# Release Notes for ESX Server Host Drivers, 5.0.5-ESX

These release notes document information about version 5.0.5-ESX of Oracle's Xsigo host drivers for ESX Servers, which supports connectivity to ESXi Server 5.0 servers. Also, additional release notes exist for:

- Oracle's Xsigo Linux host drivers
- Oracle's Xsigo Windows host drivers
- Oracle's Xsigo 4.1 host drivers for ESX Server Classic and ESXi
- Oracle's Xsigo Fabric Director and Oracle's Xsigo 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

Fixes for problems with Compellent storage and a Red Hat Enterprise Linux 6.1 VM crash have been added to this release. For more information, see Fixed Problems on page 7.

# 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 5.0 GA.

## Supported Firmware Version for ConnectX HCAs

Version 5.0.5-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 4.0 host drivers.

## Virtual Resources Supported per Server

On VMware ESX servers with 8 GB of memory, a total of 16 vNICs and vHBAs are supported. For example:

- 16 standalone vNICs and 16 standalone vHBAs, or
- 8 HA vNICs
- 8 multipath vHBAs

Any combination of vNIC and vHBA are supported as long as the total number for each is 16 or less.

## Supported Maximum of 16 Jumbo vNICs per ESX Server

In this release of Xsigo ESX host drivers, only 16 jumbo vNICs can be configured per ESX server. The minimum memory requirement for this configuration is 8 GB.

# 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.

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# Documentation Addition

The following text supplements the existing Xsigo product documentation.

## Injecting the Xsigo Host Drivers into the ESXi 5.0 Bundle

To have the Xsigo vNICs and vHBAs available to the ESXi 5.0 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 5.0 bundle.

The procedure for PXE Booting or SAN Booting an ESXi 5.0 host is the same as for an ESXi 4.0 host, with the exception of injecting the Xsigo host drivers into the ESXi 5.0 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 4.0 hosts in that document to configure the ESXi 5.0 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-5.0.0-469512-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 5.0 Bundle

Before installing the new Xsigo host drivers, make sure that any previous version of host driver is removed:

```
esxcli software vib remove -n net-xsvnic -n scsi-xsvhba -n net-xscore
-n net-ib-basic -n net-mlx4-en
```

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 5.0 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-5.0.0-469512-depot.zip` file to the Windows server.

**Step 4** Start PowerCLI.

**Step 5** In PowerCLI, run the following commands to import the ESXi 5.0 bundle and the Xsigo host drivers into PowerCLI:

```
Add-EsxSoftwareDepot -DepotUrl C:\Users\adminA\Desktop\images\New\VMware-ESXi-5.0.0-
469512-depot.zip

Add-EsxSoftwareDepot -DepotUrl C:\Users\adminA\Desktop\images\New\xsigo_5.0.5.ESX.1-
1vmw.500.0.0.406165.zip
```

Step 6 Run the following command 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.

```
New-EsxImageProfile -CloneProfile ESXi-5.0.0-469512-standard -name "ESXi-5.0.0-469512-standard-xsigo"
```

Step 7 Run the following commands to add the IB stack and other dependencies to the depot.

```
Add-EsxSoftwarePackage -ImageProfile ESXi-5.0.0-469512-standard-xsigo -SoftwarePackage net-mlx4-en

Add-EsxSoftwarePackage -ImageProfile ESXi-5.0.0-469512-standard-xsigo -SoftwarePackage net-ib-basic

Add-EsxSoftwarePackage -ImageProfile ESXi-5.0.0-469512-standard-xsigo -SoftwarePackage net-xscore

Add-EsxSoftwarePackage -ImageProfile ESXi-5.0.0-469512-standard-xsigo -SoftwarePackage net-xsvnic

Add-EsxSoftwarePackage -ImageProfile ESXi-5.0.0-469512-standard-xsigo -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-5.0.0-469512-standard-xsigo -ExportToIso -FilePath C:\Users\adminA\Desktop\images\New\VMware-VMvisor-Installer-5.0.0-469512_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 driver you need.

## VMware ESXi 5.0 Host Drivers

For this release, host drivers for VMware ESXi Server 5.0 are in:

```
xsigo_5.0.5.ESX.1-1vmw.500.0.0.406165.zip
```

Both the InfiniBand and Xsigo host drivers are contained in this bundle, which is a new packaging method for distributing Xsigo host drivers. Due to this new packaging method, the method for installing the host drivers has changed. See Installing 5.0.5-ESX Host Drivers Directly from the ESXi 5.0 Bundle.

## Installing 5.0.5-ESX Host Drivers Directly from the ESXi 5.0 Bundle

You will need to install Xsigo host drivers directly from the bundle. You will need to remove any earlier versions of Xsigo ESX host drivers, and install the new version of host drivers.

There are many ways to install the host drivers directly from the bundle. The following procedure documents one simple way to install directly from the bundle:

**Step 1** If you have not yet obtained the appropriate drivers listed in VMware ESXi 5.0 Host Drivers, download them by following the procedure in Downloading Supported Drivers.

**Step 2** When the 5.0.5-ESX driver bundle is on the ESX server, use the **`esxcli software vib install`** command plus the file path to the bundle.


Note

When specifying the driver bundle in the **`esxcli`** command, make sure to add the `.zip` extension to the driver bundle (as shown in the following example).

For example:

```
esxcli software vib install -d /xsigo_5.0.5.ESX.1-1vmw.500.0.0.406165.zip
```

**Step 3** Reboot the ESX server after installing the bundle.

**Step 4** Verify that the Xsigo 5.0.5-ESX host drivers are installed:

```
esxcli software vib list | grep xs
```

or:

```
esxcli software vib list | grep Partner
```

# Known Problems

Table 1 shows the known problems in this version of Xsigo 5.0.5-ESX host drivers.

Table 1 Known Problem in Xsigo 5.0.5-ESX Host Drivers

| Number | Description |
|---|---|
| 19724 | Xsigo 1 Gbps vNICs connected into an ESXi 5.0 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 5.0 server, and the server is connected to storage through multipath vHBAs, the ESXi server can PSOD if you delete the active vHBA.<br>• 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.<br>• To work around this problem, clear the PSOD by rebooting the server, then stop traffic on the vHBA as documented in the preceding bullet. |
| 19363 | 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.<br>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. This version of ESX host drivers also contains fixes from previous versions. Such fixes are indicated in text.

Table 2 Known Problem in Xsigo 5.0.5-ESX Host Drivers

| Number | Description |
|---|---|
| 21218 | On ESXi 5.0 servers hosting Red Hat Enterprise 6.1 VMs, a VM kernel problem sometimes caused the RHEL 6 update 1 VMs to crash when path failover and failback occurred repeatedly. This problem is fixed in 5.0.5-ESX. |
| 20146 | During a controller failure or rebalancing event on Compellent storage, Xsigo vHBAs did a fast failover, which caused an incongruity between the Compellent implementation and the behavior of the Xsigo vHBAs. The Compellent implementation expected all I/O to be held until the WWN was moved off of the down port. Instead, due to the fast failover, the vHBA drivers did not hold or retry all I/Os while the Compellent storage moved the WWN from the failed port to the good port. This problem is fixed in 5.0.5-ESX. |
| 20048 | Between ESX 4.0 and ESXi 5.0, VMware made a structural change in the way certain errors were handled. When a condition in the SAN caused a `BAD_TARGET` error, the new method of error handling in VMware software caused the Xsigo ESXi 5.0 host drivers to behave unpredictably, and as a result, the host could PSOD. The Xsigo host drivers have been enhanced to account for VMware's new method of handling `BAD_TARGET` errors. This problem is fixed in 5.0.4-ESX host drivers. |

Table 2 (continued) Known Problem in Xsigo 5.0.5-ESX Host Drivers

| Number | Description |
|---|---|
| 19863 | A problem prevented storage paths from recovering automatically, and a rescan from the ESX server was needed to recover all the paths. This problem occurred when the vHBAs had active I/O on the vHBAs and all paths to the storage were taken offline (APD, all paths down). While the traffic was active, I/O and aborts were pending on the paths, and the problem prevented the storage paths from automatically recovering. This problem is fixed in Xsigo 5.0.2-ESX host drivers. |
| 19472 | For a short period of time, the Xsigo host drivers for ESXi 5.0 were not signed, which caused a problem in which VMware Update Manager (VUM) failed when it attempted to load the Xsigo ESXi 5.0 host drivers. This problem is fixed in Xsigo 5.0.1-ESX host drivers, so VUM can now deploy these host drivers. |

# 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.