patching the LSI controller version 13.00.00.00 to version 16.00.01.00 is also not supported. However, on some Oracle Database Appliance X8-2 models, the installed LSI controller version may be 16.00.01.00.

Hardware Models

Oracle Database Appliance bare metal deployments

Workaround

None

This issue is tracked with Oracle bug 30249232.

11.2.0.4 databases fail to start after patching

After patching Oracle Database Appliance to release 18.3, databases of version 11.2.0.4 fail to start.

Hardware Models

All Oracle Database Appliance Hardware models

Workaround

Databases of versions 11.2.0.4.170814 and 11.2.0.4.171017 must be manually started after patching to Oracle Database Appliance release 18.3.

Start the databases with the command:

```
srvctl start database -db db_unique_name
```

This issue is tracked with Oracle bug 28815716.

Patching errors on Oracle Database Appliance Virtualized Platform

When applying the server patch for Oracle Database Appliance Virtualized Platform, an error is encountered.

Error Encountered When Patching Virtualized Platform:

When patching the appliance on Virtualized Platform, patching fails with an error similar to the following:

```
ERROR: Unable to apply the GRID patch
ERROR: Failed to patch server (grid) component
```

This error can occur even if you stopped Oracle TFA Collector before patching. During server patching on the node, Oracle TFA Collector is updated and this can restart the TFA processes, thus causing an error. To resolve this issue, follow the steps described in the Workaround.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

On Oracle Database Appliance Virtualized Platform, do the following:

1. Run `/etc/init.d/init.tfa stop` on all the nodes in the cluster.
2. Run the command:

```
/u01/app/18.0.0.0/grid/bin/cluutil -ckpt -oraclebase /u01/app/grid -
chkckpt -name ROOTCRS_PREPATCH -status
```

Verify that the command output is `SUCCESS`.

3. If the command output was `SUCCESS`, then run the following commands on all the nodes:

```
/u01/app/18.0.0.0/grid/crs/install/rootcrs.sh -prepatch -rollback
/u01/app/18.0.0.0/grid/crs/install/rootcrs.sh -postpatch
```

4. Restart patching.

This issue is tracked with Oracle bug 30886701.

Patching Oracle Database home fails with errors

When applying the patch for Oracle Database homes, an error is encountered.

Error Encountered When Patching Oracle Database Homes on Bare Metal Systems:

When patching Oracle Database homes on baremetal systems, the `odacli update-dbhome` command fails with an error similar to the following:

```
Please stop TFA before dbhome patching.
```

To resolve this issue, follow the steps described in the Workaround.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

On Oracle Database Appliance bare metal systems, do the following:

1. Run `tfactl stop` on all the nodes in the cluster.

2. Restart patching once Oracle TFA Collector has stopped on all nodes.

This issue is tracked with Oracle bug 30799713.

Error in patching Oracle Database Appliance

When applying the server patch for Oracle Database Appliance, an error is encountered.

Error Encountered When Patching Bare Metal Systems:

When patching the appliance on bare metal systems, the `odacli update-server` command fails with the following error:

```
Please stop TFA before server patching.
```

To resolve this issue, follow the steps described in the Workaround.

Error Encountered When Patching Virtualized Platform:

When patching the appliance on Virtualized Platform, patching fails with an error similar to the following:

```
INFO: Running prepatching on local node
WARNING: errors seen during prepatch on local node
ERROR: Unable to apply the patch 1
```

Check the prepatch log file generated in the directory `/opt/oracle/oak/log/`*hostname*`/patch/18.8.0.0.0`. You can also view the prepatch log for the last run with the command `ls -lrt prepatch_*.log`. Check the last log file in the command output.

In the log file, search for entries similar to the following:

```
ERROR: date_time_stamp: TFA is running on one or more nodes.
WARNING: date_time_stamp: Shutdown TFA and then restart patching
INFO: date_time_stamp: Read the Release Notes for additional
information.
```

To resolve this issue, follow the steps described in the Workaround.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

On Oracle Database Appliance bare metal systems, do the following:

1. Run `tfactl stop` on all the nodes in the cluster.

2. Restart patching once Oracle TFA Collector has stopped on all nodes.

On Oracle Database Appliance Virtualized Platform, do the following:

1. Run `/etc/init.d/init.tfa stop` on all the nodes in the cluster.

2. Restart patching once Oracle TFA Collector has stopped on all nodes.

This issue is tracked with Oracle bug 30260318.

Versions of some components not updated after cleaning up and reprovisioning Oracle Database Appliance

Oracle Auto Service Request (ASR), or Oracle TFA Collector, or Oracle ORAchk versions are not updated after cleaning up and reprovisioning Oracle Database Appliance.

When cleaning up and reprovisioning Oracle Database Appliance with release 19.9, the Oracle Auto Service Request (ASR), or Oracle TFA Collector, or Oracle ORAchk RPMs may not be updated to release 19.9. The components are updated when you apply the patches for Oracle Database Appliance release 19.9.

Hardware Models

All Oracle Database Appliance deployments

Workaround

Update to the latest server patch for the release.

This issue is tracked with Oracle bugs 28933900 and 30187516.

Known Issues When Deploying Oracle Database Appliance

Understand the known issues when provisioning or deploying Oracle Database Appliance.

- Error when creating or restoring 11.2.0.4 database
  An error is encountered when creating or restoring 11.2.0.4 databases.

- Error in TFACTL Status
  When running tfactl status command, the TFA status on the local node only is displayed.

- TFA disabled after patching Oracle Database Appliance
  After patching Oracle Database Appliance, TFA status shows as disabled.

- Error in starting VMs after updating CPU Cores
  When starting VMs after updating CPU cores, an error is encountered.

- Compatibility issues in KVM network association
  When creating or modifying a network on Oracle Database Appliance KVM, the properties of the vnetwork are not validated, and hence an error is encountered.

- Validation error when creating database with CPU pool
  The `odacli create-database` command does not display a validation error when the local CPU pool is used with options DbType as SI and DbEdition as SE.

- Error in creating database on Virtualized Platform
  When creating a database on Virtualized Platform, an error is encountered.

- Error when upgrading database from 11.2.0.4 to 12.1 or 12.2
  When upgrading databases from 11.2.0.4 to 12.1 or 12.2, an error is encountered.

- Error when upgrading 12.1 single-instance database
  When upgrading 12.1 single-instance database, a job failure error is encountered.

- Failure in creating RECO disk group during provisioning
  When provisioning Oracle Database Appliance X8-2-HA with High Performance configuration containing default storage and expansion shelf, creation of RECO disk group fails.

- Simultaneous creation of two Oracle ACFS Databases fails
  If you try to create two Oracle ACFS databases on a system where there is no database or database storage already created, then database creation fails for one of the databases with an error.

- Database creation hangs when using a deleted database name for database creation
  The accelerator volume for data is not created on flash storage, for database created during provisioning of appliance.

- • **Error encountered after running cleanup.pl**
  Errors encountered in running `odacli` commands after running `cleanup.pl`.

- • **Accelerator volume for data is not created on flash storage**
  The accelerator volume for data is not created on flash storage, for databases created during provisioning of appliance.

- • **Errors in clone database operation**
  Clone database operation fails due to errors.

- • **Clone database operation fails**
  For Oracle Database release 12.1 databases, the database clone creation may fail because the default compatible version from Oracle binaries was set to 12.0.0.0.0

Error when creating or restoring 11.2.0.4 database

An error is encountered when creating or restoring 11.2.0.4 databases.

When you run the command `odacli create-database` or `odacli irestore-database` for 11.2.0.4 databases, the command fails to run at the Configuring DB Console step. This error may also occur when creating 11.2.0.4 databases using the Browser User Interface.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Run the commands without enabling DB Console.

This issue is tracked with Oracle bug 31017360.

Error in TFACTL Status

When running tfactl status command, the TFA status on the local node only is displayed.

The `odacli reinstate-dataguard` command fails with the following error:

```
Message:
DCS-10001:Internal error encountered: Unable to reinstate Dg.
```

The dcs-agent.log file has the following error entry:

```
ORA-12514: TNS:listener does not currently know of service requested in
connect descriptor
```

Hardware Models

All Oracle Database Appliance high-availability hardware models

Workaround

Run `tfactl syncnodes` to generate the TFA certificates for both nodes.

This issue is tracked with Oracle bug 31759137.

TFA disabled after patching Oracle Database Appliance

After patching Oracle Database Appliance, TFA status shows as disabled.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Run the `odacli update-dbhome` command with the `-sko` option:

```
odacli update-dbhome -j -v 19.9.0.0.0 -i dbhome_id -sko
```

This issue is tracked with Oracle bug 32058933.

Error in starting VMs after updating CPU Cores

When starting VMs after updating CPU cores, an error is encountered.

After changing cpucores using `odacli update-cpucores`, VM fails to start. The following error message is displayed:

```
'/sys/fs/cgroup/cpuset/machine.slice/machine-
qemu\x2d4\x2dol7guest2.scope/emulator/cpuset.cpus': Permission denied'
```

After running the command odacli update-cpucores, check whether the output of the following two files are different on Oracle Database Appliance:

```
cat /sys/fs/cgroup/cpuset/cpuset.cpus
cat /sys/fs/cgroup/cpuset/machine.slice/cpuset.cpus
```

Hardware Models

Oracle Database Appliance hardware models Virtualized Platform

Workaround

Sync `/sys/fs/cgroup/cpuset/machine.slice/cpuset.cpus` with `/sys/fs/cgroup/cpuset/cpuset.cpus` as follows:

```
cat /sys/fs/cgroup/cpuset/cpuset.cpus > /sys/fs/cgroup/cpuset/
machine.slice/cpuset.cpus
```

This issue is tracked with Oracle bug 31975721.

Compatibility issues in KVM network association

When creating or modifying a network on Oracle Database Appliance KVM, the properties of the vnetwork are not validated, and hence an error is encountered.

On Oracle Database Appliance KVM, when creating or modifying a VM (odacli create-vm and odacli modify-vm) with a specific vnetwork, the compatibility of the vnetwork is not validated against the high-availability settings of the VM. The VM could be started on a node where the (non-uniform) vnetwork is not present, and even if the VM could be started correctly, network connectivity does not exist since the network configuration (either bridged or bridged-vlan) does not exist on that node.

Hardware Models

All Oracle Database Appliance hardware models with KVM configuration

Workaround

Associate a compatible vnetwork with the high-availability properties of the VM.

This issue is tracked with Oracle bug 32065475.

Validation error when creating database with CPU pool

The `odacli create-database` command does not display a validation error when the local CPU pool is used with options DbType as SI and DbEdition as SE.

This allows the local CPU pool to be associated with a Standard Edition High Availability (SEHA) database, which will fail in case of a database instance failover.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Add the `-sh` option to the `odacli create-database` command when you create the SEHA database.

```
odacli create-database -n test1 -u test1 -r acfs -y SI -de SE -sh
```

This issue is tracked with Oracle bug 32040722.

Error in creating database on Virtualized Platform

When creating a database on Virtualized Platform, an error is encountered.

The following error message is displayed:

```
INFO   : Running on the local node: /bin/su oracle -c
/opt/oracle/oak/onecmd/tmp/dbca-sandb1.sh
WARNING: Ignore any errors returned by '/bin/su oracle -c
"/opt/oracle/oak/onecmd/tmp/dbca-sandb1.sh"'
```

Check the shell script file to verify the issue by running the following command:

```
cat /opt/oracle/oak/onecmd/tmp/dbca-sandb1.sh
```

Check for the name of the log file at the end of the shell script. Verify whether the contents of the file is similar to the following:

```
SEVERE: [FATAL] [DBT-06103] The port (5,502) is already in use.
   ACTION: Specify a free port.
```

Hardware Models

Oracle Database Appliance hardware models Virtualized Platform

Workaround

Edit the shell script file using an editor and delete the following line:

```
-emConfiguration          DBEXPRESS          \
```

Now manually run the shell script as the database user.

This issue is tracked with Oracle bug 32075086.

Error when upgrading database from 11.2.0.4 to 12.1 or 12.2

When upgrading databases from 11.2.0.4 to 12.1 or 12.2, an error is encountered.

Database upgrade can cause the following warning in the `UpgradeResults.html` file, when upgrading database from 11.2.0.4 to 12.1 or 12.2:

```
Database is using a newer time zone file version than the Oracle home
```

Hardware Models

All Oracle Database Appliance bare metal deployments

Workaround

1. Refer to the *Database Upgrade Guide* for manual steps for fixing the time zone.

2. After manually completing the database upgrade, run the following command to update DCS metadata:

   ```
   /opt/oracle/dcs/bin/odacli update-registry update-registry -n db -f
   ```

This issue is tracked with Oracle bug 31125985.

Error when upgrading 12.1 single-instance database

When upgrading 12.1 single-instance database, a job failure error is encountered.

Hardware Models

All Oracle Database Appliance hardware models bare metal deployments

Workaround

Use the following workaround:

1. Before upgrading the 12.1 single-instance database, run the following PL/SQL command to change the `local_listener` to an empty string:

    ```
    ALTER SYSTEM SET LOCAL_LISTENER='';
    ```

2. After upgrading the 12.1 single-instance database successfully, run the following PL/SQL command to change the `local_listener` to the desired value:

    ```
    ALTER SYSTEM SET LOCAL_LISTENER='-oracle-none-';
    ```

This issue is tracked with Oracle bugs 31202775 and 31214657.

Failure in creating RECO disk group during provisioning

When provisioning Oracle Database Appliance X8-2-HA with High Performance configuration containing default storage and expansion shelf, creation of RECO disk group fails.

Hardware Models

All Oracle Database Appliance X8-2-HA with High Performance configuration

Workaround

1. Power off storage expansion shelf.

2. Reboot both nodes.

3. Proceed with provisioning the default storage shelf (first JBOD).

4. After the system is successfully provisioned with default storage shelf (first JBOD), check that `oakd` is running on both nodes in foreground mode.

    ```
    # ps -aef | grep oakd
    ```

5. Check that all first JBOD disks have the status online, good in `oakd`, and CACHED in Oracle ASM.

6. Power on the storage expansion shelf (second JBOD), wait for a few minutes for the operating system and other subsystems to recognize it.

7. Run the following command from the master node to add the storage expansion shelf disks (two JBOD setup) to `oakd` and Oracle ASM.

```
#odaadmcli show ismaster
        OAKD is in Master Mode

        # odaadmcli expand storage -ndisk 24 -enclosure 1
         Skipping precheck for enclosure '1'...
         Check the progress of expansion of storage by executing
'odaadmcli
show disk'
         Waiting for expansion to finish ...
        #
```

8. Check that the storage expansion shelf disks (two JBOD setup) are added to `oakd` and Oracle ASM.

Replace `odaadmcli` with `oakcli` commands on Oracle Database Appliance Virtualized Platform in the procedure.

For more information, see the chapter *Managing Storage* in the *Oracle Database Appliance X8-2 Deployment Guide*.

This issue is tracked with Oracle bug 30839054.

Simultaneous creation of two Oracle ACFS Databases fails

If you try to create two Oracle ACFS databases on a system where there is no database or database storage already created, then database creation fails for one of the databases with an error.

```
DCS-10001:Internal error encountered: Fail to run command Failed to
create
volume.
```

Hardware Models

All Oracle Database Appliance bare metal deployments

Workaround

Manually delete the DATA volume (and REDO volume, in case of Oracle Database Appliance X8-2) from the system.

For High Perfomance configuration, run the following commands:

```
su - GRID_USER
export ORACLE_SID=+ASM1(in case of first node) /+ASM2(in case of second
node);
export ORACLE_HOME=GRID_HOME;
GRID_HOME/bin/asmcmd --nocp voldelete -G Data datdbname
```

For Oracle Database Appliance X8-2 High Perfomance configuration, remove the REDO volume as follows:

```
su - GRID_USER
export ORACLE_SID=+ASM1(in case of first node) /+ASM2(in case of second
node);
export ORACLE_HOME=GRID_HOME;
GRID_HOME/bin/asmcmd --nocp voldelete -G Reco rdodbname
```

For High Capacity configuration, run the following commands:

```
su - GRID_USER
export ORACLE_SID=+ASM1(in case of first node) /+ASM2(in case of second
node);
export ORACLE_HOME=GRID_HOME;
GRID_HOME/bin/asmcmd --nocp voldelete -G Flash datdbname (if volume
exists in FLASH disk group)
GRID_HOME/bin/asmcmd --nocp voldelete -G data datdbname (if volume
exists in DATA disk group)
```

For Oracle Database Appliance X8-2 High Capacity configuration, remove the REDO volume as follows:

```
su - GRID_USER
export ORACLE_SID=+ASM1(in case of first node) /+ASM2(in case of second
node);
export ORACLE_HOME=GRID_HOME;
GRID_HOME/bin/asmcmd --nocp voldelete -G Flash rdodbname
```

This issue is tracked with Oracle bug 30750497.

Database creation hangs when using a deleted database name for database creation

The accelerator volume for data is not created on flash storage, for database created during provisioning of appliance.

If you delete a 11.2.0.4 database, and then create a new database with same name as the deleted database, database creation hangs while unlocking the DBSNMP user for the database.

Hardware Models

All Oracle Database Appliance high-availability environments

Workaround

Before creating the 11.2.0.4 database with the same name as the deleted database, delete the DBSNMP user, if the user exists.

For example, the following command creates a database `testdb` with user `DBSNMP`.

```
/u01/app/18.0.0.0/grid/bin/crsctl delete wallet -type CVUDB -name
testdb -user DBSNMP
```

This issue is tracked with Oracle bug 28916487.

Error encountered after running cleanup.pl

Errors encountered in running `odacli` commands after running `cleanup.pl`.

After running `cleanup.pl`, when you try to use `odacli` commands, the following error is encountered:

```
DCS-10042:User oda-cliadmin cannot be authorized.
```

Hardware Models

All Oracle Database Appliance hardware models for bare metal deployments

Workaround

Run the following commands to set up the credentials for the user `oda-cliadmin` on the agent wallet:

```
# rm -rf /opt/oracle/dcs/conf/.authconfig
# /opt/oracle/dcs/bin/setupAgentAuth.sh
```

This issue is tracked with Oracle bug 29038717.

Accelerator volume for data is not created on flash storage

The accelerator volume for data is not created on flash storage, for databases created during provisioning of appliance.

Hardware Models

Oracle Database Appliance high capacity environments with HDD disks

Workaround

Do not create the database when provisioning the appliance. This creates all required disk groups, including flash. After provisioning the appliance, create the database. The accelerator volume is then created.

This issue is tracked with Oracle bug 28836461.

Errors in clone database operation

Clone database operation fails due to errors.

If the source database is single-instance or Oracle RAC One Node, or running on the remote node, the clone database operation fails, because the paths are not created correctly in the control file.

Clone database operation may also fail with errors if the source database creation time stamp is too close to the clone operation (at least within 60 minutes).

Hardware Models

All Oracle Database Appliance high-availability hardware models for bare metal deployments

Workaround

Create the clone database from the source database instance that is running on the same node from which the clone database creation is triggered.

For Oracle Database 12c and later, synchronize the source database before the clone operation, by running the command:

```
SQL> alter system checkpoint;
```

This issue is tracked with Oracle bugs 29002563, 29002004, 29001906, 29001855, 29001631, 28995153, 28986643, 30309971, and 30228362.

Clone database operation fails

For Oracle Database release 12.1 databases, the database clone creation may fail because the default compatible version from Oracle binaries was set to 12.0.0.0.0

Hardware Models

All Oracle Database Appliance high-availability hardware models for bare metal deployments

Workaround

Set the compatible value to that of the source database. Follow these steps:

1. Change the parameter value.

```
SQL> ALTER SYSTEM SET COMPATIBLE = '12.1.0.2.0' SCOPE=SPFILE;
```

2. Shut down the database.

```
SQL> SHUTDOWN IMMEDIATE
```

3. Start the database.

```
SQL> Startup
```

4. Verify the parameter for the new value.

```
SQL> SELECT name, value, description FROM v$parameter WHERE name
='compatible';
```

This issue is tracked with Oracle bug 30309914.

Known Issues When Managing Oracle Database Appliance

Understand the known issues when managing or administering Oracle Database Appliance.

- Error in creating an Oracle ACFS database after deletion
  If you delete an Oracle ACFS database and then recreate it with the same name, the operation fails.

- Error in switchover operation with Oracle Data Guard
  When performing switchover operation with Oracle Data Guard on Oracle Database Appliance, an error is encountered.

- Error in irestore operation with Oracle Data Guard
  When performing irestore operation with Oracle Data Guard on Oracle Database Appliance, an error is encountered.

- Error in Configuring Oracle Data Guard
  When configuring Oracle Data Guard on Oracle Database Appliance, an error is encountered.

- Error in Reinstating Oracle Data Guard
  When reinstating Oracle Data Guard on Oracle Database Appliance, an error is encountered.

- Failure in Reinstating Oracle Data Guard
  When reinstating Oracle Data Guard on Oracle Database Appliance, an error is encountered.

- Failure in Reinstating Oracle Data Guard
  When reinstating Oracle Data Guard on Oracle Database Appliance, an error is encountered.

- Error when restoring a database on the second node with a CPU Pool
  When restoring a database on the second node with a CPU pool, an error is encountered.

- Error in running other operations when modifying database with CPU pool
  When modifying a database with CPU pool, an error is encountered with other operations.

- Error in creating a database with a CPU Pool
  When creating a database with a CPU pool, an error is encountered.

- Error in restoring a TDE-enabled database
  When restoring a TDE-enabled database on Oracle Database Appliance, an error is encountered.

- Error in recovering a TDE-enabled database
  When recovering a TDE-enabled database on Oracle Database Appliance, an error is encountered.

- Error in restoring a TDE-enabled database
  When restoring a TDE-enabled database on Oracle Database Appliance, an error is encountered.

- Error in considering memory value unit in BUI
  For KVM on Browser User Interface (BUI), the VM memory size is validated against the max VM memory size but the unit is not taken into consideration.

- Validation error when deleting a resource after stopping VM
  When deleting the associated resource after stopping a VM, an error is encountered.

- Error in updating Role after Oracle Data Guard operations
  When performing operations with Oracle Data Guard on Oracle Database Appliance, an error is encountered in updating the Role.

- Error when recovering a single-instance database
  When recovering a single-instance database, an error is encountered.

- Error when rebooting the appliance
  When rebooting Oracle Database Appliance, the user interactive screen is displayed.

- Job history not erased after running cleanup.pl
  After running `cleanup.pl`, job history is not erased.

- Inconsistency in ORAchk summary and details report page
  ORAChk report summary on the Browser User Interface may show different counts of Critical, Failed, and Warning issues than the report detail page.

- Missing DATA, RECO, and REDO entries when dbstorage is rediscovered
  Running the `odacli update-registry` command with `-n all --force` or `-n dbstorage --force` option can result in metadata corruption.

- The odaeraser tool does not work if oakd is running in non-cluster mode
  After cleaning up the deployment, the Secure Eraser tool does not work if oakd is running in non-cluster mode.

- Issues with the Web Console on Microsoft web browsers
  Oracle Database Appliance Web Console has issues on Microsoft Edge and Microsoft Internet Explorer web browsers.

- Disk space issues due to Zookeeper logs size
  The Zookeeper log files, `zookeeper.out` and `/opt/zookeeper/log/zkMonitor.log`, are not rotated, when new logs are added. This can cause disk space issues.

- 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.`

- Error in attaching vdisk to guest VM
  The current system firmware may be different from the available firmware after applying the latest patch.

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

Error in creating an Oracle ACFS database after deletion

If you delete an Oracle ACFS database and then recreate it with the same name, the operation fails.

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Recreate the Oracle ACFS database with a different name.

This issue is tracked with Oracle bug 31833629.

Error in switchover operation with Oracle Data Guard

When performing switchover operation with Oracle Data Guard on Oracle Database Appliance, an error is encountered.

The Role component described in the output of the `odacli describe-dataguardstatus` command is inconsistent with the `DGMGRL> show configuration;` output. The command `odacli switchover-dataguard` fails because the Role component in `odacli describe-dataguardstatus` is not correct.

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Run `odacli describe-dataguardstatus -i dgconfigId` a few times to check if Role is updated. Perform the switchover operation after the Role component in the output of the `odacli describe-dataguardstatus` command is updated.

This issue is tracked with Oracle bug 31584695.

Error in irestore operation with Oracle Data Guard

When performing irestore operation with Oracle Data Guard on Oracle Database Appliance, an error is encountered.

When primary and standby machines are not in the same time zone, the UNTIL TIME value that RMAN uses does not match the last NEXT TIME in archived logs.

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Change the time zone on the backup report "pitrTimeStamp" field to the same time zone as that of the standby machine.

This issue is tracked with Oracle bug 31542638.

Error in Configuring Oracle Data Guard

When configuring Oracle Data Guard on Oracle Database Appliance, an error is encountered.

The `odacli configure-dataguard` command fails with the following error:

```
DCS-10001:Internal error encountered: Unable to pass postcheckDgStatus.
Primary database has taken a non-Archivelog type backup between
irestore standby database and configure-dataguard.
```

Verify the status of the job with the `odacli list-jobs` command.

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Follow these steps:

1. On the primary machine, remove the Oracle Data Guard configuration:

   ```
   DGMGRL > remove
   configuration;
   ```

2. On the standby machine, delete the standby database.
3. On the primary machine, disable the database backup schedule:

   ```
   odacli update-schedule -i ID -d
   ```

4. Start the Oracle Data Guard configuration steps.
5. Enable primary database backup schedule after Oracle Data Guard configuration is successful.

This issue is tracked with Oracle bug 31880191.

Error in Reinstating Oracle Data Guard

When reinstating Oracle Data Guard on Oracle Database Appliance, an error is encountered.

The `odacli reinstate-dataguard` command fails with the following error:

```
Unable to reinstate Dg. Reinstate job was executed within 24hrs after
failover job.
```

The dcs-agent.log file has the following error entry:

```
DGMGRL> Reinstating database "xxxx",
 please wait...
Oracle Clusterware is restarting database "xxxx" ...
```

```
Connected to "xxxx"
Continuing to reinstate database "xxxx" ...
Error: ORA-16653: failed to reinstate database
```

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Follow these steps:

1. On the primary machine, get the standby_became_primary_scn:

   ```
   SQL> select standby_became_primary_scn from v$database;
   STANDBY_BECAME_PRIMARY_SCN
   --------------------------
             3522449
   ```

2. On the old primary database, flashback to this SCN with RMAN with the backup encryption password:

   ```
   RMAN> set decryption identified by 'rman_backup_password' ;
   executing command: SET decryption
   RMAN> FLASHBACK DATABASE TO SCN 3522449 ;
   ...
   Finished flashback at 24-SEP-20
   RMAN> exit
   ```

3. On the new primary machine, run the `odacli reinstate-dataguard` command.

This issue is tracked with Oracle bug 31884506.

Failure in Reinstating Oracle Data Guard

When reinstating Oracle Data Guard on Oracle Database Appliance, an error is encountered.

The `odacli reinstate-dataguard` command fails with the following error:

```
DCS-10001:Internal error encountered:
Unable enqueue Id and update DgConfig.
Use DGMGRL to show standby database has this error
GMGRL> show database xxxx
Database - xxxx
 Role:           PHYSICAL STANDBY
 Intended State:   APPLY-ON
 Transport Lag:    (unknown)
 Apply Lag:      4 days 22 hours 1 minute 23 seconds (computed 1 second
ago)
 Average Apply Rate: 0 Byte/s
 Real Time Query:  OFF
 Instance(s):
  xxxx1 (apply instance)
  xxxx2
```

```
Database Warning(s):
  ORA-16853: apply lag has exceeded specified threshold
  ORA-16856: transport lag could not be determined
Database Status:
WARNING
```

The dcs-agent.log file has the following error entry:

```
DGMGRL> Reinstating database "xxxx",
 please wait...
Oracle Clusterware is restarting database "xxxx" ...
Connected to "xxxx"
Continuing to reinstate database "xxxx" ...
Error: ORA-16653: failed to reinstate database
```

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Follow these steps:

1. On the new primary machine, get the standby_became_primary_scn:

    ```
    SQL> select standby_became_primary_scn from v$database;
    STANDBY_BECAME_PRIMARY_SCN
    --------------------------
      4370820
    ```

2. On the new primary database, check missing sequence after standby_became_primary_scn:

    ```
    SQL> select name, sequence#, first_change#, next_change# from
    v$archived_log
    where
    first_change#>4370820 and name is NULL;
    ...
    NAME
    ----------------------------------------------------------------------
    -----------
     SEQUENCE# FIRST_CHANGE# NEXT_CHANGE#
    ---------- ------------- ------------
    53 4601014      4601154
    ```

3. On the new primary machine, restore the missing sequence with RMAN.

    ```
    $rman target/
    RMAN>  restore archivelog from logseq=1  until logseq=53;
    ```

4. On the new standby machine, check if current_scn is increasing, and check with `DGMGRL> SHOW CONFIGURATION;` to see if the apply lag is being resolved.

This issue is tracked with Oracle bug 32041012.

Failure in Reinstating Oracle Data Guard

When reinstating Oracle Data Guard on Oracle Database Appliance, an error is encountered.

The `odacli reinstate-dataguard` command fails with the following error:

```
Message:
DCS-10001:Internal error encountered: Unable to reinstate Dg.
```

The dcs-agent.log file has the following error entry:

```
ORA-12514: TNS:listener does not currently know of service requested in
connect descriptor
```

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Follow these steps:

1. Make sure the database you are reinstating is started in MOUNT mode. To start the database in MOUNT mode, run this command:

   ```
   srvctl start database -d db-unique-name -o mount
   ```

2. After the above command runs successfully, run the `odacli reinstate-dataguard` command.

This issue is tracked with Oracle bug 32047967.

Error when restoring a database on the second node with a CPU Pool

When restoring a database on the second node with a CPU pool, an error is encountered.

Restore database operation fails when restoring a single-instance database on the second node with the CPU pool option or if the backup report contains a CPU pool information. The ODACLI job displays the following error:

```
DCS-10001:Internal error encountered: Missing arguments : required
sqlplus
connection  information is not provided.
```

Hardware Models

All Oracle Database Appliance hardware models bare metal deployments

Workaround

Restore the single-instance database with CPU pool on the first node (node 0) or restore the single-instance database on the second node (node 1) without CPU pool. Then modify the database to attach to the CPU pool.

This issue is tracked with Oracle bug 32044216.

Error in running other operations when modifying database with CPU pool

When modifying a database with CPU pool, an error is encountered with other operations.

Since modifying a database to attach or detach a CPU Pool needs a database restart, it may affect any other concurrent operation on the same database. For instance, the database backup job fails when you concurrently modify the same database with the CPU Pool option. The ODACLI job displays the following error:

```
# odacli create-backup -in dbName -bt Regular-L0
  DCS-10089:Database dbName is in an invalid state `{Node Name:closed}'
Hardware Models
```

Hardware Models

All Oracle Database Appliance hardware models with bare metal configuration

Workaround

Wait until the `odacli modify-database` completes before you perform any other operation on the same database.

This issue is tracked with Oracle bug 32045674.

Error in creating a database with a CPU Pool

When creating a database with a CPU pool, an error is encountered.

On high-availability machines, if a local CPU pool is created on the first node (node 0), and if you try to create a single-instance database on the first node (node 0) using "--targetnode"/"-g" option from second node (node 1), then the ODACLI job displays the following error:

```
# /opt/oracle/dcs/bin/odacli create-database  -n new3 -c -p pdb1 -cl
OLTP  -r  ACFS -y SI -no-f  -de EE -u Unew3 -cp local2 -g 1
```

Hardware Models

All Oracle Database Appliance hardware models high-availability deployments

Workaround

Run the command to create the single-instance database command on the same node where the local CPU pool exists instead of using the "--targetnode"/"-g" option.

This issue is tracked with Oracle bug 32040969.

Error in restoring a TDE-enabled database

When restoring a TDE-enabled database on Oracle Database Appliance, an error is encountered.

If the database is TDE-enabled and if the `spfile` is lost, then recovery of database job fails in the "Database recovery validation" task with the following error:

```
DCS-10001:Internal error encountered: Failed to run RMAN command.
Please
refer log at location : scaoda****:
/u01/app/oracle/diag/rdbms/tdbasm1/tdbasm1/scaoda*****/rman/bkup/
rman_restore/
2020-10-22/rman_restore_2020-10-22_18-43-14.0540.log
```

The log file shows the following error:

```
RMAN-00571: ===========================================================
RMAN-00569: =============== ERROR MESSAGE STACK FOLLOWS ===============
RMAN-00571: ===========================================================
RMAN-03002: failure of restore command at 10/22/2020 18:45:22
ORA-19870: error while restoring backup piece c-3022438697-20201022-03
ORA-19913: unable to decrypt backup
ORA-28365: wallet is not open
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

1. Copy the 'DATA' and 'RECO' locations of the database by running the `odacli list-dbstorage` command and matching the corresponding DB unique name . Following is the sample output of the `odacli list-dbstorage` command for a database with DB unique name `mydbu`.

```
# odacli list-dbstorages

ID                                    Type    DBUnique
Name
DiskGroup
Location                                                Total
     Used      Available  Status
-------------------------------------- ------
--------------------
----------
-----------------------------------------------------------
---------- ---------- ---------- ----------
3d45c6ac-e9a5-48e0-8412-1c8bec0b95d9    ACFS
mydbu
```

```
                       Configured

 DATA
   /u02/app/oracle/oradata/mydbu
99.99 GB
3.45 GB      96.54 GB

 REDO
   /u04/app/oracle/redo/mydb/
13.99 GB
12.30 GB    1.69 GB

 RECO
   /u03/app/oracle/fast_recovery_area/
803.99 GB
2.64 GB      801.35 GB
640bc6aa-fc97-43c2-a2b5-11534c37c6b7      ASM
tdbasm1


                        Configured

 DATA
   +DATA/tdbasm1                                              2.37
TB
1.70 GB      2.37 TB

 REDO
   +RECO/tdbasm1                                              2.31
TB
12.09 GB    2.30 TB

 RECO
   +RECO/tdbasm1                                              2.31
TB
12.09 GB    2.30 TB
```

In the example, the DATA location is '/u02/app/oracle/oradata/mydbu' and RECO location is '/u03/app/oracle/fast_recovery_area/' for database mydbu. Also, the DATA location is '+DATA/tdbasm1' and RECO location is '+RECO/tdbasm1' for database tdbasm1.

2. Create a file init*dbInstanceName*.ora under *dbhome_location*/dbs.

3. Add the following entries to init*dbInstanceName*.ora file.

```
db_name=dbName
db_unique_name=dbUniqueName
wallet_root=data_location
tde_configuration='KEYSTORE_CONFIGURATION=FILE'
instance_number= 1
```

Specify 'instance_number' if it is an Oracle RAC database. Else, 'instance_number' can be removed. The *data_location* is the value copied in step 1.

4. Perform RMAN connection:

a. Run `su - oracle_user`.

b. Run the `. oraenv` command.

c. Enter the Instance Name when prompted for Oracle SID.

d. Enter DB Home location when prompted for Oracle home.

e. Run the `rman target /` command.

```
# su - oracle
      $ . oraenv
   ORACLE_SID = [oracle] ? dbInstanceName
   ORACLE_HOME = [/home/oracle] ? /u01/app/oracle/product/
19.0.0.0/dbhome_1
   The Oracle base has been set to /u01/app/oracle

   $ rman target /

   Recovery Manager: Release 19.0.0.0.0 - Production on Fri Oct
23 02:57:14  2020
   Version 19.9.0.0.0
   Copyright (c) 1982, 2019, Oracle and/or its affiliates.  All
rights  reserved.
   connected to target database (not started)
```

5. Run the `shutdown abort` command in RMAN prompt.

```
RMAN> shutdown abort
Oracle instance shut down
```

6. Run the following set of commands in the RMAN prompt, based on the backup destination type.

• For Disk backup destination:

```
startup nomount;
RESTORE SPFILE TO 'spfile_location' FROM AUTOBACKUP RECOVERY
AREA='reco_location' db_unique_name='dbUniqueName';
shutdown abort;
```

In case of Oracle ACFS database the value of *spfile_location* is '*Data_location/*dbs/spfile*dbinstancename*.ora'. In case of Oracle ASM database, the value of *spfile_location* is '*DB home location*/dbs/ spfile*dbinstancename*.ora' * The value of *reco_location* and *Data_location* are the values copied in step 1.

• For NFS backup destination:

```
startup nomount;
SET CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE disk  TO
'spfilehandle_value/%F';
```

```
run
    {
    set DBID dbid;
    ALLOCATE CHANNEL C1 DEVICE TYPE DISK;
    RESTORE SPFILE TO 'spfile_location' FROM AUTOBACKUP;
    }
shutdown abort;
```

The *spfilehandle_value* is the value of the "spfBackupHandle"
attribute in the backupreport. For example: "spfBackupHandle" :
"/tmp/nfs_backup_path/database/orabackups/test-c/database/3315481963/td
basm2/db/c-3315481963-20201023-04". The value of <spfilehandle_value>
will be "/tmp/nfs_backup_path/database/orabackups/test-c/database/
3315481963/td basm2/db". However "c-3315481963-20201023-04" can be
ignored. In case of Oracle ACFS database the value of *spfile_location*
is '*DATA location*/dbs/spfile*dbinstancename*.ora' * In case of Oracle ASM
database the value of *spfile_location* will be '*DB home location*/dbs/
spfile*dbinstancename*.ora'

- ObjectStore backup destination:

```
startup nomount;
run
    {
    ALLOCATE CHANNEL DISK1 DEVICE TYPE DISK;
    ALLOCATE CHANNEL C1 DEVICE TYPE 'SBT_TAPE' parms
'SBT_LIBRARY=/opt/oracle/dcs/commonstore/pkgrepos/oss/odbcs/
libopc.so
ENV=(OPC_PFILE=/opt/oracle/dcs/commonstore/objectstore/opc_pfile/
dbid/opc_d
bUniqueName.ora)';
    set DBID = dbid;
    RESTORE SPFILE TO 'spfile_location' FROM AUTOBACKUP
RECOVERY
AREA='<recolocation>' db_unique_name='dbuniquename';
    }
shutdown abort;
```

The commands mentioned in step 6 are present in the log file specified in the
error message, and can be used as reference.

7. Exit the RMAN prompt:

```
RMAN> exit
Recovery Manager complete.
```

8. Remove the initdbInstanceName.ora file under *dbhome_location*/dbs, which was
created in step 1.

9. If the storage type of the database is Oracle ASM, then run the following steps. If
the storage type is Oracle ACFS, then go to step 9.

   a. Start SQL*Plus connection:

   ```
   $ sqlplus / as sysdba
       SQL*Plus: Release 19.0.0.0.0 - Production on Fri Oct 23
   ```

```
03:21:14 2020
    Version 19.9.0.0.0
    Copyright (c) 1982, 2020, Oracle.  All rights reserved.
    Connected to:
    Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 -
Production
    Version 19.9.0.0.0
    SQL>
```

b. Run the following set of commands:

```
startup nomount;
create pfile from spfile;
create spfile='Data_Disk_Group' from pfile;
Example : Data_Disk_Group is typically '+DATA'. If flash is
enabled, then it is '+FLASH'
shutdown abort;
exit;
```

c. Get the spfile location:

```
srvctl config database -db dbUniqueName | grep -i spfile
```

For example:

```
srvctl config database -db tdbasm1 | grep -i spfile Spfile:
+DATA/TDBASM1/PARAMETERFILE/spfile.272.1054495987
```

d. Create init*dbInstanceName*.ora file under *dbhome_location*/dbs.

e. Set the permission of init*dbInstanceName*.ora file to *oracle_user:group_user* using the `chown` command.

f. Add the 'spfile' value fetched from above step in the init*dbInstanceName*.ora file.
For example:

```
spfile ='+DATA/TDBASM1/PARAMETERFILE/spfile.272.1054495987'
```

g. Remove the spfile*intancename*.ora present in *DB_home_location*/dbs/.

10. Perform recovery of the database using `odacli recover-database` command.

This issue is tracked with Oracle bug 32012176.

Error in recovering a TDE-enabled database

When recovering a TDE-enabled database on Oracle Database Appliance, an error is encountered.

If the database is TDE-enabled and if the `spfile` is lost, then recovery of database job fails in the "Database recovery validation" task with the following error:

```
DCS-10001:Internal error encountered: Failed to run RMAN command.
Please
```

```
refer log at location : scaoda****:
/u01/app/oracle/diag/rdbms/tdbasm1/tdbasm1/scaoda*****/rman/bkup/
rman_restore/
2020-10-22/rman_restore_2020-10-22_18-43-14.0540.log
```

The log file shows the following error:

```
RMAN-00571: ===========================================================
RMAN-00569: =============== ERROR MESSAGE STACK FOLLOWS ===============
RMAN-00571: ===========================================================
RMAN-03002: failure of restore command at 10/22/2020 18:45:22
ORA-19870: error while restoring backup piece c-3022438697-20201022-03
ORA-19913: unable to decrypt backup
ORA-28365: wallet is not open
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

1. Copy the 'DATA' and 'RECO' locations of the database by running the `odacli list-dbstorage` command and matching the corresponding DB unique name . Following is the sample output of the `odacli list-dbstorage` command for a database with DB unique name `mydbu`.

```
# odacli list-dbstorages

ID                                       Type    DBUnique
Name
DiskGroup
Location                                                   Total
     Used       Available  Status
---------------------------------------- ------
--------------------
----------
-----------------------------------------------------------
---------- ---------- ---------- ----------
3d45c6ac-e9a5-48e0-8412-1c8bec0b95d9      ACFS
mydbu


                   Configured

  DATA
    /u02/app/oracle/oradata/mydbu
 99.99 GB
 3.45 GB     96.54 GB

  REDO
    /u04/app/oracle/redo/mydb/
 13.99 GB
 12.30 GB    1.69 GB
```

```
 RECO
  /u03/app/oracle/fast_recovery_area/
803.99 GB
2.64 GB     801.35 GB
640bc6aa-fc97-43c2-a2b5-11534c37c6b7      ASM
tdbasm1


                    Configured

 DATA
   +DATA/tdbasm1                                          2.37
TB
1.70 GB     2.37 TB

 REDO
   +RECO/tdbasm1                                          2.31
TB
12.09 GB    2.30 TB

 RECO
   +RECO/tdbasm1                                          2.31
TB
12.09 GB    2.30 TB
```

In the example, the DATA location is '/u02/app/oracle/oradata/mydbu' and RECO location is '/u03/app/oracle/fast_recovery_area/' for database mydbu. Also, the DATA location is '+DATA/tdbasm1' and RECO location is '+RECO/tdbasm1' for database tdbasm1.

2. Create a file init*dbInstanceName*.ora under *dbhome_location*/dbs.

3. Add the following entries to init*dbInstanceName*.ora file.

```
db_name=dbName
db_unique_name=dbUniqueName
wallet_root=data_location
tde_configuration='KEYSTORE_CONFIGURATION=FILE'
instance_number= 1
```

Specify 'instance_number' if it is an Oracle RAC database. Else, 'instance_number' can be removed. The *data_location* is the value copied in step 1.

4. Perform RMAN connection:

a. Run `su - oracle_user`.

b. Run the `. oraenv` command.

c. Enter the Instance Name when prompted for Oracle SID.

d. Enter DB Home location when prompted for Oracle home.

e. Run the `rman target /` command.

```
# su - oracle
      $ . oraenv
    ORACLE_SID = [oracle] ? dbInstanceName
    ORACLE_HOME = [/home/oracle] ? /u01/app/oracle/product/
19.0.0.0/dbhome_1
    The Oracle base has been set to /u01/app/oracle

    $ rman target /

    Recovery Manager: Release 19.0.0.0.0 - Production on Fri Oct
23 02:57:14  2020
    Version 19.9.0.0.0
    Copyright (c) 1982, 2019, Oracle and/or its affiliates.  All
rights  reserved.
    connected to target database (not started)
```

5. Run the `shutdown abort` command in RMAN prompt.

```
RMAN> shutdown abort
Oracle instance shut down
```

6. Run the following set of commands in the RMAN prompt, based on the backup destination type.

- For Disk backup destination:

```
startup nomount;
RESTORE SPFILE TO 'spfile_location' FROM AUTOBACKUP RECOVERY
AREA='reco_location' db_unique_name='dbUniqueName';
shutdown abort;
```

In case of Oracle ACFS database the value of *spfile_location* is '*Data_location/*dbs/spfile*dbinstancename*.ora'. In case of Oracle ASM database, the value of *spfile_location* is '*DB home location*/dbs/spfile*dbinstancename*.ora' * The value of *reco_location* and *Data_location* are the values copied in step 1.

- For NFS backup destination:

```
startup nomount;
SET CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE disk  TO
'spfilehandle_value/%F';
run
    {
    set DBID dbid;
    ALLOCATE CHANNEL C1 DEVICE TYPE DISK;
    RESTORE SPFILE TO 'spfile_location' FROM AUTOBACKUP;
    }
shutdown abort;
```

The *spfilehandle_value* is the value of the "spfBackupHandle" attribute in the backupreport. For example: "spfBackupHandle" :

"/tmp/nfs_backup_path/database/orabackups/test-c/database/3315481963/td basm2/db/c-3315481963-20201023-04". The value of <spfilehandle_value> will be "/tmp/nfs_backup_path/database/orabackups/test-c/database/ 3315481963/td basm2/db". However "c-3315481963-20201023-04" can be ignored. In case of Oracle ACFS database the value of *spfile_location* is '*DATA location*/dbs/spfile*dbinstancename*.ora' * In case of Oracle ASM database the value of *spfile_location* will be '*DB home location*/dbs/ spfile*dbinstancename*.ora'

- ObjectStore backup destination:

```
startup nomount;
run
    {
    ALLOCATE CHANNEL DISK1 DEVICE TYPE DISK;
    ALLOCATE CHANNEL C1 DEVICE TYPE 'SBT_TAPE' parms
'SBT_LIBRARY=/opt/oracle/dcs/commonstore/pkgrepos/oss/odbcs/
libopc.so
ENV=(OPC_PFILE=/opt/oracle/dcs/commonstore/objectstore/opc_pfile/
dbid/opc_d
bUniqueName.ora)';
    set DBID = dbid;
    RESTORE SPFILE TO 'spfile_location' FROM AUTOBACKUP
RECOVERY
AREA='<recolocation>' db_unique_name='dbuniquename';
    }
shutdown abort;
```

The commands mentioned in step 6 are present in the log file specified in the error message, and can be used as reference.

7. Exit the RMAN prompt:

```
RMAN> exit
Recovery Manager complete.
```

8. Remove the initdbInstanceName.ora file under *dbhome_location*/dbs, which was created in step 1.

9. If the storage type of the database is Oracle ASM, then run the following steps. If the storage type is Oracle ACFS, then go to step 9.

   a. Start SQL*Plus connection:

```
$ sqlplus / as sysdba
    SQL*Plus: Release 19.0.0.0.0 - Production on Fri Oct 23
03:21:14 2020
    Version 19.9.0.0.0
    Copyright (c) 1982, 2020, Oracle.  All rights reserved.
    Connected to:
    Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 -
Production
    Version 19.9.0.0.0
    SQL>
```

b. Run the following set of commands:

```
startup nomount;
create pfile from spfile;
create spfile='Data_Disk_Group' from pfile;
Example : Data_Disk_Group is typically '+DATA'. If flash is
enabled, then it is '+FLASH'
shutdown abort;
exit;
```

c. Get the spfile location:

```
srvctl config database -db dbUniqueName | grep -i spfile
```

For example:

```
srvctl config database -db tdbasm1 | grep -i spfile Spfile:
+DATA/TDBASM1/PARAMETERFILE/spfile.272.1054495987
```

d. Create init*dbInstanceName*.ora file under *dbhome_location*/dbs.

e. Set the permission of init*dbInstanceName*.ora file to *oracle_user:group_user* using the `chown` command.

f. Add the 'spfile' value fetched from above step in the init*dbInstanceName*.ora file.
For example:

```
spfile ='+DATA/TDBASM1/PARAMETERFILE/spfile.272.1054495987'
```

g. Remove the spfile*intancename*.ora present in *DB_home_location*/dbs/.

10. Perform recovery of the database using `odacli recover-database` command.

This issue is tracked with Oracle bug 32012186.

Error in restoring a TDE-enabled database

When restoring a TDE-enabled database on Oracle Database Appliance, an error is encountered.

When a TDE-enabled database with Oracle ASM database storage is restored on an Oracle ACFS database storage, the following error message is displayed:

```
Failed to copy file from : source_location to: destination_location
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Do not change the database storage type when restoring a TDE-enabled database.

This issue is tracked with Oracle bug 31848183.

Error in considering memory value unit in BUI

For KVM on Browser User Interface (BUI), the VM memory size is validated against the max VM memory size but the unit is not taken into consideration.

When modifying the VM memory in BUI, if you choose memory value greater than max memory but lower unit like 400M with 2G max memory, then the following error message is displayed:

```
The requested VM memory size exceeds maximum VM memory size.
```

Hardware Models

Oracle Database Appliance hardware models

Workaround

None.

This issue is tracked with Oracle bug 32064320.

Validation error when deleting a resource after stopping VM

When deleting the associated resource after stopping a VM, an error is encountered.

On Oracle Database Appliance KVM, the live configuration metadata is not deleted when you stop a VM, and try to delete the associated resource such as the CPU Pool, vdisk or vnetwork. A validation error is encountered and the following error message is displayed:

```
DCS-10045:Validation error encountered: The following resources are
currently
associated to resource type 'resource name': vm list
```

Hardware Models

Oracle Database Appliance hardware models

Workaround

Start the VM again to sync the live configuration metadata to the existing configuration metadata, and try to delete the resource such as the CPU Pool, vdisk or vnetwork.

This issue is tracked with Oracle bug 32078682.

Error in updating Role after Oracle Data Guard operations

When performing operations with Oracle Data Guard on Oracle Database Appliance, an error is encountered in updating the Role.

The dbRole component described in the output of the `odacli describe-database` command is not updated after Oracle Data Guard switchover, failover, and reinstate operations on Oracle Database Appliance.

Hardware Models

All Oracle Database Appliance hardware models with Oracle Data Guard configuration

Workaround

Run `odacli update-registry -n db --force/-f` to update the database metadata. After the job completes, run the `odacli describe-database` command and verify that dbRole is updated.

This issue is tracked with Oracle bug 31378202.

Error when recovering a single-instance database

When recovering a single-instance database, an error is encountered.

When a single-instance database is running on the remote node, and you run the operation for database recovery on the local node, the following error is observed:

```
DCS-10001:Internal error encountered: DCS-10001:Internal error
encountered:
Missing arguments : required sqlplus connection  information is not
provided
```

Hardware Models

All Oracle Database Appliance hardware models

Workaround

Perform recovery of the single-instance database on the node where the database is running.

This issue is tracked with Oracle bug 31399400.

Error when rebooting the appliance

When rebooting Oracle Database Appliance, the user interactive screen is displayed.

Hardware Models

Oracle Database Appliance X7-2-HA hardware models

Workaround

From the system console, select or highlight the kernel using the Up or Down arrow keys and then press Enter to continue with the reboot of the appliance.

This issue is tracked with Oracle bug 31196452.

Job history not erased after running cleanup.pl

After running `cleanup.pl`, job history is not erased.

After running `cleanup.pl`, when you run `/opt/oracle/dcs/bin/odacli list-jobs` commands, the list is not empty.

Hardware Models

All Oracle Database Appliance hardware models for bare metal deployments

Workaround

1. Stop the DCS Agent by running the following commands on both nodes.
   For Oracle Linux 6, run:

   ```
   initctl stop initdcsagent
   ```

   For Oracle Linux 7, run:

   ```
   systemctl stop initdcsagent
   ```

2. Run the cleanup script sequentially on both the nodes.

This issue is tracked with Oracle bug 30529709.

Inconsistency in ORAchk summary and details report page

ORAChk report summary on the Browser User Interface may show different counts of Critical, Failed, and Warning issues than the report detail page.

Hardware Models

Oracle Database Appliance hardware models bare metal deployments

Workaround

Ignore counts of Critical, Failed, and Warning issues in the ORAchk report summary on the Browser User Interface. Check the report detail page.

This issue is tracked with Oracle bug 30676674.

Missing DATA, RECO, and REDO entries when dbstorage is rediscovered

Running the `odacli update-registry` command with `-n all --force` or `-n dbstorage --force` option can result in metadata corruption.

Hardware Models

All Oracle Database Appliance hardware models bare metal deployments

Workaround

Run the `-all` option when all the databases created in the system use OAKCLI in migrated systems. On other systems that run on DCS stack, update all components other than dbstorage individually, using the `odacli update-registry -n component_name_to_be_updated_excluding_dbstorage`.

This issue is tracked with Oracle bug 30274477.

The odaeraser tool does not work if oakd is running in non-cluster mode

After cleaning up the deployment, the Secure Eraser tool does not work if oakd is running in non-cluster mode.

Hardware Models

All Oracle Database Appliance Hardware bare metal systems

Workaround

After cleanup of the deployment, `oakd` is started in the non-cluster mode, and it cannot be stopped using "odaadmcli stop oak" command. In such a case, if the Secure Erase tool is run, then the odaeraser command fails.

Use the command `odaadmcli shutdown oak` to stop `oakd`.

This issue is tracked with Oracle bug 28547433.

Issues with the Web Console on Microsoft web browsers

Oracle Database Appliance Web Console has issues on Microsoft Edge and Microsoft Internet Explorer web browsers.

Following are issues with Microsoft web browsers:

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

- Advanced Information for the appliance does not display on Microsoft Internet Explorer web browser.

- Job activity status does not refresh in the Web Console on Microsoft Internet Explorer web browser.

- After configuring the oda-admin password, the following error is displayed:

```
Failed to change the default user (oda-admin) account password.
Status Code: 500 DCS-10001: DCS-10001:Internal error encountered:
User not authorized
```

  Workaround: Close the Microsoft Internet Explorer browser session and open another browser session.

Models

All Oracle Database Appliance Hardware Models bare metal deployments

Workaround

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

This issue is tracked with Oracle bugs 30077007, 30099089, and 29887027.

Disk space issues due to Zookeeper logs size

The Zookeeper log files, `zookeeper.out` and `/opt/zookeeper/log/zkMonitor.log`, are not rotated, when new logs are added. This can cause disk space issues.

Hardware Models

All Oracle Database Appliance hardware models for bare metal deployments

Workaround

Rotate the zookeeper log file manually, if the log file size increases, as follows:

1. Stop the DCS-agent service for zookeeper on both nodes.

   ```
   initctl stop initdcsagent
   ```

2. Stop the zookeeper service on both nodes.

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

3. Clean the zookeeper logs after taking the backup, by manually deleting the existing file or by following steps 4 to 10.

4. Set the `ZOO_LOG_DIR` as an environment variable to a different log directory, before starting the zookeeper server.

   ```
   export ZOO_LOG_DIR=/opt/zookeeper/log
   ```

5. Switch to `ROLLINGFILE`, to set the capability to roll.

   ```
   export ZOO_LOG4J_PROP="INFO, ROLLINGFILE"
   ```

   Restart the zookeeper server, for the changes to take effect.

6. Set the following parameters in the `/opt/zookeeper/conf/log4j.properties` file, to limit the number of backup files, and the file sizes.

   ```
   zookeeper.log.dir=/opt/zookeeper/log
   zookeeper.log.file=zookeeper.out
   log4j.appender.ROLLINGFILE.MaxFileSize=10MB
   log4j.appender.ROLLINGFILE.MaxBackupIndex=10
   ```

7. Start zookeeper on both nodes.

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

8. Check the zookeeper status, and verify that zookeeper runs in `leader/follower/standalone` mode.

   ```
   /opt/zookeeper/bin/zkServer.sh status
   ZooKeeper JMX enabled by default
   ```

```
Using config: /opt/zookeeper/bin/../conf/zoo.cfg
Mode: follower
```

9. Start the dcs agent on both nodes.

```
initctl start initdcsagent
```

10. Purge the zookeeper monitor log, `zkMonitor.log`, in the location `/opt/zookeeper/log`. You do not have to stop the zookeeper service.

This issue is tracked with Oracle bug 29033812.

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 error is caused when you run the following steps:

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.

```
# systemctl stop initdcsagent
# systemctl start initdcsagent
```

This issue is tracked with Oracle bug 26996134.

Error in attaching vdisk to guest VM

The current system firmware may be different from the available firmware after applying the latest patch.

When multiple vdisks from the oda_base driver_domain are attached to the guest VM, their entries are not written on the xenstore, vdisks are not attached to the VM, and the VM may not start.

The following errors are logged on `xen-hotplug.log` in ODA_BASE:

```
xenstore-write: could not write path backend/vbd/6/51728/node
xenstore-write: could not write path backend/vbd/6/51728/hotplug-error
```

Hardware Models

Oracle Database Appliance Virtualized Platform

Workaround

1. Add the followng into the `/etc/sysconfig/xencommons` file in `dom0`:

   ```
   XENSTORED_ARGS="--entry-nb=4096 --transaction=512"
   ```

2. Reboot `dom0`.

This issue is tracked with Oracle bug 30886365.

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.