Release Notes for Oracle Virtual Machine Host Drivers, 3.7.2-OVM3

These release notes document information about Oracle's Xsigo host drivers for Oracle Virtual Machine (OVM) 3.1.1. OVM 3.1.1 is the only hypervisor supported in this release of host drivers. Additional server OSes and hypervisors are supported through other Xsigo host drivers. For information about other OSes, see the release notes for each host drivers release.

> **Note**
>
> With this release, there is a requirement that PERL 5.8.8-32.el5_5.2 must be installed on the OVM server before you install the Xsigo 3.7.2-OVM3 host drivers. Make sure that PERL is completely installed before upgrading or performing a fresh install of these host drivers.

Additional release notes exist for:

- Oracle's Xsigo Windows host drivers
- Oracle's XgOS and Oracle's Xsigo Fabric Director
- Oracle's Linux host drivers
- Oracle's Xsigo Fabric Manager
- Oracle's Xsigo ESXi 5.0 host drivers.

These notes contain the following sections:

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Overview

Oracle's Xsigo Fabric Director is a service-oriented platform that interconnects data-center resources based on application demands.

Customers and partners are requested to send comments and report bugs to Xsigo by filing a customer case through the Xsigo Technical Support web portal (http://support.xsigo.com). Xsigo is fully committed to responding to all feedback regarding our product and greatly appreciates customer involvement. If you need to contact Xsigo Customer Support, you can facilitate your interaction with Customer Support by gathering some troubleshooting information. For more information, see Technical Support Contact Information on page 7.

What's New in this Release

Release 3.7.2-OVM3 host drivers support Oracle Virtual Machine 3.1.1. Support for this hypervisor has been qualified with ConnectX and ConnectX-2 HCAs. This is the first release that supports this hypervisor.

System Requirements

This section documents the system requirements for this version of host drivers.

Supported Firmware Levels

The following firmware levels of firmware are supported for the Connect-X family of HCAs in this release:

- Connect-X Dual Port HCA: 2.7.0 or higher
- ConnectX-2 Single or Dual-Port HCA: 2.7.0 or higher

System Limitations and Restrictions

This section documents system limitations and restrictions for this version of Xsigo host driver.

SAN Boot, iSCSI Boot, NFS Install, and PXE Install Are Not Yet Supported

SAN Boot and iSCSI Boot of Ubuntu hosts are not yet supported for Ubuntu 10.04 LTS hosts. Also, PXE install and NFS install of Ubuntu host drivers are not yet supported. Do not attempt to use these features in this release. Use local boot and local install (on the server's hard drive).

Virtual Resources Supported per Server

This release of host drivers has been tested to support the following number of virtual resources:

- Standalone vNICs: 8
- Standalone vHBAs: 4
- Bonded vNICs: 4 pairs
- Multipath vHBAs: 2 pairs

User Guides

User guides are available on CD for shipments to new customers, and by download from the Xsigo Technical Support site.

Xsigo Systems provides the following Fabric Director product documentation in PDF format:

- *Fabric Director Hardware and Host Drivers Installation Guide*
- *XgOS Software Upgrade Guide*
- *XgOS Command-Line User Guide*
- *XgOS Remote Booting Guide*
- *Fabric Manager User's Guide*
- *XgOS vNIC Switching Configuration Guide*

You can download these manuals by going to the Xsigo Support page (www.xsigo.com/support) and clicking the "Documentation" tab on the toolbar at the top of the page. You will need a login and password before downloading the manuals. See .

Documentation Erratum and Addition

The following sections contain corrected and additional text for the Xsigo technical documentation.

Documentation Erratum

The following section contains a fix for errors in the Xsigo technical documentation.

Corrected Text for HCA Firmware and Option ROM Updates

Note the following correction to the "Firmware and Option ROM Levels" chapter of the *Remote Booting Guide*.

In the "Linux Firmware and Option ROM" section, the procedure is incorrect. The procedure instructs you to run the Option ROM upgrade tool (`xg_config`) first, then load the new HCA firmware by running an RPM. These steps are reversed because the `xg_config` tool is actually in the RPM.

If you are upgrading the HCA firmware and Option ROM for a RHEL 5U8 server, use the following corrected text:

Step 1   Log in into the host server as root.

Step 2   Upgrade the Xsigo HCA firmware package on the server. For example:

```
rpm -ivh <xsigo-hca-firmware_number.i386.rpm>
```

> **Note** Replace `xsigo-hca-firmware_2.6.6.i386.rpm` with the xsigo firmware for your server. Supported host drivers for each operating system are listed in the release notes.

This step unpacks the `xg_config` tool, which you can use to update the HCA firmware and Option ROM.

Step 3   Run `xg_config` to view the firmware and option ROM levels.

```
/opt/xsigo/bin/xg_config
######################################################################
# Main menu
######################################################################

Selected card:
    Node GUID          : '0002:c902:0020:4934'
    Board ID           : 'MT_0150000001'
    CA type            : 'MT25208'
    Firmware version   : '2.7.0'
    Hardware version   : 'a0'
    Option ROM version : 'XgBoot Version 2.2.11'
```

Verify that the firmware version is one of the following:

ConnectX Dual-Port HCA: 2.7.0 or higher

ConnectX-2 Single and Dual-Port HCA: Firmware version 2.7.0 or higher

If your firmware and XgBoot versions are the same as listed above, you can skip Step 4.

Step 4   Run `xg_config` to upgrade the firmware and option ROM.

```
/opt/xsigo/bin/xg_config
######################################################################
# Main menu
######################################################################

Selected card:
    Node GUID          : '0002:c902:0020:4934'
    Board ID           : 'MT_0150000001'
    CA type            : 'MT25208'
    Firmware version   : '2.7.0'
    Hardware version   : 'a0'
    Option ROM version : 'XgBoot Version 2.2.11'

1) Flash HCA Firmware
2) Flash HCA Firmware + Option ROM
3) Flash Option ROM
4) Change selected card
0) Quit
Select option>
```

If you are using SAN Boot or might decide to in the future, select option 2. Otherwise, select option 1.

> **Note** SAN Boot is not currently supported for this release of host drivers.

In the following example, option 2 was selected:

```
#####################################################################
# Flash HCA Firmware + Option ROM Menu
#####################################################################

Selected card:
    Node GUID           : '0002:c902:0020:4934'
    Board ID            : 'MT_0150000001'
    CA type             : 'MT25208'
    Firmware version    : '2.7.0'
    Hardware version    : 'a0'
    Option ROM version  : 'XgBoot Version 2.2.11'

1) 2.7.0 (XgBoot Version 2.2.11)
2) 5.1.400 (XgBoot Version 1.5)
0) Return to previous menu
Select firmware to use>
************************************************************
```

Step 5   Select the most recent firmware (the one displayed first). The one you select will be loaded into memory when the server reboots.

You will need to reboot for the firmware upgrade to take effect. However, you can wait to reboot until you have upgraded the host drivers.

- For other servers that were not used for remastering the ISO, you can just boot once from the remastered ISO which can be used as a golden master image to boot any number of RHEL 5U8 servers.

Supported Host Drivers

This release supports OVM 3.1.1 hypervisor (`2.6.39_200.1.1`) through the `OVM311-3.7.2.tar.gz` bundle, which contains:

- `kernel-ib-1.5.4.1-2.6.39_200.1.1.el5uek.x86_64.rpm` (the InfiniBand stack)

- `xsigo-hostdrivers-kmod-2.6.39_200.1.1.el5uek.3.7.2.OVM3-1.x86_64.rpm` (the Xsigo host drivers)

Downloading the Host Drivers

You need access to the Xsigo support site to download the drivers. To get the drivers:

Step 1   Log in to the support portal (http://support.xsigo.com/support/) with a user name and password.

Step 2   Navigate to the **SOFTWARE** tab and select **CURRENT RELEASE**. You want the `OVM311-3.7.2.tar.gz` file.

Step 3   Download and untar the corresponding file(s) on the server that will run OVM 3.1.1

Step 4   When the file is unpacked, proceed to the next section.

Installing the OVM Host Drivers

This section documents how to install the Xsigo 3.7.2-OVM3 host drivers.

Pre-Installation Requisites

Before installing the Xsigo host drivers for OVM 3.1.1, it is a requirement that you install PERL5.8.8-32.el5_5.2.

The version of PERL is related to the version of OVM that will run on the server, so be aware that installing host drivers for a different version of OVM might have a different version of PERL as a requirement.

There are multiple ways to install PERL. One example is to install directly from Oracle. As an alternative, you can edit the `.repo` file on the OVM update server in your network, provide the correct variables for your environment, then use YUM. Details about these methods are out of the scope of this documentation, but you can consult documentation for your Oracle update server for specifics.

Installation Procedure

Installing the Xsigo 3.7.2-OVM3 host drivers occurs through the `rpm -ivh` command. Be aware of the following:

- PERL 5.8.8-32.el5_5.2 must already be installed before installing the host drivers.
- You must install the InfiniBand stack before installing the Xsigo host drivers, and the IB stack must be installed with the `--nodeps` argument.
- There is a dependency that the `kernel-ib` RPM is installed before the corresponding host drivers.

To install the non-Ubuntu host driver, follow this procedure:

Step 1   Make sure that 5.8.8-32.el5_5.2 is installed on the OVM server. This version is required for Xsigo 3.7.2-OVM3 host drivers.

```
There are considerations for PERL, as documented in Pre-Installation Requisites on
page 6.
```

Step 2   Install the IB stack for your architecture. For example:

```
rpm -ivh kernel-ib-1.5.4.1-2.6.39_200.1.1.el5uek.x86_64.rpm --nodeps
```

Step 3   After the IB stack is installed, install the Xsigo host driver. For example:

```
rpm -ivh xsigo-hostdrivers-kmod-2.6.39_200.1.1.el5uek.3.7.2.OVM3-
1.x86_64.rpm
```

After the host drivers are installed, the server requires a reboot to load the new drivers into memory.

Known Problem

Table 1 shows the known problem in this version of Xsigo host drivers.

Table 1   Known Problem in Version 3.7.2-OVM3

Number	Description
21621	When creating a bonded interface in OVM 3.1.1, a problem disallows adding the second interface at MTU 9000 to the bond file. When the problem occurs, an error is displayed indicating that the second port being added to the bond is not at 9000 MTU even though it actually is. After the error is displayed, the operation to add the second port fails, and the bond is not created between the two ports.
	This problem has been observed with on-board NICs as well as Xsigo vNICs, and appears to be an error in OVM 3.1.1. This issue is under investigation between Xsigo and Oracle.
	You can avoid this problem by following this procedure:
	Step 1 **Before adding the ports to the bond**, set the slave port's MTU to 1500. This allows the bond to be created without experiencing the error.
	Step 2 After the bond is created, you can then change the bond MTU to whatever frame size is required (for example, 9000).

Fixed Problems

There are no fixes in this version of host driver.

Technical Support Contact Information

Xsigo Systems is a wholly owned subsidiary of Oracle. Xsigo customers may contact support via the Xsigo website, telephone or e-mail. In order to expedite troubleshooting, all new support requests must be submitted via the Xsigo self-service portal at: http://support.xsigo.com. In addition to opening cases, the Xsigo Support Portal will allow you to update your support cases, download software, search for and view knowledge-base articles, and access technical documentation.

In order to access the customer support portal, you will need to have a Xsigo Support Portal login.   Your account team will provide you with the necessary login information to access the support portal. If you need additional logins for your staff, please contact your account team for assistance.

For all Critical (P1) cases, please call the Xsigo support center at either of the following phone numbers:

- **866-974-4647** (toll free)
- **1 408-736-3013** (international).

Alternatively, you can email supportP1@xsigo.com and you will be responded to within 30 minutes.

Gathering Information for Xsigo Technical Support

If the Xsigo Fabric Director is supporting RHEL 6U8 or RHEL 5U8 servers and problems are encountered, please gather the information in the following section before contacting Xsigo Technical Support or filing a case through the support website.

On the Xsigo Fabric Director

- Type and number of servers connected (brand, model, number of CPUs, size and type of memory)

- Output from the `get-log-files -all` command (for Oracle's Xsigo Fabric Director), which will gather the `show tech-support` information plus all log files, and place this information into `xsigo-logs.tar.gz`

On the Host Server

- The file output from `/opt/xsigo/bin/xsigo-support -o` `<filename>`