

## Release Notes for ESX Server Host Drivers, V3.5.0-14-ESX4.1

These release notes document information about the 3.5.0-14 release of:

- Oracle's Xsigo ESX 4.1 Server host drivers
- Oracle's Xsigo ESXi 4.1 Server host drivers



Caution

---

**vNIC and vHBA Name Change!**— With 3.5.0 ESX-4A host drivers and later, the names of vNICs and vHBAs no longer use the `xsigo_` prefix. The name change to vNICs and vHBAs can affect how your ESX servers come up after an upgrade. If you are upgrading your Xsigo ESX host drivers from a version that is 3.5.0-3 or earlier, take appropriate steps to ensure an easy upgrade (for example, you could write a script that converts the vNIC and vHBA names according to the name change). For more information see [vNIC and vHBA Names No Longer Have a xsigo\\_ Prefix](#).

---

Also, additional release notes exist for:

- Oracle's Xsigo Linux host drivers
- Oracle's Xsigo ESXi 5.0 Server host drivers
- Oracle's Xsigo Windows host drivers
- Oracle's Xsigo Fabric Director and Oracle's Xsigo Fabric Manager
- Oracle's Xsigo HCA Option ROM and Firmware

These notes contain the following sections:

- [System Requirements](#) on page 2
- [System Limitations and Restrictions](#) on page 3
- [User Guides](#) on page 4
- [Documentation Erratum](#) on page 5
- [Supported Host Drivers](#) on page 5
- [Known Problems](#) on page 6
- [Fixed Problems](#) on page 6
- [Technical Support Contact Information](#) on page 7

Xsigo Systems  
70 West Plumeria Drive  
San Jose, CA 95134  
USA  
<http://www.xsigo.com>  
Tel: +1.408.329.5600



---

## 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.

## System Requirements

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

### vNIC and vHBA Names No Longer Have a `xsigo_` Prefix

This version of Xsigo ESX host drivers features a behavior change in how vNICs and vHBAs are named. In this release, the `xsigo_` prefix is removed from vNICs and vHBAs to allow more characters in the virtual resource name. This version of Xsigo ESX host drivers is the first to contain this new naming convention. If you are upgrading from a version of Xsigo ESX host drivers earlier than 3.5.0 to version 3.5.0-4A or later, be aware that the vNIC and vHBA names will be different. For example, if you are upgrading from 3.2.0 Xsigo host drivers to Xsigo host driver version 3.5.0-14, your vNICs will encounter a name change.

### Supported OS Levels

This release of Xsigo host drivers for ESX Server supports VMware® ESX 4.1 GA and Update 1, and ESXi 4.1 GA and Update 1 and later.

### Supported Firmware Version for ConnectX HCAs

Version 3.5.0-14-ESX4.1 supports ConnectX HCAs with the requirement that the firmware version for the HCA is 2.7.0 or later.

### Remove any Pre-3.5.0 Host Driver Build for ESX/ESXi 4.1, and Install the GA Build

To support ESX 4.1/ESXi 4.1 GA, Xsigo requires that you completely remove any and all pre-3.5.0 builds you have received from Xsigo Systems (for example, any GA build earlier than 3.5.0 and any Beta or RC builds), then install the GA build (3.5.0).

# System Limitations and Restrictions

This section documents system limitations and restrictions for this version of the Xsigo ESX Server 4.1 host drivers.

## With Remastered ISOs, Displaying Bundle Contents on the SAN LUN Requires `-vib-view` Option

When you are remastering the ISO image to inject Xsigo host drivers, the Xsigo host driver bundle is not displayed when you query for host-driver information unless you use the `esxupdate query --vib-view` command.



Note

---

When you have remastered the ISO image to include the Xsigo ESX host drivers, you must use the `--vib-view` option. However, in all other types of install (for example, PXE booting, iSCSI booting, NFS booting) you can use the standard `esxupdate query` command without the `--vib-view` argument because in these cases the Xsigo host drivers are displayed as part of the bundle.

---

Be aware that displaying the installed bundle by any other means shows no installed host drivers, which can be misleading.

Also, be aware that the contents of the bundle will need to be removed from the SAN LUN before updating the server after it is initially booted.

The following general guideline for building a remastered ISO for SAN booting provides some additional context:

1. Server Install — Remaster the ISO to inject the Xsigo host drivers. Server is rebooted and images are loaded into server memory. The server can run indefinitely at this point, but you will most likely be updating the server at later dates.
2. Server Install — Place the remastered ISO onto a SAN LUN. At this point, the `--vib-view` option is required to display the Xsigo host drivers bundle. Otherwise, no host driver information will be displayed.

At this point, the entire Xsigo host driver bundle (ULP driver, Mellanox driver, and IB stack) remains on the SAN LUN. If you will be updating the SAN-booted server, these drivers can cause conflicts, and therefore, must be deleted from the SAN LUN before an upgrade.

3. Server Update — Use the `--vib-view` option to locate the Xsigo host driver images, then use the `rpm -e` command to delete them from the SAN LUN.
4. Server Update — Reboot the server to reload the drivers into memory.

## Considerations for Using vNICs, vHBAs, and Storage with ESX 4.1

- Some considerations exist for using vHBAs in an ESX 4.1 server. Specific methods should be followed when removing vHBAs or manipulating any vHBA child elements, such as LUN Masks, Persistent Bindings, WWNs, and so on.
- Some considerations also exist for using targets connected to vHBAs. Specific methods should be followed removing targets from the InfiniBand fabric, using multipathing, and so on.
- Some considerations exist for using vNICs in an ESX 4.1 server. Specific methods should be followed when removing vNICs, using NIC teaming, and so on.

---

## Xsigo Support Requires Longer than Expected to Complete

If you run the `xsigo-support` script on an ESX 4 server, the script can take longer than expected to create. Due to lack of progress messages, while the script is gathering information, it can appear as if the script hangs when it actually doesn't. Eventually, the script completes, but it has been observed to take up to 45 minutes in some cases. Be aware that `xsigo-support` does complete even though it appears to hang while gathering data.

## Virtual Resources Supported per Server

On VMware ESX 4.1 servers with 8 GB of memory, the following number of Xsigo virtual I/O resources are supported:

### Virtual NICs

- Four 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 vHBA
- 16 vHBA ports

## User Guides

User guides are available on CD for shipments to new customers, and by download from the Xsigo 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](http://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 Erratum

This section contains a fix for a documentation erratum in the Xsigo technical documentation.

## Incorrect Number of vNICs and vHBAs Documented

The *Remote Booting Guide* documents that the supported number of vNICs in a VMware ESX server is 32. However, this number is incorrect. The actual number of supported vNICs supported is 16.

## 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.

The following section lists the latest supported Xsigo host drivers for VMware ESX Servers.

### VMware ESX 4.1 Host Drivers

For this release, host drivers for VMware ESX Server 4.1 are in:

```
xsigo-4.1.0.260247.3.5.0.14-1-depot.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 V3.5.0-14-ESX4.1 Drivers Directly from the Bundle](#).

### Installing V3.5.0-14-ESX4.1 Drivers Directly from the Bundle

For ESX 4.1, you will need to install Xsigo host drivers directly from the bundle.



Note

---

To install the V3.5.0-14-ESX4.1 bundle, you must completely remove any previous version of Xsigo ESX host drivers before installing the new Xsigo software.

---

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 ESX 4.1 Host Drivers](#), download them by following the procedure in [Downloading Supported Drivers](#).

- Step 2 When the V3.5.0-14-ESX4.1 driver bundle is on the ESX server, use the **esxupdate --bundle** command to install host drivers directly from the bundle.



Note

---

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

---

For example:

```
esxupdate --bundle=xsigo-4.1.0.260247.3.5.0.7-1-depot.zip update
```

- Step 3 Reboot the ESX server after installing the bundle.
- Step 4 Verify that the V3.5.0-14-ESX4.1 software is installed:

```
esxupdate query
```



Note

---

In some cases, you will need to use the **esxupdate query --vib-view** command as documented in [With Remastered ISOs, Displaying Bundle Contents on the SAN LUN Requires -vib-view Option](#) on page 3.

---

## Known Problems

There are no known problems filed against this version of host driver.

## Fixed Problems

[Table 1](#) shows the fixes in this release of ESX 4.1 host drivers. This release contains fixes from previous versions of host drivers. Such fixes are indicated in text.

Table 1 Fixed Problems in Version 3.5.0-14-ESX4.1

Number	Description
21858	<p>When numerous storage time-outs or aborts continuously occur on storage arrays connected to an ESX Server, the heavy error recovery mechanism between the ESX SCSI mid-layer and Xsigo vHBAs can lead to a double completion error, which in turn, causes the ESX Server to crash to purple screen (PSOD).</p> <p>In this version of host drivers, the Xsigo VHBA driver has been hardened and strengthened to avoid the condition leading to the PSOD. This problem is addressed in version 3.5.0-14-ESX 4.1 host drivers. If you have been experiencing the double completion error, consider upgrading to Xsigo ESX 4.1 host driver version 3.5.0-14.</p>
19863	<p>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, both 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 3.5.0-7-ESX4.1 host drivers.</p>

Table 1 (continued) Fixed Problems in Version 3.5.0-14-ESX4.1

Number	Description
19654	When I/O module changed operational state from down to up, a problem prevented the ESX host server from seeing any LUNs on attached storage due to an error stating <code>scan_path vb0:C0:T0:L0: Busy</code> . This problem is fixed in Xsigo 3.5.0-6-ESX4.1 host drivers.
17620	A software error prevented storage from being reattached on vHBAs configured on a 4.1 ESX Server. This problem occurred when an IB link and its Fibre Channel link were brought down, then up. This problem is fixed in Xsigo 3.5.0-5-ESX4.1 host drivers.
15922	A software problem prevented vNICs that were previously attached to an ESX 4.1 vSwitch from successfully reconnecting to the vSwitch after the ESX server was rebooted. This problem also manifested itself with vNICs not reconnecting if they were terminated on a Fabric Port on an Ethernet Fabric Director. This problem is fixed in Xsigo 3.5.0-5-ESX4.1 host drivers by the addition of a script that automatically reconnects any vNICs that are not up after the ESX Server is rebooted.
18544	On rare occasions, a series of commands and abort messages between the ESX SCSI mid-layer and the Xsigo vHBA drivers occurred in such a sequence that the ESX host lost connectivity to its storage resources. This problem is fixed in Xsigo 3.5.0-4A-ESX4.1 host drivers.
17479	When using VMware Update Manager (VUM) to update either ESX 4.1 Classic or ESXi 4.1 servers, problems prevented VUM from updating the servers from Xsigo 3.1.0 to 3.5.0 host drivers. The host drivers were available in the VUM repository, and were displayed as compliant when they were scanned. Regardless, the host drivers failed to get pushed to the ESX host servers.  This problem is fixed in this version of the Xsigo 3.5.0-3-ESX 4.1 host drivers. VUM can now update the host drivers, but be aware that the server is not automatically rebooted after the new Xsigo host drivers are updated. <u>After updating the host drivers, you must manually reboot the servers</u> —for example, through vSphere. This problem is fixed in Xsigo 3.5.0-4A-ESX4.1 host drivers.

## Technical Support Contact Information

Xsigo 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](mailto: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 put this information into `xsigo-logs.tar.gz`

### On the Host Server

Get the file output from the `xsigo-support` script.