



## Readme File

### SANsurfer FC HBA Manager

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## 1. Package Contents

The following table identifies the SANsurfer FC HBA Manager installation packages available for the supported OS platforms.

Filename	Description
standalone_sansurfer5.0.1bnn_windows_install.exe	All supported Windows platforms
standalone_sansurfer5.0.1bnn_solaris_install.bin.gz	Solaris SPARC
standalone_sansurfer5.0.1bnn_solaris_install_x86.bin.gz	Solaris x86
standalone_sansurfer5.0.1bnn_macosx_install.zip	Mac OS X (Power PC/Intel®64)
standalone_sansurfer5.0.1bnn_macosx_leopard_install.zip	Mac OS X Leopard (Power PC/Intel®64)
standalone_sansurfer5.0.1bnn_linux_install.bin.gz	Linux/VMware ESX Server (Intel x86, Intel 64, and AMD64 platforms)
standalone_sansurfer5.0.1bnn_linux_install_ia64.bin.gz	Linux (Intel IA64 platforms)

**NOTE:** The *nn* in the file names shown above represents the build number of the current software release.

## 2. Requirements

This section defines the minimum hardware and software requirements. See the following topics:

- [2.1 Hardware Requirements](#)
- [2.2 Software Requirements](#)

## 2.1 Hardware Requirements

SANsurfer FC HBA Manager has the following minimum hardware requirements:

- QLogic QLx2xxx FC HBAs.
- Single-processor or multiprocessor server or workstation:
  - Pentium III with 450 MHz or greater for Windows XP Professional, Windows 2000, Windows Server 2003, Red Hat/SLES Linux, Solaris x86, or NetWare.
  - Sun Ultra 60 for Solaris SPARC.
  - Power Mac G5 1.8 Mhz or greater with 512 MB of memory.
- Fibre Channel devices, such as disks and RAID subsystems. SANsurfer FC HBA Manager supports most FC devices. For a complete list of devices that support failover, see the QLogic SAN Interoperability Guide, which you can download from the QLogic Web site:  
<http://www.qlogic.com/interoperability/interoperability.aspx>  
**NOTE:** Tape devices are displayed as part of the configuration, but are not fully supported by SANsurfer FC HBA Manager (only LUN masking).
- 256 MB of physical RAM required to run SANsurfer FC HBA Manager; 512 MB recommended. Running with less memory can cause disk swapping, which severely affects performance.
- Video card capable of 256 colors and a screen resolution of 800 x 600 pixels required; 16K colors and 1024 x 768 pixels recommended.
- About 150 Mb disk space.

## 2.2 Software Requirements

SANsurfer FC HBA Manager has the following minimum software requirements:

- Common desktop environment (CDE) to run SANsurfer FC HBA Manager GUI.
- QLogic QLx2xxx drivers for your OS platform.
- TCP/IP protocol for Windows 2000/Windows Server 2003 remote management.
- TCP/IP protocol for NetWare remote management.
- JDK 1.5.0 on all platforms, except Linux PPC-64, Linux IA64, and Solaris SPARC.
- Administrative privileges to perform management functions.
- Internet Explorer (5.0 or later), Netscape Communicator (5.0 or later), Firefox (1.0 or greater), or Safari (1.3 or greater) to view online help.
- One of the operating systems identified in the OS Support section.
- Disable user access control to run the agent service (qlremote) on Windows Vista.

## 3. OS Support

The SANsurfer FC HBA Manager runs on the OS platforms shown in the following table.

Operating Systems			
OS	Version	OS Type	Hardware Platform
Windows	Windows 2000	32-bit	Intel x86 Intel 64, AMD64
	Windows Server 2003	64-bit	Intel IA64, Intel Intel 64, AMD64
	Windows Server 2003	64-bit	Intel IA64
	Windows Server 2003	x64-bit	Intel 64, AMD64
	Windows Server 2008	64-bit	Intel IA64, Intel Intel 64, AMD64
	Windows Server 2008	64-bit	Intel IA64
	Windows Server 2008	x64-bit	Intel 64, AMD64
	Windows XP Professional	32-bit	Intel x86, Intel 64, AMD64
	Windows XP Professional	x64-bit	Intel 64, AMD64
	Windows Vista	32-bit	Intel x86
	Windows Vista	x64-bit	Intel 64
Solaris	Solaris 9, 10 x86	32-bit, 64-bit	Intel x86, Intel 64, AMD64
	Solaris 2.6, 7, 8, 9, and 10 SPARC	32-bit, 64-bit	SPARC
NetWare	NetWare 6.5	32-bit	Intel x86, Intel 64, AMD64
Apple Macintosh	Mac OS X (Panther/Tiger)	32-bit, 64-bit	PowerPC/Intel

Operating Systems (continued)			
OS	Version	OS Type	Hardware Platform
Linux	Red Hat RHEL AS 3.0	32-bit, 64-bit	Intel x86, Intel 64, AMD64
	Novell SLES 8	32-bit, 64-bit	Intel x86, Intel 64, AMD64
	Red Hat RHEL AS 4.0	32-bit, 64-bit	Intel IA64, Intel 64, AMD64
	Red Hat RHEL 4.6	32-bit, 64-bit	x86, IA64, and x86_64
	Red Hat RHEL AP 5.0	32-bit, 64-bit	Intel IA64, Intel 64, AMD64
	Red Hat RHEL 5.1	32-bit, 64-bit	Intel IA64, Intel 64, AMD64
	Novell SLES 9	32-bit, 64-bit	Intel IA64, Intel 64, AMD64
	Novell SLES 10	32-bit, 64-bit	Intel IA64, Intel 64, AMD64
VMware	ESX Server 3.5	32-bit	Intel 64, AMD64

**NOTE:** For specific OS service packs (SP) and updates, refer to the descriptions where this software version is posted on the QLogic website ([http://support.qlogic.com/support/drivers\\_software.aspx](http://support.qlogic.com/support/drivers_software.aspx)).

## 4. Supported Features

The SANsurfer FC HBA Manager provides a graphical user interface (GUI) that lets you easily install, configure, and deploy QLogic Fibre Channel HBAs. It also provides robust diagnostic and troubleshooting capabilities and useful statistical information to optimize SAN performance.

## 5. Using the SANsurfer FC HBA Manager

This section provides procedures for installing, starting, and removing the SANsurfer FC HBA Manager. For more detailed procedures, refer to the appropriate topics in the existing documentation, including the application help and the FC HBA Manager User's Guide. See the following topics:

- [5.1 Installing SANsurfer FC HBA Manager](#)
- [5.2 Starting SANsurfer FC HBA Manager](#)
- [5.3 Removing SANsurfer FC HBA Manager](#)

### 5.1 Installing the SANsurfer FC HBA Manager

**NOTE:** On a JS20 or JS21 blade that has a previous version of SANsurfer FC HBA Manager, make sure that the previous version of SANsurfer has been completely uninstalled before installing this new version. If you attempt to re-install this update prior to un-installing, the system will prompt you to remove the current application. If you exported the display using the `DISPLAY=` method, a hidden window with no focus appears behind the main install application window. The installer appears to hang; however, it is waiting for an action to be taken on the hidden window.

To install SANsurfer FC HBA Manager:

1. Select the download link to the package for your operating system, either from an installation CD or the QLogic website at [http://support.qlogic.com/support/drivers\\_software.aspx](http://support.qlogic.com/support/drivers_software.aspx).
2. Click **I Accept** on the License Agreement.
3. Select your specific operating system.
4. Select the SANsurfer FC HBA Manager installation file.
5. Follow the on-screen directions to complete the installation.

The default SANsurfer FC HBA Manager operation password is "config". Make sure to change this password after installing the application to ensure that security is not compromised.

### 5.2 Starting the SANsurfer FC HBA Manager

To start/run the FC HBA Manager, select the product, then follow the procedures for your specific operating system provided in the online help topic, "Starting the SANsurfer FC HBA Manager GUI."

After the Novell NetWare agent installation completes, you must start the SANsurfer FC HBA Manager agent by doing one of the following:

- Reboot the NetWare server where the agent was installed.
- Type the following commands on the NetWare server console where the agent was installed:  

```
RPCSTART
LOAD QLREMOTE.NLM
```

**NOTE:** This instruction assumes that you have already loaded the QLogic Novell NetWare HAM driver.

### 5.3 Removing the SANsurfer FC HBA Manager

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Be sure to exit the SANsurfer FC HBA Manager installer before you uninstall the SANsurfer FC HBA Manager. To remove the SANsurfer FC HBA Manager, follow the procedures for your specific operating system provided in the online help topic, "Uninstalling the SANsurfer Application."

#### NOTES:

- While un-installing the SANsurfer FC HBA Manager from a NetWare server, the server's prompt displays the following message:  
Cannot start sys:etc/rpcnet.cfg  
You can ignore this message since it does not affect NetWare server's the operation.
- The un-install process does not remove certain files and directories. You must manually delete these files.

## 6. Application Notes

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The application notes provide additional information in the following subsections:

- [6.1 General \(Applies to All Operating Systems\)](#)
- [6.2 Windows](#)
- [6.3 Linux](#)
- [6.4 Solaris](#)
- [6.5 NetWare](#)
- [6.6 Mac OS X](#)
- [6.7 VMware ESX Server](#)

### 6.1 General (Applies to All Operating Systems)

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The following subsections provide application notes that apply to all operating operating systems:

- [6.1.1 Manually Mapping the Host Name to IP](#)
- [6.1.2 Enabling Failover During Installation](#)
- [6.1.3 Understanding the Displayed Hard Drive Size Under LUN Information](#)

#### 6.1.1 Manually Mapping the Host Name to IP

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The SANsurfer FC HBA Manager application does not allow connecting to the same host more than once; doing so causes issues with policies and wastes system resources. Consequently, all host IP addresses must resolve to a host name to allow the connection to complete.

If DNS is not used, you must edit the local host file on the system where you are running the SANsurfer FC HBA Manager GUI and manually map the host name to the static IP address.

The following paragraphs list the name and location of the host file for each OS:

- **Windows:**  
`<install drive>:\winnt\system32\drivers\etc\hosts`
- **Linux:**  
`/etc/hosts`
- **Mac OS X:**  
`/etc/hosts`
- **Solaris:**  
`/etc/hosts`
- **NetWare:**  
Windows System's NetWare client:  
`<install drive>:\winnt\system32\drivers\etc\hosts`

#### 6.1.2 Enabling Failover During Installation

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During SANsurfer installation, the system prompts you to select (the default) or unselect whether to enable failover. Enabling failover notifies the application how you want to create and validate the saved configurations. Selecting "enable failover" does NOT cause the platform-specific failover driver to load automatically.

**NOTE:** Failover applies only to Linux hosts.

### 6.1.3 Understanding the Displayed Hard Drive Size Under LUN Information

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Two different measurement formats are used when displaying the hard drive size: decimal (GB) and binary (GB).

Both Linux and Windows display the correct number using their numeric format:

- Windows uses binary
- Linux uses decimal

Binary numbers are numbers that are a power of 2.

Decimal numbers are numbers that are a power of 10.

$2^{10}$  is 1,024. The closest decimal number is  $10^3$  or 1,000.

$2^{20}$  is 1,048,576. The closest decimal number is  $10^6$  or 1,000,000.

$2^{30}$  is 1,073,741,824. The closest decimal number is  $10^9$  or 1,000,000,000.

## 6.2 Windows

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### ConfigRequired Parameter

Under Windows, the ConfigRequired parameter in the registry dictates how devices are seen by the OS.

When ConfigRequired=0, both persistently bound and new devices display as enabled. This includes devices that might have been previously unconfigured using SANsurfer FC HBA Manager. You can set this parameter in the Driver Setting of SANsurfer FC HBA Manager called: "Present targets that are persistently bound plus any new target(s) found".

When ConfigRequired=1, only persistently bound devices display as configured. New devices or devices that were previously unconfigured using SANsurfer FC HBA Manager display as unconfigured. You can set this parameter in the Driver Setting of SANsurfer FC HBA Manager called: "Present target that are persistently bound only".

**NOTE:** For the new Windows driver (version 8.2.0.10 and later), you must set the ConfigRequired parameter to 1 to prevent the OS from seeing unconfigured entries.

## 6.3 Linux

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The following subsections provide application notes that apply to Linux operating systems:

- [6.3.1 Running SANsurfer FC HBA Manager and Connecting to a Remote Red Hat Linux Machine](#)
- [6.3.2 Secure Portmapper](#)
- [6.3.3 Changing SANsurfer FC HBA Manager Password](#)
- [6.3.4 Non-Failover Version of Linux Driver](#)
- [6.3.5 x86 \(x86\) SANsurfer FC Manager Installer](#)
- [6.3.6 SANsurfer FC Manager Installer on Red Hat 5](#)

### 6.3.1 Running SANsurfer FC HBA Manager and Connecting to a Remote Red Hat Linux Machine

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When running SANsurfer FC HBA Manager and connecting to a remote Red Hat Linux machine, you must modify the /etc/hosts files on the two machines to allow asynchronous notifications from the agent to SANsurfer FC HBA Manager to operate properly.

To resolve this issue, create a new entry with the host IP address assigned to ethx. Modify the existing entry by moving the hostname from the localhost line to the newly created line. For example:

**Initial:**

```
127.0.0.1 localhost runner.domain.com
```

**Modified:**

```
127.0.0.1 localhost
10.0.0.1 runner.domain.com
```

### 6.3.2 Secure Portmapper

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For Linux 7.x and Advanced Server 2.1, the application includes a new secure portmapper. Add the statement "portmap:ALL" to the /etc/hosts.allow file for remote communication to work properly between GUIs and agents.

### 6.3.3 Changing SANsurfer FC HBA Manager Password

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To change the current SANsurfer FC HBA Manager password, you must install the shadow password option on your Linux machine.

For example, the following steps install the `etc/shadow` file on a Linux 7.2 machine:

1. Install shadow-utils rpm package from *<Linux 7.2 CD-1>*:  
`/Red Hat/RPMS/shadow-utils-20000902-4.i386.rpm`
2. Go to the `/etc` file and type the `pwconv` command to convert the passwords to shadow password format.

### 6.3.4 Non-Failover Version of Linux Driver

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When using the non-failover version of the Linux driver, disable failover by launching the Fibre Channel Port Configuration window. From the **File** menu, de-select the **Enable Failover Configuration** (host) option.

### 6.3.5 x86 (x86) SANsurfer FC Manager Installer

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To run the x86 SANsurfer FC Manager installer under Linux x86\_64 (Intel 64), you must install the x86 X11 libraries. These libraries are included in the `xorg-x11-libs-<version>.EL rpm`. If the libraries are missing, the following exception displays:

```
java.lang.UnsatisfiedLinkError:  
/tmp/install.dir.4191/Linux/resource/jre/lib/  
i386/xawt/libmawt.so: libXext.so.6: cannot open  
shared object file: No such file or directory
```

### 6.3.6 SANsurfer FC Manager Installer on Red Hat 5

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To run the SANsurfer installer on a Red Hat 5 Linux machine, when using the default installation, you must install the following rpms:

```
compat-libstdc++-33-3.2.3-61.<arch>.rpm  
libXp-1.0.0-8.<arch>.rpm
```

#### NOTES:

- On x86\_64 machines, load 32-bit libs.
- On ppc64 Linux machines, load both ppc64/ppc rpms.

## 6.4 Solaris

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### Target Persistent Binding

On Solaris, the `qla_mp_config_required` parameter in the configuration file dictates how the OS sees devices.

The `qla_mp_config_required` flag in the QLogic configuration file (`qla2x00.conf`) controls persistent binding of targets. The default configuration file that comes with the QLogic driver does not have an entry for this flag. An entry for this flag appears in the configuration file only when saving the target configuration data with the SANsurfer FC HBA Manager.

SANsurfer FC HBA Manager sets the `qla_mp_config_required` flag to 1 by default. When this flag is set to 1, only target devices that are persistently bound in the configuration file are reported to the OS. The driver does not report any new or unconfigured targets to the OS. In other words, the default behavior for this flag is 'persistent targets only'.

When the `qla_mp_config_required` flag is set to 0, the driver reports both persistently bound and new targets to the OS. This is equivalent to 'persistent plus new'.

**NOTE:** After saving the `qla_mp_config_required` parameter to the configuration file, the driver ignores the old English-style persistent binding entries. For example:

```
hba<#>-SCSI-target-id-<#>-fibre-channel-port-name="<device WWPN>" ;
```

## 6.5 NetWare

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The following subsections provide application notes that apply to NetWare:

- [6.5.1 Operating SANsurfer FC HBA Manager on NetWare 5.x/6.x Servers](#)
- [6.5.2 Operating SANsurfer FC HBA Manager on NetWare](#)

### 6.5.1 Operating SANsurfer FC HBA Manager on NetWare 5.x/6.x Servers

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Operating SANsurfer FC HBA Manager on NetWare 5.x/6.x servers requires the IPX/SPX network protocol.

### 6.5.2 Operating SANsurfer FC HBA Manager on NetWare

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To run SANsurfer FC HBA Manager on NetWare, you must modify the `FILES` and `BUFFERS` parameters in the `CONFIG.SYS` file (located on the NetWare server boot drive) as shown in the following example:

```
FILES = 100  
BUFFERS = 50
```

## 6.6 Mac OS X

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### Persistent Binding

Bind By Port ID is not supported. The default driver setting is Bind By the WWPN.

## 6.7 VMware ESX Server

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SANsurfer FC HBA Manager runs on ESX Server 3.5 Servers.

## 7. Known Issues and Workarounds

The following table describes the known issues and workarounds for the SANsurfer FC HBA Manager.

Known Issue	Work Around
Periodically, the File Choosers in SANsurfer FC HBA Manager do not respond when trying to traverse the file system by double-clicking the icons.	Select the directory and click the Open button to traverse the directory or open a specific file.
Depending on certain switch zoning configurations, an attached port may appear in the Topology as an HBA when it is not actually an HBA.	None
The administrator account password must not be blank when changing the SANsurfer FC HBA Manager application password.	None. This is a Windows Server 2003 security restriction.
When running SANsurfer FC HBA Manager on an Itanium I system, the application performance is hindered due to a Java compatibility issue. This issue is not seen with Itanium II systems.	None
When updating the Windows driver using SANsurfer FC HBA Manager, the driver parameters revert back to their default values: Present targets that are persistently bound plus any new target(s) found	Bind by world wide port name.
When performing a driver update on unsigned Windows drivers, the OS displays a confirm dialog box. This appears in front of the application (focus) when performing the update on the localhost if the GUI is connected to the "localhost" (non-agent). When updating a driver on the localhost, if the GUI uses the hostname or IP to connect, the confirm dialog box appears behind the GUI (no focus).	If you are performing a driver update on the localhost, make sure to connect as "localhost".
There is a Microsoft portmapper conflict if Microsoft indows Services for UNIX is installed after SANsurfer FC HBA Manager.	Perform the following steps: 1. Temporarily uninstall SANsurfer FC HBA Manager. 2. Install Microsoft Windows Services for UNIX. 3. Re-install SANsurfer FC HBA Manager.
Connecting to localhost on a Windows x86 or Linux x86 machine requires using a DLL/shared library instead of the agent. There is no communication between the localhost version and the agent.	Be sure to use either the localhost or the agent, but not both at the same time.
The message 'Warning: Cannot convert string "x" to type VirtualBinding' displays on Linux when running either the GUI or the un-install process. This is a Java issue where the window manager has already specified key mapping.	Ignore these warnings since they do not affect the application's operation.
Deleting the persistent configuration does not remove the "options qla2x00 ConfigRequired=1 ql2xuseextopts=1" string from the /etc/modules file.	You must manually edit this file to fully delete any and all persistent data.
The hot swap feature does not work on QLogic FC HBAs on Solaris.	Stop the qlremote agent. See the online help for detailed instructions.
During normal operation of SANsurfer FC HBA Manager on Solaris, a stale semaphore may be left behind, causing all applications (SANsurfer FC HBA Manager and SANsurfer FC HBA CLI) to fail on load.	Manually remove the following two files: /var/tmp/.SEMD /var/tmp/.SEML
SANsurfer FC HBA Manager does not support FCode/BIOS update with Sun-branded 2Gb HBAs.	None
When starting SANsurfer on Solaris the following message may appear: Stack size of <x> Kb exceeds current limit of <x> Kb. (Stack sizes are rounded up to a multiple of the system page size.) See limit(1) to increase the stack size limit.	None
A Mac OS X bug affects SANsurfer installer on OS X 10.3.9 systems with the QuickTime 7.0.4 upgrade. This appears to only affect systems running version 10.3.9, not version 10.4.	Revert to QuickTime 7.0.1 through a re-installer available from Apple on the Support/Downloads page.
After updating to Mac OS X 10.3.9, SANsurfer does not install/start.	SANsurfer FC HBA Manager is a Java application and is affected by this Java issue. Review the following article: <a href="http://docs.info.apple.com/article.html?artnum=301380">http://docs.info.apple.com/article.html?artnum=301380</a>
SANsurfer does not see adapters when connecting to localhost when running Windows Vista.	When running SANsurfer on Windows Vista, you must disable UAC (User Access Control) before using localhost connects.



## 8. Contacting Support

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Please feel free to contact your QLogic approved reseller or QLogic Technical Support at any phase of integration for assistance. QLogic Technical Support can be reached by the following methods:

Web: <http://support.qlogic.com>

North America Contact Information

Email: [support@qlogic.com](mailto:support@qlogic.com)

Phone: (952) 932-4040

Support contact information for other regions of the world is available at the QLogic website:

<http://support.qlogic.com>

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