Release Notes for Fabric Director and XgOS 3.8.2

These release notes document information about the current release of Oracle's Xsigo Fabric Director (VP780 and VP560) and Oracle's XgOS command-line interface. Additional release notes exist for:

- Oracle's Xsigo Windows host drivers
- Oracle's Xsigo Linux host drivers
- Oracle's Xsigo ESX Server Classic 4.1 and ESXi Server 4.1 host drivers
- Oracle's Xsigo ESXi Server 5.0 host drivers
- Oracle's Xsigo Fabric Manager

Note

If you will be upgrading the Fabric Director to the latest version of XgOS, as part of the upgrade:
- all I/O modules will reboot
- the I/O service running on the Fabric Director will restart, which will cause a service interruption
- the SCP might reboot based on conditions related to the XgOS kernel or InfiniBand or Ethernet drivers

Be aware that I/O will be interrupted temporarily, but will resume. Depending on changes in the new version of XgOS, the Fabric Director might be rebooted as part of the upgrade.

These notes contain the following sections:

- What's New in this Release on page 2
- System Requirements for InfiniBand Fabric Directors on page 2
- System Limitations and Restrictions for InfiniBand Fabric Directors on page 4
- User Guides on page 7
- Documentation Additions on page 7
- Downloading XgOS on page 9
- Known Problems on page 9
- Fixed Problems on page 14
- Technical Support Contact Information on page 15

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 first gathering some troubleshooting information. See page 15.

The Fabric Director can be managed using any of the following interfaces:

- Oracle's XgOS Command Line Interface (CLI)
- Oracle's Fabric Manager, which is a GUI for managing multiple Fabric Directors, or Fabric Manager with the VMware Extension, which is an extension that registers Fabric Manager for interoperation with VMware VirtualCenter or vSphere.

What's New in this Release

This release contains the following new features, enhancements, or behavior changes:

- XgOS 3.8.2 uses certain elements of third-party software. Some of this code is released under the GNU General Public License, Version 2 licensing agreement and the GNU Lesser General Public License, Version 2.1 licensing agreement. Also, some third-party software modules are released under their own software licensing agreements.

  In this release, the **`show system copyright`** command has been enhanced to display the GPL, LGPL, and third-party software used by XgOS and the Fabric Director, and attribute that software to its appropriate creators.
- If Fabric Directors are connected to ESXi 5.0 hosts with PVI vNICs, a specific upgrade procedure is required when rebooting or upgrading the Fabric Director. This procedure is required to avoid possibly causing instability in the ESXi 5.0 host. For more information, see To Upgrade Fabric Directors Connected to ESXi 5.0 Hosts with PVI vNICs, Set Server Profiles "Down" on page 4.
- Fixes have been added. For more information, see Fixed Problems on page 14.

System Requirements for InfiniBand Fabric Directors

This section documents system requirements for the Fabric Director, such as host operating systems, servers, Ethernet network switches and routers, SAN switches, and storage that the Fabric Director supports.

Operating Systems

The following platforms are supported by the VP780 and VP560:

- Red Hat Enterprise Linux 4 (RHEL) Update 8
- RHEL 5 GA (Update 0) and Updates 1 through 7
- RHEL 6 Update 1 and Update 2
- CentOS 5 GA (Update 0) and Updates 1 through 6

- Citrix XenServer 5.6 FP1 (fully supported) and 5.6 SP2 (experimental support)

Note

For the Red Hat, CentOS, and Citrix distributions listed above, Xsigo also provides source code for you to build the RPM yourself.

- Debian Ubuntu 8.10 Server (initial-release support)
- Microsoft Windows Server 2003 R2 with SP2
- Microsoft Windows Server 2008 SP2
- Microsoft Windows Server 2008 R2
- VMware ESX Server Classic 4.1 GA and Update 1, and ESXi Server 4.1 GA and Update 1
- VMware ESXi Server 5 GA (Update 0) and Update 1
- VMware ESXi Server 5.1 GA

Separate release notes exist for Xsigo host drivers for each platform. For information about host drivers, see the release notes for the relevant platform.

Servers and HCAs

The Xsigo Fabric Director can operate with any industry-standard server that supports x86- and x86_64-based CPUs from Intel or AMD. The Fabric Director supports PCI Express servers only.

Version 2.7.0 and later requires that each server be connected to the Xsigo Fabric Director using a host channel adapter (HCA) installed in a PCI Express slot. Server HCAs must be mem-free. The Fabric Director does not support memory-based HCAs.

Supported Firmware Version for ConnectX Family of HCAs

XgOS 3.8.2 supports ConnectX and ConnectX-2 HCAs with the requirement that the HCA firmware version is 2.7.x and later.

ConnectX-3 HCAs are supported when connected to FDR fabrics or IB switches, if the HCAs are running firmware version 2.10.700.

Supported Firmware Version for InfiniHost HCAs

XgOS 3.8.2 supports InfiniHost HCAs with requirement that the HCA firmware version is 5.3.0.

Ethernet Network Switches and Routers

The Fabric Director I/O ports operate with any 1 Gbps or 10 Gbps network switch that supports established IEEE standards for Ethernet.

Storage and SAN Switches

The Xsigo Fabric Director can operate with industry-standard Fibre Channel SAN storage devices, and any SAN switches that support NPIV login through the Fibre Channel SAN. For Xsigo vHBAs to successfully connect to a Fibre Channel switch, NPIV must be enabled on the switch.

System Limitations and Restrictions for InfiniBand Fabric Directors

This section documents system limitations and restrictions for InfiniBand Fabric Directors and XgOS. Be aware of the following system limitations and restrictions for the Fabric Director and XgOS 3.8.2.

To Upgrade Fabric Directors Connected to ESXi 5.0 Hosts with PVI vNICs, Set Server Profiles "Down"

If your Fabric Director(s) are connected to ESXi 5.0 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 5.0 hosts that have PVI vNICs.

For each server profile connected to an ESXi 5.0 host:

Step 1 Before upgrading chassis, set the server profile(s) connected to ESXi 5.0 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 5.0 hosts to "up":

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

For Dynamic LAGs, Set LACP on Both the Fabric Director I/O Port and Its Peer

With the current implementation of LACP, if passive-mode LACP will be used on a LAG, both the Fabric Director's Gigabit Ethernet I/O ports and the peer device at the end of a port in the LAG must be configured with LACP. If LACP is not enabled at both ends of the links in the LAG, a loop can occur.

For VLAN Tagging, Make Sure Port and vNIC Modes Are Congruent

The Fabric Director does not currently check the validity of VLAN tagging modes. For example, the Fabric Director allows the following configuration:

- an Ethernet port or Link Aggregation Group (LAG) set to `trunk` mode and a vNIC terminating on that Ethernet port or LAG set to `access` mode. This configuration is valid and the Fabric Director allows it.
- an Ethernet port or LAG set to `access` mode and a vNIC terminating on that Ethernet port or LAG set to `trunk` mode. This configuration is *invalid*, but the Fabric Director still allows it.

The listed settings are a misconfiguration that can negatively affect the traffic on the VLAN, and can cause hosts to not receive traffic. Be aware that this misconfiguration is not prevented on the Fabric Director, and no error message is displayed if this configuration is specified.

Consideration for Enabling and Disabling IGMP

Be aware of the following consideration regarding enabling and disabling IGMP:

The ability to enable or disable IGMP is supported at the I/O module-level only. You cannot control the state of IGMP traffic on a per-port basis.

Subnet for a Server Profile's Default Gateway Must Match at Least One vNIC in the Same Server Profile

Due to the current implementation of subnet masking on the Fabric Director, the default gateway's IP subnet must match the subnet of at least one vNIC configured in the same Server Profile. Be aware of this limitation when configuring the default gateway for a Server Profile.

Use -allow-lun-masking at vHBA Creation to Dynamically Add or Delete LUN Masks

LUN Masks cannot be configured after the vHBA is created unless the VHBA was initially created with a LUN Mask or the **`-allow-lun-masking`** option is set when the vHBA is initially configured. If your vHBAs need a LUN Mask, or might need them in the future, use the **`-allow-lun-masking`** option the first time you create each vHBA. For example:

```
add vhba vh2.profile1 3/2 -allow-lun-masking
```

With the **`-allow-lun-masking`** option set when the vHBA is initially created, LUN Masks can be attached to or unattached from the vHBA either now or at any time in the future.

Merging InfiniBand Fabrics Causes a Service Interruption

The Fabric Director's InfiniBand fabric supports both of the following operational modes:

- standalone in which a single Fabric Director has a self-contained fabric
- shared, in which multiple Fabric Directors share the same IB fabric

If you have multiple standalone Fabric Directors, and will merge them together into a shared fabric, be aware that merging the IB Fabrics is not a seamless process. The multiple separate IB fabrics will successfully merge, but this process does cause service interruptions. Because merging IB fabrics is disruptive, Xsigo recommends that you perform this procedure during a maintenance window, or a similar period of time when service interruptions will be kept to a minimum.

The system downgrade Command Does Not Revert the Existing Configuration

The **`system downgrade`** command is implemented to allow you to back out of an upgrade to a configuration that is not functioning correctly. As a result, the **`system downgrade`** command does not save the "new" (and possibly non-functional) config and convert it after the downgrade completes. This design is intentional and prevents the possibility of bringing non-functional configs into other software versions after the downgrade.

Be aware that the **`system downgrade`** command does not convert the latest configuration by default. However, you can explicitly bring the latest configuration along with a downgrade by exporting the latest configuration, performing the downgrade, then re-importing the latest config.

Cannot Specify a Netmask for an Inbound ACL Set Up for IP Address Range

For ACLs, using the 'in' condition for IP address ranges does not work predictably because this direction automatically attaches a netmask to the IP address of each IP address range. You cannot manually add a netmask to the IP address range; the ACL assumes the network class on its own. This issue will be addressed in a future release of software.

Deleting In-Use vHBAs Can Cause Server Instability

Attempting to delete an in-use vHBA can cause serious server instability. To avoid such instability, follow the instructions for vHBA removal in the *XgOS Command-Line Interface User Guide*.

Virtual NICs Might Not Be Displayed in Ethereal Interfaces

A vNIC might not be displayed in Ethereal interfaces. If this situation occurs, restart the Ethereal network packet-filtering driver by issuing the **`net stop npf`** command followed by the **`net start npf`** command.

Limitations on the Length of Virtual Resource Names

Be aware of the following limitations for virtual resource names:

- With Linux operating systems, the names of virtual resources are restricted to the following lengths:
  - vNICs: 10 characters
  - vHBAs: 15 characters
  - Server Profiles: 31 characters

  When creating these entities on the Fabric Director, comply with the name string limits. If you violate the length restrictions, VLANs will not work.
- For Windows HA vNICs, the vNIC name, which includes `vnic_name` plus `server_profile_name`, or `<vnic_name>.<server_profile_name>`, must be 31 characters or less. This limit occurs because the host allows for only 16 characters in the name string, and counts the dot (`.`) that separates `<vnic_name>` from `<server_profile_name>` as one of the characters. As a result:
  - The maximum character string length for `<vnic_name>` is 14 characters
  - The maximum supported character string length for `<server_profile_name>` is 17 characters

  When creating HA vNICs on the Fabric Director for Windows hosts, comply with the name string limits.
- When creating vNICs on the Fabric Director, the XgOS CLI restricts HA vNICs to a maximum of 7 characters, but Fabric Manager allows a maximum of 9 characters. Be aware of this discrepancy, and when creating HA vNICs through Fabric Manager, make a best effort to name them with a maximum of 7 characters to have predictable HA vNIC names between the CLI and Fabric Manager.
- For ESX Classic ESXi servers, vNIC names must be limited to a maximum of 9 characters.

Limitation on Restoring Configuration

Anytime you import a backed-up Fabric Director configuration, if that configuration is not in sync with the current hardware configuration on the Fabric Director, the import can fail. You might experience this failure when importing a configuration that was exported prior to some hardware or virtual I/O resource changes, or when a software feature like vNIC Mirroring was configured in the exported config, but is not configured on the chassis where you re-import.

User Guides

User guides for the Fabric Director are available on CD for shipments to new customers, and can be downloaded 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 by logging in to the Xsigo Support page (http://support.xsigo.com) and clicking the "Documentation" tab on toolbar at the top of the page. You will need a login and password to access the Xsigo Support page. See page 15.

Documentation Additions

The following sections contain additional text that does not appear in the Xsigo Technical Documentation.

Considerations for System Patching

Be aware of the following considerations:

- In this software release, you cannot supersede more than one patch.
- Some patches have dependencies on other patches. In this software release, the dependencies are allowed to be unpatched without requiring the deletion of the patch that is using those dependencies.

Considerations for the watch Command

Be aware of the following considerations:

- The **`watch fc-card`** `<slot>` command always shows utilization at zero instead of the actual utilization.
- On Ethernet Fabric Directors, if you set multiple vNICS to **`-if=none`** then back to the original interface (or a new one) the **`watch vnic`** command shows zero utilization for those vNICs even when they are actively supporting traffic.

Some MIB Objects Are Not Mappable from Xsigo Enterprise MIBs

The following list shows the MIB objects that remain in the Xsigo Enterprise MIB, and are not mappable into the ENTITY-MIB, ENTITY-STATE-MIB, ENTITY-SENSOR-MIB, and IF-MIB.

- Chassis MIB Objects
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisMfgDate.0 = STRING: 2007-4-6,0:0:0.0
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisBaseMacAddr.0 = STRING: 00:13:97:05:70:00
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisLastUpTime.0 = STRING: 2012.01.12.18.46.13.0
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisCpuUsage.0 = STRING: 0
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisMemoryUsage.0 = STRING: 36.3608
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisWWN.0 = STRING: 50:01:39:70:00:04:70:00
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisCpuUsageInt.0 = INTEGER: 0
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoChassisMemoryUsageInt.0 = INTEGER: 36
- Card MIB Objects
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoCardMfgDate.10 = STRING: 2006-2-24,0:0:0.0
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoCardAdminState.10 = INTEGER: up(1)
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoCardOperState.10 = INTEGER: up(2)
- Fan MIB Object
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoFanExpSpeed.1 = INTEGER: 4200
- Temperature MIB Object
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoTemperatureProbeMaxValue.1 = STRING: 55
- Power Supply MIB Object
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoPowerSupplyMfgDate.1 = STRING: 2007-3-9,0:0:0.0
- Port MIB Objects
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoPortType.1 = INTEGER: sanFcPort(121)
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoPortAdminSpeed.1 = STRING: AutoNegotiate
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoPortWWNN.1 = STRING: 50:01:39:71:00:04:70:5B
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoPortWWPN.1 = STRING: 50:01:39:70:00:04:70:5B
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoPortFullDuplex.1 = INTEGER: true(1)
- vNIC MIB Objects
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicLocation.1 = STRING: 5/7
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicEgressQoSCir.1 = STRING:
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicEgressQoSPir.1 = STRING:
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicIngressQoSCir.1 = STRING:
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicIngressQoSPir.1 = STRING:
  - XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicServerProfileIndex.1 = INTEGER: 2

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicHAPreferences.1 = STRING:

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicTrunkMode.1 = INTEGER: noTrunkMode(2)

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicAccessVLANId.1 = STRING: 1

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVnicVLANIds.1 = STRING:

- vHBA MIB Objects

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaLocation.1 = STRING: 10/1

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaQoSCir.1 = STRING:

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaQoSPir.1 = STRING:

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaQoSCbs.1 = STRING:

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaQoSPbs.1 = STRING:

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaWWNN.1 = STRING: 50:01:39:71:00:04:72:22

— XSIGO-IODIRECTOR-ENTITY-MIB::xsigoVhbaWWPN.1 = STRING: 50:01:39:70:00:04:72:22

Downloading XgOS

You need access to the Xsigo support site to download either XgOS.

To get the software:

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

Step 2 From the tabs at the top of the page, select SOFTWARE->CURRENT RELEASE.

Step 3 On that page, select the XgOS version that you need. If the version you need is not present, contact Xsigo Customer Support as documented in Technical Support Contact Information on page 15.

Known Problems

The following tables list known problems with the Fabric Director and XgOS:

- Table 1 Known Problems in Version 3.8.2 Specific to the Xsigo I/O Modules
- Table 2 Known Problems in Version 3.8.2 Specific to the InfiniBand Fabric Director

Table 1 Known Problems in Version 3.8.2 Specific to the Xsigo I/O Modules

Number	Description
9918	When using link aggregation groups (LAGs) on the 10-Port GE I/O module, attempting to remove multiple LAG ports with a single command fails. To work around this issue, remove one port at a time.

Table 1 (continued) Known Problems in Version 3.8.2 Specific to the Xsigo I/O Modules

Number	Description
12407	On rare occasions, a problem can prevent queue pairs between the Fabric Director and a RHEL 5u3 host from connecting. This problem is rare and sometimes occurs after the **`system cold-restart`** command is issued. When the problem occurs, vNICs fail to come up, and queue pairs fail to connect. To workaround this problem, set the affected vNICs to admin state down, then up: Step 1 Issue **`set vnic`** `<vnicname.serverprofile>` **`down`** Step 2 Issue **`set vnic`** `<vnicname.serverprofile>` **`up`**
12498	On the 10 GE module, the `io link down alarm` is inconsistently reported when the InfiniBand cable is removed: • When the InfiniBand cable is unplugged, the `io link down alarm` is sent for some (but not all) the configured vNICs. • When the InfiniBand cable is plugged back in, the `io link down alarm` does not clear. Instead, it clears only when traffic occurs on the path affected by the cable pull. To workaround this problem, switch the traffic back to the affected IB link.
19942	MAC-based QoS is not yet supported on the 4-Port 10 GE Module.
21698	When a large number of vHBAs are configured on a Fiber Channel module, a problem can cause the connected storage target to be lost if the fibre channel cable is repeatedly removed and reinserted. The problem occurs due to a timing issue in which “dead” messages are processed after RSCNs. This problem is seen only on ESX and Windows Server 2008 hosts. This problem also has been observed only if the Fibre Channel module is supporting a large number of vHBAs—for example, 36 or more. If you are using a Line Rate Fibre Channel module, you might encounter this issue if your I/O module has more than 36 vHBAs.

Table 2 Known Problems in Version 3.8.2 Specific to the InfiniBand Fabric Director

Number	Description
7989	Some IBM X-series servers do not support HCAs with the Xsigo Option ROM installed. Such servers are not able to perform PXE boot or iSCSI boot over a vNIC, nor are they able to SAN Boot over a vHBA. Replacement HCAs without the incompatible Option ROM are available from Xsigo Systems.
9505	With XgBoot installed, IBM X-series of servers will fail to continue past Xgboot in the boot order if vHBA or vNIC booting fails. This is due to a limitation in the X-server BIOS. When prompted, press ***q*** to quit XgBoot and the system will boot normally.

Table 2 (continued) Known Problems in Version 3.8.2 Specific to the InfiniBand Fabric Director

Number	Description
10317	If you have autocommit switched off and have many pending configuration changes when you begin a system upgrade or downgrade, you will be asked if you want to commit your changes. Infrequently, this can elicit an error message about database corruption. Xsigo strongly recommends leaving the autocommit option enabled. During an upgrade, this is not a problem because a new database is created as part of the upgrade. However, if you receive this error message during a downgrade, it is possible that the database is in an error state and the Fabric Director will not come up after the downgrade. You can avoid this problem by not disabling the autocommit option. To work around this issue, always back up your configuration, following the instructions in the *Xsigo Software Upgrade Guide*. If you have your configuration saved to an XML file, you can restore it if necessary after the downgrade.
11768	There is a known limitation in the IB components that limits the IB counters to a maximum value of 4294967295. This value is not necessarily the actual counter value, but is displayed whenever counters meet or exceed the maximum value. The actual value can be higher than this counter indicates. If you need to clear the IB counters you can: Step 1 Issue **`show diagnostics ib-topo`** Step 2 Get the port name from the `portname` column in the resulting output (for example, `taffy:serverPort9`) Step 3 Issue the **`set diagnostics ib-clear-counters name`** `<portname>` command where `<portname>` is the string `<chassisname>`**`:ServerPort`**`<portnum>` (for example, `taffy:serverPort9`)
11809	The display of ACL Rule Sets and rules through the CLI can display the address mask portion of the IP address condition unpredictably. In cases where the ACL Rule is configured for a range (with the <> option), ACL addresses can sometimes receive a /24 address mask, and sometimes not.
12065	When creating individual ACL rules with the same condition, the CLI processes those rules as one rule. By default, if no action is specified for an ACL, the CLI applies “any”. This can lead to situations where you might think you’re creating two separate rules, but the CLI processes the rules as one. For example, assume you create ACL rule 1 with source IP address set to ANY, and ACL Rule 2 with destination IP address set to ANY. These two rules are actually processed as one rule for ANY source and destination address. Also, by default, if you do not set a specific value for options in the ACL rules, the CLI defaults to “ANY”. This can add more confusion to the ACL rules and what end-users expect. Continuing with the example, with rule 1 set to a source IP address of “ANY” and no destination IP address specified, the CLI assumes “ANY” for the destination rule. In rule 2, with the destination address set to “ANY” and no source IP address set, the CLI defaults to ANY source IP address. The net result is that these two rules end up duplicating each other because they are both set to ANY source IP address and ANY destination address. Then, because these are two of the same rules, the CLI processes them as one rule. This consideration occurs only when two rules are the same, and use non-specific values (either ANY, or no value, which defaults to ANY). To workaround this problem, instead of leaving an option in the ACL rule blank or unspecified, enter a value. For example, instead of rule 1 being ANY source IP address and nothing specified for destination address, enter an IP address (for example, 0.0.0.0 to apply to all destination addresses) or an unused IP address to set the address to none in the network.

Table 2 (continued) Known Problems in Version 3.8.2 Specific to the InfiniBand Fabric Director

Number	Description
13662	The Xsigo implementation of SNMP does not have complete MIB entries for System Info and 10 GE interfaces.
13918	The Xsigo implementation of LACP for Link Aggregation Groups does not contain a comprehensive set of LACP properties and statistics. As a result, you can display only some of the pertinent LACP information through the XgOS CLI. You can work around this issue by logging in to the peer device (Ethernet switch), and displaying the available LACP information on the switch. You should be able to combine the information available on the Fabric Director and the peer device to obtain comprehensive information about LACP properties.
13947	The Fabric Director Identity Management System (IMS) can be indirectly configured for two Primary LDAP (AD) servers by configuring a primary and secondary server, then editing the secondary to assign it as the primary. This situation is an invalid configuration. Be aware that only one primary server is allowed, but XgOS does not display any message stating this situation.
14634	When the same user is configured as a local user (user configured on the Fabric Director) and a RADIUS user, a conflict occurs when the role is assigned during log in. For example, assume *paulw* is created as a local user with the operator role, and a *paulw* is also created as a RADIUS user with the network role. When the IMS search order is set to use internal authentication, and *paulw* logs in with the user and password for the network role, the operator role is enforced instead.
15086	The XgOS CLI does not currently have any way to set a specific primary and secondary name server, which can lead to incongruities with the `resolv.conf` file.
15372	In the Xsigo implementation of SNMP, an SNMP Agent problem prevents the vNIC and vHBA location information from being saved in the `xsigovnicremove` and `xsigovhbaremoved` trap. The problem occurs because no previous value for the location is saved. As a result, if vNICs or vHBAs are removed, the object is deleted at that time and the location cannot be retrieved for the trap.
16627	If duplicate MAC addresses occur on two separate vNICs terminated on the same port, a constant series of RnR NACKs is generated, which can lead to heavy network flooding or broadcasts. The heavy network flooding or broadcasts, in turn, can cause a reboot of the Gigabit Ethernet I/O Module where the vNICs are configured.
18344	When the MTU set on an HA vNIC is different than the MTU set on a Windows host, the Windows host rejects traffic on the HA vNIC. In addition, the Fabric Director does not recognize the mismatch when the Windows host has rejected the MTU mismatch. The Fabric Director shows the vNIC state as `up/Failed` instead of `up/MTUMismatch`. For additional details about the state of the HA vNIC, see the Windows system event log. If you suspect this problem is occurring, make sure to check the HA vNIC MTU against the Windows Host MTU. If they are different, make the HA vNIC MTU match the Windows host's MTU.
18582	The allowed VLAN range feature is supported on a trunk-mode vNIC or I/O port that is to specify the VLANs that are valid on that vNIC or port. This feature is not applicable to access-mode VLANs. However, a software problem causes the allowed VLAN range feature to be configurable on access-mode VLANs. The XgOS does not prevent this misconfiguration. When configuring the allowed VLAN range feature, make sure to do so only on trunk-mode vNICs or ports.

Table 2 (continued) Known Problems in Version 3.8.2 Specific to the InfiniBand Fabric Director

Number	Description

19144	Sometimes a problem with LACP LAGs can cause a lockup after an SCP reboot. When the problem occurs, error messages similar to the following are displayed:
	`Apr 21 15:40:19 iop-11 vn2_agent_cp[608]: [ERR] VN2_CP Failed to send sync message: timeout: expected 30000, real: 29980`
	`Apr 21 15:40:19 iop-11 vn2_agent_cp[608]: [ERR] l2m::L2M eth10g-11 HW Error: ERROR Cookie 5491 end (Command timeout)`
	When the error messages are displayed, commands no longer complete successfully when issued for the LACP LAG and the I/O Module where the LACP LAG is configured.
	For static LAGs, the error message are displayed if this problem occurs, but the lockup does not occur and commands for static LAGs and the I/O Module still complete successfully.
	To work around this problem, reboot the I/O module with the affected LACP LAG. For example, if the affected LACP LAG is on the I/O module in slot 6, you would issue **`set iocard 6 reset`**

19195	Using the in-band HCA upgrade feature to upgrade the firmware (**`set physical-server`** `<name>` **`upgrade-hca firmware`**) also causes the Option ROM to be removed from select HCAs. This problem occurs due to the type of firmware shipped with certain HCAs. The following HCAs are affected: • HP_08B0420001 • HP_08B0000001 • HP_0AD0000003 • HP_0160000009 • DEL08F0120009 • DEL08F0120002 If your server use any of these HCAs, and you will be using in-band update to flash new firmware on the HCA, be aware that you will need to re-flash the Option ROM after flashing the HCA firmware.
19732	A problem prevents the `Tag Native` option for VLANs from working correctly when the native VLAN ID is not 1. When using the tag native feature with a native VLAN ID not equal to 1, IP connectivity can be lost.
20044	When a large number of vHBAs are configured on a host, the vHBA code can sometimes miss or improperly handle RSCNs. As a result, one vHBA or target might not be recognized. For example, if 63 or more vHBAs are configured on a Fibre Channel module, sometimes an RSCN can be missed when a target comes back online. If you notice that a vHBA or target is not seen by the Fabric Director when it should be, it is likely you've hit this condition. You can rescan the Fibre Channel topology from the Fabric Director to discover the missing vHBA or target: **`set vhba`** `<vhba-name>` **`rescan`**

Table 2 (continued) Known Problems in Version 3.8.2 Specific to the InfiniBand Fabric Director

Number	Description
21306	When hard zoning is used, if you add a second array and rezone to include that array, a problem can prevent the vHBAS from showing all targets in the new zone. When this problem occurs, the Fabric Director shows an inconsistent view of the targets available through the vHBAs, and the target shows most vHBAs, but often shows no LUNs on the available targets. This problem has been observed in the following conditions: • only when access to all LUNs is removed, which is an atypical procedure • only with HP targets
21323	Performing a chassis reboot or upgrading the XgOS sometimes causes ESXi 5.0 hosts to crash to pink screen (PSOD) when one or more Fabric Accelerator PVIs are configured. 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 5.0 Hosts with PVI vNICs, Set Server Profiles "Down" on page 4.

Fixed Problems

Table 3 shows the fixes in this release.

Table 3 Fixed Problems in XgOS 3.8.2

Number	Description
22310	When one or more vHBAs bound to the EMC RecoverPoint application, a problem occurred during the procedure of logging the target out of the Fabric Director, and logging back in. While the target was logged out, the `lost-to-dead` timer was started, and soon after the target logged back in, the `lost-to-dead` timer expired. As a result of the timer expiring, the target was counted as "dead," and all associated paths were lost. This problem is fixed in XgOS 3.8.2.
21843	A problem interrupted the traffic on vNICs or vHBAs on Windows Server 2008 hosts when out of order sequence errors occurred. When this problem occurred, traffic interruptions of approximately 50 to 60 seconds occurred. This problem is fixed in XgOS 3.8.2.
21753	A problem in XgOS 3.7.0 and later prevented a hybrid LAG from being set when you used the -tag-native= false option with the **`set ethernet-port`** `<port num>` **`-mode=trunk -tag-native=false`** command. When you issued this command, the tagging conditions for the native VLAN on the LAG port were not enforced. This problem is fixed in XgOS 3.8.2.
21666	If a flush bit error was encountered, a problem caused improper handling of a Fibre Channel card reset. This problem is fixed in XgOS 3.8.2. In XgOS 3.8.2, and the Fibre Channel card does not reset.
21629	During CT pass through handling, a SIGSEGV error occurred that eventually caused a buffer overflow. As a result, the vHBA software crashed, and the all vHBAs on the affected module were brought down. This problem is fixed in XgOS 3.8.2.

Table 3 (continued) Fixed Problems in XgOS 3.8.2

Number	Description
19433	A problem sometimes prevented the Xsigo Fibre Channel modules from properly handling a `flush_bit` error. When the error occurred, all vHBAs on the I/O module changed to `up/down`, and hosts lost connectivity to targets in the SAN. Also, an error-level message similar to the following was posted to the Fabric Director's Syslog utility: `Flush bit not getting reset` This problem is fixed in XgOS 3.8.2.

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 either of the following phone numbers:

- **1 866-974-4647** (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 Linux servers and you encounter problems, please gather the information from the Fabric Director before contacting Xsigo Technical Support or filing a case through the support website:

- 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 experiencing problems), which will gather the **`show tech-support`** information plus all log files, and place this information into `xsigo-logs.<director-name>.tar.gz`
- Optionally, you can get just the output from the xsigo-support by issuing the **`show tech-suppor`**t command, then copy the output to a file.