Release Notes for ESX Server Host Drivers, 5.3.0-ESX

These release notes document information about version 5.3.0-ESX of Oracle's host driver for ESX Servers, which supports ESXi 5.0 and ESXi 5.1 servers. Also, additional release notes exist for:

- Oracle's Xsigo Linux host drivers
- Oracle's Xsigo Windows host drivers
- Oracle's Xsigo ESX4.1 host drivers for ESX Server Classic and ESXi
- Oracle's Xsigo Fabric Director and XgOS
- Oracle's Xsigo Fabric Manager

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 8.

What's New

This version of Oracle's Xsigo host drivers for ESX Servers contains the following new content:

- Support for ESX 5.1 hypervisor is introduced in this release. Be aware that VUM does not currently work for upgrading from ESXi 5.0 to ESXi 5.1. Use a remastered ISO for this upgrade path. (See Injecting the Xsigo Host Drivers into the ESXi 5.1 Bundle.)
- Fixes have been added. For more information, see Fixed Problems on page 8.

System Requirements

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

Supported OS Levels

This release of Xsigo host drivers for ESX Server supports VMware® ESXi 5.1 GA and ESX 5.0 GA and Update 1.

Supported Firmware Version for ConnectX HCAs

Version 5.3.0-ESX supports ConnectX and ConnectX-2 HCAs with the requirement that the Option ROM version is 2.8.7 or higher, and the firmware version for the HCA is 2.7.0.

System Limitations and Restrictions

This section documents system limitations and restrictions for this version of the Xsigo ESX Server 5.1 host drivers.

To Upgrade Fabric Directors Connected to ESXi 5.1 Hosts with PVI vNICs, Set Server Profiles “Down”

If your Fabric Director(s) are connected to ESXi 5.1 hosts which have one or more PVI vNICs, use this procedure to upgrade the Fabric Director. This upgrade procedure is required only for Fabric Directors that are connected to ESXi 5.1 hosts that have PVI vNICs.

For each server profile connected to an ESXi 5.1 host:

Step 1 Before upgrading chassis, set the server profile(s) connected to ESXi 5.1 hosts to “down” state.

```
set server-profile <profile-name> down
```

Step 2 Perform the Fabric Director reboot or XgOS upgrade.

Step 3 After the reboot (or upgrade) is complete, set the server profile(s) connected to ESXi 5.1 hosts to “up”:

```
set server-profile <profile-name> up
```

Use Unique Names for vNICs and vHBAs

When naming vNICs and vHBAs, make sure that each name is unique. For example, do not name a vNIC tenchi.profile1 and a vHBA tenchi.profile1. If vNIC and vHBA have the same name, the ESX server can PSOD.

Virtual Resources Supported per Server

On VMware ESXi 5.1 servers with 8 GB of memory, the following number of Xsigo virtual I/O resources are supported:

Virtual NICs

- Eight 10 Gbps vNICs
- 16 1 Gbps vNICs
- Four jumbo vNICs, either 1 Gbps or 10 Gbps vNICs with a 9014-byte MTU
- Eight iSCSI vNICs (for iSCSI storage)

Virtual HBAs

- Eight vHBAs
- 4 multipath vHBAs

User Guides

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

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

Documentation Addition

The following text supplements the existing Xsigo product documentation.

Injecting the Xsigo Host Drivers into the ESXi 5.1 Bundle

To have the Xsigo vNICs and vHBAs available to the ESXi 5.1 OS for PXE or SAN Booting, you will need to inject the Xsigo host drivers into the native ESX OS. This procedure documents how to inject the Xsigo devices into the ESXi 5.1 bundle for a freshly created ESX server.

The procedure for PXE Booting or SAN Booting an ESXi 5.1 host is the same as for an ESXi 4.1 host, with the exception of injecting the Xsigo host drivers into the ESXi 5.1 bundle. The following text documents how to inject the Xsigo host drivers. Use the following text instead of the text for the `remaster-iso` script in the *XgOS Remote Booting Guide*. After completing the following procedure, you can use the SAN Boot procedure for ESXi 4.1 hosts in that document to configure the ESXi 5.1 host for SAN Booting.

Considerations

Be aware of the following:

- Creating the custom ISO is accomplished through Microsoft Windows PowerShell—and specifically the VMware vSphere PowerCLI plug-in for PowerShell. The Windows server will need this tool installed.
- Creating the custom ISO is supported on a Windows host server only. The server requirements are determined by the PowerShell application.
- You use a pre-configured ESXi bundle as a baseline, then inject the Xsigo bits into it. The OS file is `VMware-ESXi-5.1.0-799733-depot.zip` and is available from VMware's website.
- You will need full administrative rights on the Windows server where you will be creating the custom ISO.

Manually Injecting the Xsigo Host Drivers into the ESXi 5.1 Bundle

The following procedure assumes you are the working directory is `\images\New` for the user “adminA”. To inject the Xsigo host drivers into the ESXi 5.1 bundle, follow this procedure:

Step 1 Install PowerShell on the Windows server if you have not done so already.

Step 2 Install the PowerCLI plug-in if you have not done so already.

Step 3 Download the `VMware-ESXi-5.1.0-799733-depot.zip` file to the Windows server.

Step 4 Download the current Xsigo host driver as documented in Downloading Supported Drivers on page 6.

Step 5 Start PowerCLI.

Step 6 In PowerCLI, run the following commands to import the ESXi 5.1 bundle and the Xsigo host drivers into PowerCLI:

```
Add-EsxSoftwareDepot -DepotUrl C:\Users\adminA\Desktop\images\New\VMware-ESXi-5.1.0-
799733-depot.zip

Add-EsxSoftwareDepot -DepotUrl C:\Users\adminA\Desktop\images\New\xsigo_5.3.0.ESX.1-
1vmw.500.0.0.472560.zip
```

Step 7 Run the following commands to specify the profile that you want to use when creating the output ISO. The profile determines metadata about the output ISO, such as formatting, compression method, and so on.

```
Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage
                       net-ib-core

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage
                       net-mlx4-core

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage net-ib-mad

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage net-ib-sa

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage
                       net-ib-ipoib

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage
                       net-mlx4-ib

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage net-xscore

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage net-xsvnic

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage net-xve

Add-EsxSoftwarePackage -ImageProfile <profile name> -SoftwarePackage
                       scsi-xsvhba
```

Step 8 Run the following commands to create single output ISO containing all required files from the depot. The following example assumes unsigned drivers to provide the most complete example.

```
Export-EsxImageProfile -ImageProfile ESXi-5.1.0-799733-standard-xsigo -ExportToIso
-FilePath C:\Users\adminA\Desktop\images\New\VMware-VMvisor-Installer-5.1.0-
799733_Xsigo.x86_64.iso -NoSignatureCheck
```

Note

Xsigo makes every effort to release signed, certified host drivers. However, on some occasions, Xsigo might release unsigned drivers. If you receive unsigned Xsigo host drivers, the `Export-EsxImageProfile` command has the `-NoSignatureCheck` option which will bypass signature checking.

Use the `-NoSignatureCheck` for unsigned drivers.

Omit the `-NoSignatureCheck` option if the drivers are signed.

Supported Host Drivers

This section documents information about the supported ESX host drivers and how to obtain them.

Downloading Supported 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.

Step 3 On that page, select the appropriate file:

`xsigo_5.3.0.1-1vmw.500.0.0.472560.zip` (for ESXi 5.0 hosts)
`xsigo_5.3.0.1-1vmw.510.0.0.613838.zip` (for ESXi 5.1 hosts)

Known Problems

Table 1 shows the known problems in this version of Xsigo 5.3.0-ESX host drivers.

Table 1 Known Problem in Xsigo 5.3.0-ESX Host Drivers

Number	Description
22860	With XgOS 3.7.2 and ESXi 5 hosts running Xsigo driver version 5.2.1 and later, a problem can cause Server Profiles to transition to up/down state. When the problem occurs, vNICs and vHBAs are put into `up/indeterminate` state. and host connections to storage and networking resources are lost. You can work around this problem by rebooting the affected hosts. This problem is under investigation and will be fixed in a subsequent release.
22724	If you use VMware Update Manager (VUM) to update a host running Xsigo ESXi 5.0 host drivers to ESXi 5.1, a different naming convention with the new Xsigo host driver bundle for ESX hosts causes VUM will reject the upgrade. You can work around this problem by creating a remastered ISO and using that remastered ISO to upgrade the host. For information, see the *Remote Boot Guide, 3.8.0*.

Table 1 (continued) Known Problem in Xsigo 5.3.0-ESX Host Drivers

Number	Description
22621	With Compellent storage arrays after a failover completes and VM load is manually rebalanced, a problem in the vHBA driver software can cause a flood of ABORT and RSCN messages. When the messages occur, the vHBA is also attempting a rescan (RSCN). This series of events can cause a VM kernel panic. If you encounter this problem, you can work around it by resetting the VM where the vHBA is connected.
21946	If you add one or more vNICs and vHBAs with the same name to an ESX server, a problem causes the ESX server to crash to pink screen (PSOD). For example, a vnic named tenchi.profile1 and a vHBA named tenchi.profile1 can cause this problem. Be aware that this problem exists, and use unique names for vNICs and vHBAs.
21460	When EMC storage is direct connected to the Fabric Director, and the EMC storage is available to an ESX 5.1 server running PowerPath, a problem can cause the ESX server to sometimes crash to pink screen (PSOD) during runtime when FC frames get dropped. This issue is a problem in PowerPath code and not a Xsigo problem. Be aware that this problem is possible in environments where EMC storage is directly connected to the Fabric Director and ESX 5.1 servers are running PowerPath.
21438	Some modules required to remaster an ESXi 5.1 boot image are no longer available. As a result, a new procedure exists to SAN Boot or iSCSI boot an ESX 5.1 server. See the XgOS Remote Boot Guide for information about the correct procedure to SAN Boot your ESXi 5.1 servers.
21323	On ESXi 5.1 servers with one or more PVI vNICs configured, a problem sometimes causes the host to crash to pink screen (PSOD) during a Fabric Director reboot or upgrade of the XgOS. Be aware that this condition can occur. You can work around this problem by following the procedure documented in To Upgrade Fabric Directors Connected to ESXi 5.1 Hosts with PVI vNICs, Set Server Profiles “Down” on page 3.
19724	Xsigo 1 Gbps vNICs connected into an ESXi 5.1 vSwitch are erroneously reported as 10 Gbps. This issue is cosmetic only. The actual traffic speed on the vNIC is correct.
19585	When PowerPath 5.7 is running on an ESXi 5.1 server, and the server is connected to storage through multipath vHBAs, the ESXi server can PSOD if you delete the active vHBA. • To avoid this problem, stop traffic on the active vHBA that you want to delete by issuing the **`set vhba <name> down`** command before deleting the active vHBA. • To work around this problem, clear the PSOD by rebooting the server, then stop traffic on the vHBA as documented in the preceding bullet.
19569	ESXi 5.1 servers with ConnectX DDR HCAs running Xsigo firmware version 2.9.100 experience a problem that prevents the servers from being discovered by the Fabric Director. When the problem occurs, the host remains in INIT state and never transitions to PORT_ACTIVE state. This problem occurs on ESXi 5.1 servers running on Dell R610 and R910 hardware platforms only, and only if the HCA is running 2.9.100 firmware. These are the only conditions where the problem has been observed.

Table 1 (continued) Known Problem in Xsigo 5.3.0-ESX Host Drivers

Number	Description
19363	On ESXi 5.0 hosts (but not ESXi 5.1 hosts), a problem prevents Xsigo vNICs from being available as selectable objects when creating a standard vSwitch through vSphere even though the vNICs are visible under vSphere's *Network Adapters* tab. This problem is cosmetic only since the vNICs are actually present and fully functional. This problem has not been seen when creating a distributed vSwitch. To work around this problem, you can manually add and uplink each vNIC through the ESX CLI to create the vSwitch. Use the **`esxcfg-vswitch`** command to uplink the vNICs as needed.

Fixed Problems

Table 2 shows the fixes in this version of Xsigo host drivers for VMware ESX servers.

Table 2 Known Problem in Xsigo 5.3.0-ESX Host Drivers

Number	Description
21732	With Compellent storage, the Xsigo host drivers experienced a problem during failover between arrays. The problem occurred due to the way that `Abort` and LUN Reset messages were handled in the host driver software. This problem is fixed in host driver version 5.3.0 by improving the method of handling `Aborts` and `LUN Resets`.
19363	A problem prevented Xsigo vNICs from being available as selectable objects when a standard vSwitch was created through vSphere even though the vNICs were visible under vSphere's *Network Adapters* tab. This problem is fixed in 5.3.0-ESX host drivers for ESXi 5.1 hosts only. This problem is not yet fixed for ESXi 5.0 hosts.

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 **866-974-4647** (toll free) or **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 — ESX

If the Xsigo Fabric Director is supporting ESX servers and you encounter problems, 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 the **`xsigo-support`** script.