Oracle® Virtual Compute Appliance

Release Notes for Release 1.0.1

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Oracle® Virtual Compute Appliance: Release Notes for Release 1.0.1

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Preface

This document is part of the documentation library for Oracle Virtual Compute Appliance X3-2 Release 1.0, which is available at:

http://docs.oracle.com/cd/E40371_01

The documentation library consists of the following items:

Oracle Virtual Compute Appliance X3-2 Release Notes
The release notes provide a summary of the new features, changes, fixed bugs and known issues in Oracle Virtual Compute Appliance X3-2.

Oracle Virtual Compute Appliance X3-2 Installation Guide
The installation guide provides detailed instructions to prepare the installation site and install Oracle Virtual Compute Appliance X3-2. It also includes the procedure to install an additional compute node.

Oracle Virtual Compute Appliance X3-2 Safety and Compliance Guide
The safety and compliance guide is a supplemental guide to the safety aspects of Oracle Virtual Compute Appliance X3-2. It conforms to Compliance Model No. OCA1A.

Oracle Virtual Compute Appliance X3-2 Administrator's Guide
The administrator's guide provides instructions for using the management software. It is a comprehensive guide to how to configure, monitor and administer Oracle Virtual Compute Appliance X3-2.

Oracle Virtual Compute Appliance Quick Start Poster
The quick start poster provides a step-by-step description of the hardware installation and initial software configuration of Oracle Virtual Compute Appliance X3-2. A printed quick start poster is shipped with each Oracle Virtual Compute Appliance base rack, and is intended for data center operators and administrators who are new to the product.

The quick start poster is also available in the documentation library as an HTML guide, which contains alternate text for ADA 508 compliance.

Oracle Virtual Compute Appliance Expansion Node Setup Poster
The expansion node setup poster provides a step-by-step description of the installation procedure for an Oracle Virtual Compute Appliance expansion node. A printed expansion node setup poster is shipped with each Oracle Virtual Compute Appliance expansion node.

The expansion node setup poster is also available in the documentation library as an HTML guide, which contains alternate text for ADA 508 compliance.

Audience

The Oracle Virtual Compute Appliance X3-2 documentation is written for technicians, authorized service providers, data center operators and system administrators who want to install, configure and maintain a virtual compute environment in order to deploy virtual machines for users. It is assumed that readers have experience installing and troubleshooting hardware, are familiar with web and virtualization technologies and have a general understanding of operating systems such as UNIX (including Linux) and Windows.

The Oracle Virtual Compute Appliance makes use of Oracle Linux and Oracle Solaris operating systems within its component configuration. It is advisable that administrators have experience of these operating systems at the very least. Oracle Virtual Compute Appliance is capable of running virtual machines with a variety of operating systems including Oracle Solaris and other UNIXes, Linux and Microsoft Windows. The

selection of operating systems deployed in guests on Oracle Virtual Compute Appliance determines the requirements of your administrative knowledge.

Related Documentation

Additional documentation for components related to Oracle Virtual Compute Appliance X3-2 is available as follows:

- All Oracle products

  http://www.oracle.com/documentation

- Sun Rack II 1042 and 1242

  http://docs.oracle.com/cd/E19844-01/index.html

- Sun Server X3-2

  http://docs.oracle.com/cd/E22368_01/index.html

- Sun ZFS Storage Appliance 7320

  http://docs.oracle.com/cd/E28317_01/index.html

- Oracle Switch ES1-24

  http://docs.oracle.com/cd/E39109_01/index.html

- NM2-36P Sun Datacenter InfiniBand Expansion Switch

  http://docs.oracle.com/cd/E26698_01/index.html

- Oracle Fabric Interconnect F1-15 Director Switch

  http://docs.oracle.com/cd/E38500_01/index.html

- Oracle Integrated Lights Out Manager (ILOM) 3.1

  http://docs.oracle.com/cd/E24707_01/index.html

- Oracle VM

  http://docs.oracle.com/cd/E35328_01/index.html

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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 text or the glossary.
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.

Document Revision

Document generated on: 2013-12-20 (revision: 371)

Chapter 1 About Oracle Virtual Compute Appliance X3-2

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This chapter provides a quick overview of the product and its components.

1.1 Introduction

Oracle Virtual Compute Appliance X3-2 is an Oracle Engineered System designed for virtualization. It is an offering that industry analysts refer to as a *Converged Infrastructure Appliance*: an infrastructure solution in the form of a hardware appliance that comes from the factory pre-configured. Compute resources, network hardware, storage providers, operating systems and applications are engineered to work together but are managed and operated as a single unit.

Installation, configuration, high availability, expansion and upgrading are automated and orchestrated as much as possible. The minimum configuration consists of a base rack with infrastructure components, a pair of management nodes, and two compute nodes. This configuration can be extended by one compute node at a time. All rack units, whether populated or not, are pre-cabled and pre-configured at the factory in order to facilitate the installation of expansion compute nodes on-site at a later time. Within approximately one hour after power-on, the appliance is ready to create virtual servers. Virtual servers are commonly deployed from Oracle VM templates (individual pre-configured VMs) and assemblies (interconnected groups of pre-configured VMs).

The primary value proposition of Oracle Virtual Compute Appliance X3-2 is the integration of components and resources for the purpose of ease of use and rapid deployment. It should be considered a general purpose solution in the sense that it supports the widest variety of operating systems, including Windows, and any application they might host. Customers can attach their existing storage or provide storage solutions from Oracle or third parties.

1.2 Components

The Oracle Virtual Compute Appliance X3-2 consists of a Sun Rack II 1242 base, populated with the hardware components identified in Figure 1.1.

Figure 1.1 Components of an Oracle Virtual Compute Appliance X3-2 Rack

Table 1.1 Figure Legend

Item	Quantity	Description
A	1	Sun ZFS Storage Appliance 7320 (version 2011.1.5.0)
B	2	Sun Server X3-2, used as management nodes
C	2-25	Sun Server X3-2, used as virtualization compute nodes
D	2	Oracle Fabric Interconnect F1-15 Director Switch (version 3.9)
E	2	NM2-36P Sun Datacenter InfiniBand Expansion Switch (version 2.1.2)
F	2	Oracle Switch ES1-24 (version 1.3.0.9)

At the software level, Oracle Virtual Compute Appliance leverages the virtualization technology of Oracle VM and Oracle Virtual Networking. Management, including updates, of the underlying hardware and software is orchestrated and largely automated by the Oracle Virtual Compute Appliance controller software.

Chapter 2 Mandatory Update of Release 1.0.1

In Oracle Virtual Compute Appliance X3-2 with pre-installed Release 1.0.1 software, compute node provisioning functionality is disabled at the factory. In order to complete the first-time configuration of your system, an update of the software is required. This chapter provides step-by-step instructions to initialize the system with Release 1.0.2 of the software.

> **Warning**
>
> Before starting the system and applying the initial configuration, read and understand the Oracle Virtual Compute Appliance X3-2 Release Notes. Chapter 4, *Known Limitations and Workarounds* provides information that is critical for correctly executing the procedures in this document. Ignoring the release notes may cause you to configure the system incorrectly. Bringing the system back to normal operation may require a complete factory reset.

> **Warning**
>
> To be able to install and provision the compute nodes correctly, and deploy your virtual infrastructure, it is critical that you execute this procedure accurately and complete it successfully.

Hardware Installation and Preparation

A hardcopy of the *Oracle Virtual Compute Appliance Quick Start Poster* is included with the shipment of your Oracle Virtual Compute Appliance X3-2. Follow the instructions up to step 8. At this point, you can use the browser on the workstation connected to the internal appliance management network to open the Oracle Virtual Compute Appliance Dashboard.

Press the power button of the second management node. Wait approximately 5 minutes to allow the management system to power on completely. You are now ready to configure the appliance for the first time.

Appliance Network Configuration

> **Warning**
>
> **DO NOT change the system password prior to the mandatory update.**

Follow these steps to configure the network connectivity of your Oracle Virtual Compute Appliance.

1. Using SSH and an account with superuser privileges, log in to both management nodes to create the `install.log` file.

   > **Note**
   >
   > The default `root` password is *Welcome1*.

   Use a workstation connected to the provided cable attached to port 24 of the Oracle Switch ES1-24. In this internal appliance management network, the first management node IP address is `192.168.4.3`; the second management node IP address is `192.168.4.4`.

> **Caution**
>
> Port 24 of the Oracle Switch ES1-24 has a minimum transfer rate of 1000 Mbit/s (GbE). If your workstation requires a lower speed (Fast Ethernet, 100 Mbit/s), you may use port 19 of the second Oracle Switch ES1-24, which is the one on the right hand side if you look from the rear of the rack. A Cat5 Ethernet cable is plugged in and coiled up on the side.

```
# ssh root@192.168.4.3
root@192.168.4.3's password:
root@ovcamn05r1 ~]# touch /tmp/install.log
root@ovcamn05r1 ~]# ssh root@192.168.4.4
root@192.168.4.4's password:
root@ovcamn06r1 ~]# touch /tmp/install.log
root@ovcamn06r1 ~]# exit
logout
Connection to 192.168.4.4 closed.
root@ovcamn05r1 ~]#
```

2. Using the web browser on the workstation, connect to the Oracle Virtual Compute Appliance Dashboard with the predefined IP address of the first management node: `http://192.168.4.3`.

   `192.168.4.3` is the predefined port IP address for configuring Oracle Virtual Compute Appliance X3-2. If there is another device on your network that is using this IP address, you should change the conflicting device's IP address prior to connecting to Oracle Virtual Compute Appliance X3-2.

3. Log into the Oracle Virtual Compute Appliance Dashboard using the user name `ovcaadmin` and password `Welcome1`.

4. Go to the **Network Setup** tab and complete the following configuration fields:

   - **Management Node 1:** Use this field to specify an IP address within your data center network that can be used to directly access this management node.

     - **Hostname:** Use this field to specify the host name for the first management node system.

   - **Management Node 2:** Use this field to specify an IP address within your data center network that can be used to directly access this management node.

     - **Hostname:** Use this field to specify the host name for the second management node system.

   - **Domain Name:** Use this field to specify the domain that each of the management node systems belong to.

   - **Virtual IP:** Use this field to specify the shared Virtual IP address that is used to always access the active management node. This IP address must be in the same subnet as the IP addresses that you have specified for each management node.

   - **Netmask:** Use this field to specify the netmask for the network that the Virtual IP address and management node IP addresses belong to.

   - **Default Gateway:** Use this field to specify the default gateway for the network that the Virtual IP address and management node IP addresses belong to.

   - **NTP:** Use this field to specify the NTP server that the management nodes and other appliance components must use to synchronize their clocks to.

- **DNS:** Use the fields provided here to specify at least one DNS server that the management nodes can use for domain name resolution.

> **Warning**
>
> **DO NOT change the system password prior to the mandatory update.**
>
> If you change the system password before successfully completing the software update, a full re-installation of the Oracle Virtual Compute Appliance is required.

5. Click the **OK** button at the bottom of the page.

   The settings that are currently displayed on the page are saved, and the configuration on each of the management nodes is updated accordingly.

   > **Note**
   >
   > The configuration is typically up-to-date after 10-20 minutes. Then the appliance is ready for the software update.

Appliance Software Update

The mandatory initial software update, and any further update of Oracle Virtual Compute Appliance X3-2, is performed from the command line of the management node. Software updates are a three-tier process. First, a zipped ISO containing the updated software must be downloaded from My Oracle Support and made available on an HTTP or FTP server. From there, the ISO is downloaded to the Sun ZFS Storage Appliance 7320. When the download is complete and the software is unpacked in the appropriate directories, the update is activated and applied to each affected component.

> **Caution**
>
> If direct public access is not available within your data center and you make use of proxy servers to facilitate HTTP, HTTPS and FTP traffic, it may be necessary to edit `/etc/ovca.conf`, on each management node, to ensure that the correct proxy settings are specified for a download to succeed from the Internet. This depends on the network location from where the download is served. For more information, refer to the section Adding Proxy Settings for Oracle Virtual Compute Appliance Updates in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

> **Tip**
>
> Updates are controlled with `ovca-updater` commands. To display usage options, enter `ovca-updater --help` at the shell prompt of the management node.

Follow these steps to update the Oracle Virtual Compute Appliance software.

1. Log into My Oracle Support and download the Oracle Virtual Compute Appliance Release 1.0.2 update.

   You can find the update by searching for the product name "Oracle Virtual Compute Appliance", or for the patch related to Bug Number *17967425*.

2. Make the update, a zipped ISO, available on an HTTP or FTP server that is reachable from your Oracle Virtual Compute Appliance.

3. Using SSH and an account with superuser privileges, log into the master management node.

```
# ssh root@192.168.4.3
root@192.168.4.3's password:
root@ovcamn05r1 ~]#
```

4. Download the ISO to your Oracle Virtual Compute Appliance.

```
# ovca-updater -m download -s -u http://download-url.example.com/ovca-version-build.iso.zip
Download of http://download-url.example.com/ovca-version-build.iso.zip started successfully. \
Task id is 5ba4f1a09c9546b29a560e3d6682ce67
```

5. Check the progress of the ISO download. When the download is finished, proceed with the next step.

```
# ovca-updater -m download -l -i 5ba4f1a09c9546b29a560e3d6682ce67
Task ID                             Pct    Elapsed time Status
5ba4f1a09c9546b29a560e3d6682ce67    60%    155.305 sec    RUNNING
# ovca-updater -m download -l -i 5ba4f1a09c9546b29a560e3d6682ce67
Task ID                             Pct    Elapsed time Status
5ba4f1a09c9546b29a560e3d6682ce67    70%    285.904 sec    RUNNING
# ovca-updater -m download -l -i 5ba4f1a09c9546b29a560e3d6682ce67
Task ID                             Pct    Elapsed time Status
5ba4f1a09c9546b29a560e3d6682ce67   100%    338.102 sec    SUCCESS
```

To list all downloads and their status, enter this command:

```
# ovca-updater -m download -l
Task ID                             Pct    Elapsed time Status
5ba4f1a09c9546b29a560e3d6682ce67   100%    338.102 sec    SUCCESS
```

6. When the download has completed successfully, activate it by launching the update process.

```
# ovca-updater -m update -s
WARNING:root:Activating update process. Starting with nonmaster node 192.168.4.4
```

Once you issue this command, the update process is initiated as described in the section Oracle Virtual Compute Appliance X3-2 Software Update of the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

7. Check the progress of the software update.

```
# ovca-updater -m update -l
Mgmt Node IP    Update Started      Update Ended       Elapsed
192.168.4.4     2013-10-02 16:52:14 ------------------ 0:02:18
```

> **Note**
>
> At a certain point during the update process, the active management node is rebooted. As a result, the SSH connection is lost. In addition, this may cause the Dashboard to become unresponsive temporarily, and you may be required to log back in.

When the master management node reboots, the secondary (updated) management node assumes the master role. The original master management node is then also updated and becomes the backup management node.

Compute Node Provisioning

Once all Oracle Virtual Compute Appliance services are running on the new master management node, the provisioning of the compute nodes begins automatically. The provisioning process is described in detail in the section Provisioning and Orchestration of the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

1. Log into the Oracle Virtual Compute Appliance Dashboard using the user name `ovcaadmin` and password `Welcome1`.

2. Go to the **Hardware View** tab to monitor the compute node provisioning.

   For more details, refer to the section Hardware View of the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

When all compute nodes have completed provisioning and have joined the Oracle VM server pool, the appliance is in *Ready* state, meaning virtual machines (VMs) can be deployed.

Chapter 3 Feature Overview

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This chapter provides an overview of the key features in each release of Oracle Virtual Compute Appliance.

3.1 Key Features in Release 1.0.1

This section describes the key features offered in Release 1.0.1 of Oracle Virtual Compute Appliance X3-2.

Speed and Ease of Use

The Oracle Virtual Compute Appliance X3-2 is assembled, cabled and pre-installed at the factory, thus eliminating configuration errors and reducing setup time. Administrators are free to focus on transforming the IT infrastructure and delivering flexible services to respond to the organization's requirements. By leveraging the advantages of an integrated system, they save the time normally required for planning and configuring the infrastructure from scratch. Provisioning new applications into flexible virtualized environments, in a fraction of the time required for physical deployments, generates substantial financial benefits. Within approximately one hour after power-on, the appliance is ready to create virtual servers.

Automated Deployment

With the Oracle Virtual Compute Appliance, users only need to move the rack into place in the data center, connect power, network and management Ethernet cables, and power on the system. The controller software orchestrates the installation and configuration of the entire hardware and software environment. At the end of the provisioning process, the user enters the basic configuration properties of the data center environment in the Oracle Virtual Compute Appliance Dashboard, so that the controller software can prepare the appliance for integration with your existing infrastructure.

Compute capacity is extended by adding more compute nodes, one server at a time. The integration of expansion compute nodes is seamless: slide the server into the next available rack unit, connect the cables, and let the controller software discover the new hardware.

For a detailed description of provisioning and orchestration, refer to Provisioning and Orchestration in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

Network Virtualization

High-performance, low-latency Oracle Fabric Interconnect with Oracle SDN, two products in the Oracle Virtual Networking family, allow automated configuration of the server and storage networks. Oracle SDN dynamically connects servers to networks and storage. It eliminates the physical storage and networking cards found in every server and replaces them with virtual network interface cards (vNICs) and virtual host bus adapters (vHBAs) that can be deployed on the fly. Applications and operating systems see these virtual resources exactly as they would see their physical counterparts. Oracle Virtual Networking simplifies complex data center deployments with a wire-once solution and simple software-defined network configurations.

Integrated Storage

Oracle Virtual Compute Appliance features a fully integrated, enterprise-grade Sun ZFS Storage Appliance 7320 for centrally storing the management environment as well as providing data storage for VMs.

This storage subsystem is built using Oracle's enterprise-class storage products and technology and is designed to be fully redundant for maximum fault tolerance and serviceability in production. In addition, each compute node offers extra disk space that can be used as local storage for the virtual infrastructure deployed on it.

The storage capacity of Oracle Virtual Compute Appliance can be expanded beyond the internal, included storage, to external data center racks containing more than one Oracle ZFS Storage Appliance or supported storage available from other storage vendors.

High Availability

The Oracle Virtual Compute Appliance X3-2 is designed for high availability at every level.

During the factory installation of Oracle Virtual Compute Appliance X3-2, the two management nodes are configured as a cluster. The cluster relies on an OCFS2 file system exported as a LUN from the ZFS storage to perform the heartbeat function and to store a lock file. The management node that has control over the lock file automatically becomes the master or active node in the cluster. The master management node is always available via the same virtual IP address, thus ensuring continuity of service up to the level of the Dashboard user interface. In case the active management node fails, the cluster detects the failure and the lock is released. Since the standby management node is constantly polling for control over the lock file, it detects when it has control of this file and brings up all the required Oracle Virtual Compute Appliance services. The management node failover process takes up to 5 minutes to complete.

In addition, all configuration databases are stored on the Sun ZFS Storage Appliance 7320, to which components have shared access. The risk of data loss or interruption of service is further reduced by redundant network hardware, clustered storage heads, and a RAID-Z disk configuration that tolerates media failure and automatically detects and corrects bit errors.

For more information about high availability, refer to High Availability in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

Templates and Assemblies

Within a matter of hours, the system is ready and users can start adding VMs. These can be created from scratch, or deployed from ready-to-run Oracle VM templates and assemblies. As a result, Oracle Virtual Compute Appliance offers out-of-the-box support for thousands of Oracle and third-party applications. This way, complex Oracle software stacks can be rapidly deployed.

The ability to quickly and easily deploy applications to a highly scalable virtualized environment reduces time to market for the business, and allows IT to rapidly deploy and scale test, development, and staging environments. Oracle Virtual Assembly Builder can be used with Oracle Virtual Compute Appliance X3-2. More information about Oracle Virtual Assembly Builder is available at http://www.oracle.com/us/products/middleware/exalogic/virtual-assembly-builder/overview/index.html.

Operating System and Application Support

Support for many operating systems and your choice of storage protects your investment and provides easy deployment into your data centers. Getting applications to users requires a lot more than just hardware provisioning. End-users need their applications provisioned as well. Oracle Virtual Compute Appliance accelerates deployment of the full hardware-to-applications stack so you can get applications to users within hours of power-on, rather than days or weeks.

Oracle VM supports up to 128 vCPUs and a variety of guest OSs such as Oracle Linux, Oracle Solaris, and Microsoft Windows. Entire Oracle application stacks can be deployed in minutes to hours using Oracle VM templates and assemblies. By default, all Oracle software that has been certified for use with Oracle

VM is certified for Oracle Virtual Compute Appliance, which includes the Oracle Database, Oracle Fusion Middleware, Oracle Applications, and Oracle Real Application Clusters.

Chapter 4 Known Limitations and Workarounds

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This chapter provides information about the known limitations and workarounds for Oracle Virtual Compute Appliance X3-2.

4.1 Oracle Virtual Compute Appliance Hardware

This section describes hardware-related limitations and workarounds.

4.1.1 Compute Node Boot Sequence Interrupted by LSI Bios Battery Error

When a compute note is powered off for an extended period of time, a week or longer, the LSI BIOS may stop because of a battery error, waiting for the user to press a key in order to continue.

Workaround: Wait for approximately 10 minutes to confirm that the compute node is stuck in boot. Use the Reprovision button in the Oracle Virtual Compute Appliance Dashboard to reboot the server and restart the provisioning process.

Bug 16985965

4.1.2 Appliance Is Connected to Data Center Network but External Connectivity Fails

For VLAN support, the Oracle Fabric Interconnect F1-15 Director Switches are set to trunking mode to allow tagged data traffic. Depending on the design of your data center network and the networking within the Oracle Virtual Compute Appliance environment, you may not be able to connect to systems outside the appliance, even though the outbound network cabling is connected correctly. Your data center switches should be reconfigured to appropriately handle tagged and untagged data traffic from the Oracle Virtual Compute Appliance.

Workaround: Adjust the configuration of your next-level data center switches, by enabling tagged and untagged traffic to share the connection.

Bug 17641780 and 17703144

4.1.3 Management Node Network Interfaces Are Down After System Restart

If the Oracle Virtual Compute Appliance needs to be powered down and restarted for maintenance or in the event of a power failure, bring up the components in this order: first the Oracle Fabric Interconnect F1-15 Director Switches, then the Sun ZFS Storage Appliance 7320 storage heads, and then the management nodes. Wait at least 30 seconds between components.

It may occur that the management nodes complete their boot sequence before the appliance network configuration is up. In that case, the management nodes are unreachable because their `bond0` and `bond2` interfaces are down.

Workaround: Reboot the management nodes again. When they come back online, their network interfaces should be correctly configured.

Bug 17648454

4.2 Oracle Virtual Compute Appliance Software

This section describes software-related limitations and workarounds.

4.2.1 Do Not Apply Network Configuration from Quick Start Poster

The Oracle Virtual Compute Appliance X3-2 shipment contains a printed copy of the Oracle Virtual Compute Appliance Quick Start Poster. It provides instructions to configure the appliance after initial power-on. The screenshot in step 10-C shows dummy IP addresses for the management nodes, virtual IP and default gateway. Be sure to replace them with three reserved IP addresses and configuration parameters from your own data center network. *DO NOT* apply the dummy configuration – or any reserved internal address ranges (192.168.4.x, 192.168.140.x, 192.168.40.x) – because that will make the Oracle Virtual Compute Appliance Dashboard and Oracle VM Manager user interface permanently inaccessible.

There is no workaround. Reinstallation is required to return the Oracle Virtual Compute Appliance to normal operation.

Bug 17457001

4.2.2 Do Not Reconfigure Network During Compute Node Provisioning or Upgrade

In the Oracle Virtual Compute Appliance Dashboard, the Network Setup tab becomes available when the first compute node has been provisioned successfully. However, when installing and provisioning

a new system, you must wait until all nodes have completed the provisioning process before changing the network configuration. Also, when provisioning new nodes at a later time, or when upgrading the environment, do not apply a new network configuration before all operations have completed. Failure to follow these guidelines is likely to leave your environment in an indeterminate state.

Workaround: Before reconfiguring the system network settings, make sure that no provisioning or upgrade processes are running.

Bug 17475738

4.2.3 Do Not Change System Password Prior to Mandatory Update

As described in Chapter 2, *Mandatory Update of Release 1.0.1*, the Oracle Virtual Compute Appliance software must be updated before the system can be fully configured. If you change the system password in the Network Setup tab of the Oracle Virtual Compute Appliance Dashboard prior to updating the software, only a subset of the appliance components will accept the password change. To recover from this situation, a complete re-installation of the appliance is required.

Workaround: First, execute the mandatory update procedure. Change the Oracle Virtual Compute Appliance system-wide password only after a successful software update.

Bug 17542460

4.2.4 Oracle Virtual Compute Appliance Dashboard Unavailable when Logged On to Oracle VM Manager

If you have successfully logged on to Oracle VM Manager and then attempt to log on to the Oracle Virtual Compute Appliance Dashboard, the latter returns an *HTTP 404* or *Not Found* error message. The issue is caused by a shared session ID cookie between both user interfaces. However, both can be viewed simultaneously.

Workaround: Log on to the Oracle Virtual Compute Appliance Dashboard first, then log on to Oracle VM Manager. Both web interfaces can be used side by side.

Bug 17315730

4.2.5 Oracle Virtual Compute Appliance Dashboard Does Not Support Simultaneous Users

When several users log in to the Oracle Virtual Compute Appliance Dashboard, various error and exceptions may occur. This is caused by the Dashboard initializing its database tables whenever a user logs in. When an additional user logs in, the state of the current user's operations is wiped out, which causes instability.

Workaround: Only one user should be logged in to the Oracle Virtual Compute Appliance Dashboard at any given time.

Bug 17704931

4.2.6 Updating Network Configuration Fails Due to Field Validation Error

User-configurable network settings are defined in the Network Setup tab of the Oracle Virtual Compute Appliance Dashboard. When you click OK to apply the new settings, the entries in each field are validated. If an invalid entry is found, the network configuration is *not* updated, even though you may already have confirmed the changes.

Workaround: Verify your entries in each field of the Network Setup tab, make the necessary corrections, and apply the new configuration again.

Bug 17360826

4.2.7 DNS Configuration Cannot Be Modified Due to Field Validation Error

Among the user-configurable network settings in the Network Setup tab of the Oracle Virtual Compute Appliance Dashboard are three DNS fields. When you apply a configuration with multiple DNS entries, you can no longer remove the second or third entry. Also, when you apply a configuration with two DNS entries, you can no longer add a third DNS.

Workaround: Set the values for DNS with care and double-check them before applying the new network configuration. If you need to disable the second or third DNS entry later, replace it in the Network Setup tab with `0.0.0.0` and apply the new configuration.

Bug 17626460

4.2.8 Network Configuration Update Is Not Applied

When updating the user-configurable network settings through the Network Setup tab of the Oracle Virtual Compute Appliance Dashboard, the new configuration may take a long time to load, or is sometimes not applied. As long as the necessary services have not restarted successfully, the management nodes are not reachable at their newly assigned IP addresses. You can verify public network connectivity by attempting to log into the Dashboard at the new address.

Workaround: After applying the new network configuration, wait for the affected services to restart. The settings can only become active after a successful restart. If the services do not restart correctly in approximately 10 minutes, reload the page from the old address and - only as a last resort - reapply the configuration.

Bug 17475229

4.2.9 Nodes Attempt to Synchronize Time with the Wrong NTP Server

External time synchronization, based on `ntpd` , is left in default configuration at the factory. As a result, NTP does not work when you first power on the Oracle Virtual Compute Appliance, and you may find messages in system logs similar to these:

```
Oct  1 11:20:33 ovcamn06r1 kernel: o2dlm: Joining domain ovca ( 0 1 ) 2 nodes
Oct  1 11:20:53 ovcamn06r1 ntpd_initres[3478]: host name not found:0.rhel.pool.ntp.org
Oct  1 11:20:58 ovcamn06r1 ntpd_initres[3478]: host name not found:1.rhel.pool.ntp.org
Oct  1 11:21:03 ovcamn06r1 ntpd_initres[3478]: host name not found:2.rhel.pool.ntp.org
```

Workaround: Apply the appropriate network configuration for your data center environment, as described in the section Network Setup in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide. When the data center network configuration is applied successfully, the default values for NTP configuration are overwritten and components will synchronize their clocks with the source you entered.

Bug 17548941

4.2.10 Restarting Management Node Network Service Causes Oracle VM Server Pool to Go Offline

When network services are restarted on the master management node, the connection to the Oracle VM management network (`bond0`) is lost. By design, the `bond0` interface is not brought up automatically on

boot, so that the virtual IP of the management cluster can be configured on the correct node, depending on which management node assumes the master role. While the master management node is disconnected from the Oracle VM management network, the Oracle VM Manager user interface reports that the compute nodes in the server pool are offline.

The management node that becomes the master, runs the Oracle VM services necessary to bring up the `bond0` interface and configure the virtual IP within a few minutes. It is expected that the compute nodes in the Oracle VM server pool return to their normal online status in the Oracle VM Manager user interface.

> **Warning**
>
> You should never manually disconnect or restart networking on any node. Manual intervention should only be necessary in rare situations where the master management node fails to connect automatically.

Workaround: If the master management node does not reconnect automatically to the Oracle VM management network, bring the `bond0` interface up manually from the Oracle Linux shell. For detailed instructions, refer to Oracle VM Server Pool Is Offline After Network Services Restart in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

Bug 17345384

4.2.11 Unknown Symbol Warning during InfiniBand Driver Installation

Towards the end of the management node `install.log` file, the following warnings appear:

```
> WARNING:
> /lib/modules/2.6.39-300.32.1.el6uek.x86_64/kernel/drivers/infiniband/ \
> hw/ipath/ib_ipath.ko needs unknown symbol ib_wq
> WARNING:
> /lib/modules/2.6.39-300.32.1.el6uek.x86_64/kernel/drivers/infiniband/ \
> hw/qib/ib_qib.ko needs unknown symbol ib_wq
> WARNING:
> /lib/modules/2.6.39-300.32.1.el6uek.x86_64/kernel/drivers/infiniband/ \
> ulp/srp/ib_srp.ko needs unknown symbol ib_wq
> *** FINISHED INSTALLING PACKAGES ***
```

These warnings have no adverse effects and may be disregarded.

Bug 16946511

4.2.12 Do Not Add Compute Node When Management Node Services Are Restarted

Compute node provisioning fails if services on the management node are shut down or restarted during the process. For example, upgrading management nodes involves restarting services. Adding compute nodes to the system must be avoided at such times.

Workaround: When adding a compute node to the environment, make sure that there are no active processes that may interrupt services on the management node.

Bug 17431002

4.2.13 Node Manager Does Not Show Node Offline Status

The role of the Node Manager database is to track the various states a compute node goes through during provisioning. After successful provisioning the database continues to list a node as *running*, even if it is shut down. For nodes that are fully operational, the server status is tracked by Oracle VM Manager.

However, the Oracle Virtual Compute Appliance Dashboard displays status information from the Node Manager. This may lead to inconsistent information between the Dashboard and Oracle VM Manager.

Workaround: To verify the status of operational compute nodes, use the Oracle VM Manager user interface.

Bug 17456373

4.2.14 Oracle Virtual Compute Appliance Dashboard Login Screen Reports No Error for Invalid Credentials

When you attempt to log in to the Oracle Virtual Compute Appliance Dashboard with incorrect user name or password, the Login screen does not display any error messages. The Login screen simply reloads.

Workaround: When the Login screen reloads, log in to the Oracle Virtual Compute Appliance Dashboard using a valid user name and password.

Note

Error messages are displayed correctly when the user name or password field is left blank.

Bug 17535669

4.2.15 Update Functionality Provides No Feedback in Dashboard

The Oracle Virtual Compute Appliance Dashboard contains an Update tab, which allows you to keep track of software component versions, and download and apply updates. When you click the Activate button to start the update process, the Dashboard does not confirm the start, report progress, or inform you that the update has completed. Click the Activate button *only once*.

In addition, the Dashboard neither allows you to verify whether the update has succeeded or failed, nor does it report the update status of each management node separately.

Workaround: Use the command line tool `ovca-updater` to update the software stack of your Oracle Virtual Compute Appliance. For details, see Oracle Virtual Compute Appliance X3-2 Software Update. For step-by-step instructions, see Update. You can use SSH to log into each management node and check `/etc/ovca-info` for log entries indicating restarted services and new software revisions.

Bug 17476010, 17475976 and 17475845

4.2.16 Backup Functionality Unavailable in Dashboard

Oracle Virtual Compute Appliance offers built-in backup functionality based on a cron job. The Dashboard user interface currently does not allow the user to modify the backup settings.

For more information about backing up the data on your Oracle Virtual Compute Appliance and recovering after a component failure, user error or full system failure, refer to the Oracle technical white paper entitled *Oracle Virtual Compute Appliance Backup and Recovery Guide*.

Bug 17347317

4.2.17 Choosing Network in Network View Causes Java Exception

In the **Network View** tab of the Oracle Virtual Compute Appliance Dashboard, clicking an I/O module port makes a network selection dialog box appear. The only available option, "Public", is already selected, but

clicking OK in the dialog box may result in a Java `ClassCastException`. The exception has no adverse effects.

Workaround: If the Java `ClassCastException` message appears, click OK to close the dialog box. You can continue working in the Oracle Virtual Compute Appliance Dashboard.

Bug 17449881

4.2.18 Compute Node Provisioning Fails and Reprovision Button Does Not Work

If during provisioning a compute node becomes stuck in an intermittent state or goes into error status, the solution is to reprovision the compute node. The **Hardware View** tab of the Oracle Virtual Compute Appliance Dashboard has a **Reprovision** button specifically for this purpose. However, this functionality may become unavailable depending on the provisioning stage that failed. If the Reprovision button does not work, the compute node has likely become stuck after joining the Oracle VM server pool.

Workaround: Remove the failing compute node from the Oracle VM configuration first. Then use the Reprovision button to restart the provisioning process for the compute node in question. In some cases it may be necessary to manually power-on the compute node. For detailed instructions, refer to A Compute Node Fails to Complete Provisioning in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

Bug 17430135, 17192103 and 17389234

4.2.19 Virtual Machines Are Assigned to Compute Nodes in Initializing State

When a virtual machine is started, it may be assigned to a compute node that has not yet completed provisioning, or is stuck in an initialization state. This is possible because Oracle VM considers every server that joins the server pool as a candidate to host virtual machines. If a compute node fails after joining the server pool, Oracle VM is unaware of the failure. This is considered normal behavior and is not harmful to the physical or virtual environment.

Workaround: If the issue is not resolved automatically by Oracle VM and the virtual machine will not start, you can log into Oracle VM Manager and move or migrate the virtual machine to a correctly operating compute node. For more information, refer to Creating and Managing Virtual Machines in the Oracle Virtual Compute Appliance X3-2 Administrator's Guide.

Bug 17415171

4.2.20 External Storage Cannot Be Discovered Over Data Center Network

In Release 1.0.1, the default configuration does not allow connectivity to additional storage resources in the data center network. Compute nodes are connected to the data center subnet to enable public connectivity for the virtual machines they host, but the compute nodes' physical network interfaces have no IP address in that subnet. Consequently, SAN or file server discovery will fail.

Bug 17508885

Chapter 5 Feedback and Support

Table of Contents

This chapter contains information about how to provide feedback and contact support for the Oracle Virtual Compute Appliance X3-2 product.

5.1 Providing Feedback and Reporting Problems

If you need to report an issue and have an Oracle Premier Support Agreement, you should open a case with Oracle Support at https://support.oracle.com.

If you are reporting an issue, please provide the following information where applicable:

• Description of the problem, including the situation where the problem occurs, and its impact on your operation.

• Machine type, operating system release, browser type and version, locale and product release, including any patches you have applied, and other software that might be affecting the problem.

• Detailed steps on the method you have used, to reproduce the problem.

• Any error logs or core dumps.

5.2 Contacting Oracle Specialist Support

If you have an Oracle Customer Support Identifier (CSI), first try to resolve your issue by using My Oracle Support at https://support.oracle.com. Your Oracle Premier Support CSI does not cover customization support, third-party software support, or third-party hardware support.

If you cannot resolve your issue, open a case with the Oracle specialist support team for technical assistance on break/fix production issues. The responding support engineer will need the following information to get started:

• Your Oracle Customer Support Identifier.

• The product you are calling about.

• A brief description of the problem you would like assistance with.

• Any logs or support data you have, see Section 5.3, "Data Collection for Service and Support" for details.

If your CSI is unknown, find the correct Service Center for your country (http://www.oracle.com/us/support/contact-068555.html), then contact Oracle Services to open a non-technical service request (SR) to get your CSI sorted. Once you have your CSI, you can proceed to open your case through My Oracle Support.

5.3 Data Collection for Service and Support

When submitting a Service Request (SR), please include an archive file with the relevant log files and debugging information as listed in this section. This information can be used by Oracle Support to analyze and diagnose system issues. The support data files can be uploaded for further analysis by Oracle Support.

> **Tip**
>
> Collecting support files involves logging in to the command line on components in your Oracle Virtual Compute Appliance rack and copying files to a storage location external to the appliance environment, in the data center network. This can only be achieved from a system with access to both the internal appliance management network and the data center network. You can set up a physical or virtual system with those connections, or use the master management node.
>
> The most convenient way to collect the necessary files, is to mount the target storage location on the system using `nfs`, and copy the files using `scp` with the appropriate login credentials and file path. The command syntax should be similar to this example:
>
> ```
> # mkdir /mnt/mynfsshare
> # mount -t nfs storage-host-ip:/path-to-share /mnt/mynfsshare
> # scp root@component-ip:/path-to-file /mnt/mynfsshare/ovca-support-data/
> ```

Collecting Oracle Virtual Compute Appliance Support Data

> **Warning**
>
> For more accurate diagnosis of physical server issues, Oracle Support Services require a system memory dump. To be able to provide this, you should install and configure `kdump`, as described in the support note with Doc ID 1520837.1.

> **Caution**
>
> For diagnostic data collection, Oracle Support Services recommend that the OSWatcher tool be run for an extended period of time. For details about the use of OSWatcher, please consult the support note with Doc ID 580513.1.

For diagnostic purposes, Oracle Support Services use a script called `VMPInfo3` that automatically collects vital troubleshooting information from your Oracle Virtual Compute Appliance environment. This script is installed with the Oracle Virtual Compute Appliance controller software on both management nodes and is located at `/usr/sbin/vmpinfo3.sh`.

To collect support data from your system, proceed as follows:

1. Log in to **the master management node** as root.

   > **Note**
   >
   > If you accidentally run the `vmpinfo3` script from the secondary management node, an error message is displayed and you are instructed to run the script from the master management node.

2. Run the diagnostic script as follows:

   ```
   [root@ovcamn05r1 ~]# /usr/sbin/vmpinfo3.sh --username=admin --password=Welcome1
   Gathering files from all servers. This process may take some time.
   Gathering OVM Model Dump files
   Gathering sosreport from ovcacn07r1
   Gathering sosreport from ovcacn08r1
   Gathering sosreport from ovcacn09r1
   [...]
   Gathering sosreport from ovcacn41r1
   Gathering sosreport from ovcacn42r1
   Gathering OVM Manager Logs
   ```

3. When prompted, enter the root password for the secondary management node.

```
Enter your root password for the other management node
Warning: Permanently added '192.168.4.4' (RSA) to the list of known hosts.
root@192.168.4.4's password:

access.log                                              100% 2949KB   2.9MB/s   00:00
access.log00001                                         100% 5000KB   4.9MB/s   00:00
access.log00002                                         100% 5000KB   4.9MB/s   00:00
access.log00003                                         100% 5000KB   4.9MB/s   00:00
AdminServer-diagnostic.log                              100%  322KB 321.6KB/s   00:00
AdminServer.log                                         100% 5292KB   5.2MB/s   00:00
AdminServer.log00002                                    100%  284KB 284.4KB/s   00:00
AdminServer.log00003                                    100%  302KB 302.3KB/s   00:00
[...]
AdminServer.log00011                                    100%   10MB   9.8MB/s   00:00
base_adf_domain.log                                     100% 2709KB   2.7MB/s   00:00
base_adf_domain.log00001                                100% 5001KB   4.9MB/s   00:00
CLIAudit.log                                            100% 7401     7.2KB/s   00:00
CLI.log                                                 100% 1039KB   1.0MB/s   00:00
CLI.log.1                                               100% 5120KB   5.0MB/s   00:01
metricdump-20131126.173510.log.gz                       100%  596KB 595.9KB/s   00:00
metricdump-20131126.203511.log.gz                       100%  595KB 595.1KB/s   00:00
metricdump-20131126.143507.log.gz                       100%  593KB 593.4KB/s   00:00
metricdump-20131126.233509.log.gz                       100%  596KB 596.1KB/s   00:00
diagnostic.log
```

The script collects the logs from both management nodes to ensure that the diagnostic data you send to Oracle Support is as complete and detailed as possible.

When all files have been collected, the script compresses them into a single tarball and displays a message with the name and location.

```
Compressing VMPinfo3 <date>-<time>.
==============================================================================
 Please send /tmp/vmpinfo3-<version>-<date>-<time>.tar.gz to Oracle support
==============================================================================
```

4. If the diagnostic script should fail, collect the files manually.

Use a separate subdirectory for each component. For easy identification, use the host name as directory name.

> ⚠️ **Caution**
>
> Because of the log rotation mechanism, additional files may exist with the same names but ending in extension `.0`, `.1`, `.2` and so on. Please include those in the support data files as well.

a. From both management nodes, copy these files:

- the entire directory `/u01/app/oracle/ovm-manager-3/domains/ovm_domain/servers/AdminServer/logs/`

- the Oracle Virtual Compute Appliance log files:

  `/tmp/install.log, /var/log/ovca.log, /etc/ovca-info`

- the entire directory `/opt/xsigo/xms/logs/`

b. From each compute node, copy the entire `/var/log/` directory, as well as the file `/tmp/sosreport`.

If no such file exists, run the `sosreport` command to generate it.

c. From each Oracle Fabric Interconnect F1-15 Director Switch, copy the entire `/var/log/` directory.

5. To allow better analysis of physical server issues, for example hanging, crashing or rebooting, also include the system memory dump file (`vmcore`).

The location of the file is: `<kdump-partition-mount-point>/var/crash/127.0.0.1-<date>-<time>/vmcore`. The partition and mount point are defined during `kdump` configuration. For details, please consult the support note with Doc ID 1520837.1.

6. Collect the OSWatcher logs. The default location is `/opt/osw`.

For details, please consult the support note with Doc ID 580513.1.

7. Copy all diagnostic files to a location external to the appliance environment.

Uploading Support Data Files

For support data up to 2 GB, upload the file as part of the Service Request (SR) process in My Oracle Support (MOS).

- If you are still in the process of logging the SR, upload the support data in the **Upload Files/Attachments** step of the SR.

- If you have already logged the SR and need to upload files afterwards, proceed as follows:

  1. Log into MOS and open the **Dashboard** or **Service Request** tab.

  2. In the **Service Request** region, click the SR you want to update.

  3. In the **Update** section, select **Add Attachment**.

  4. In the pop-up window, select the file for upload, include any notes, and click **Attach File**.

If uploading the support data with the SR is not an option, or for support data files over 2 GB in size, use the file transfer service from Oracle support at `sftp.oracle.com`. Oracle Support might request that you upload using a different mechanism.

1. Using a browser or FTP client, access the Oracle SFTP server `sftp.oracle.com` at port 2021.

2. Log in with your Oracle Single Sign-On user name and password.

3. Select the support data file to upload.

4. Select a destination for the file.

   Use the directory path provided by Oracle Support.

   Typically, the directory path is constructed as follows: "`/support/incoming/case_number/`".

   The use of a case number ensures that the file is correctly associated with the service request. Write down the full path to the file and the case number for future reference in communications with Oracle Support.

5. Click the Upload button to upload the file.

   Some browsers do not show the progress of the upload.

Do not click the Upload button multiple times, as this restarts the transfer.

When the upload is complete, a confirmation message is displayed.

For detailed information about the use of Oracle's SFTP server, refer to the support notes with Doc ID 549180.1 and Doc ID 464666.1.