QLOGIC

Readme File

SANsurfer FC HBA Command Line Interface (CLI)

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1. Package Contents

The following table identifies the SANsurfer FC HBA Command Line Interface (CLI) installation packages available for the supported OS platforms.

Filename	Description
scli-1.7.1-bb.windows.exe	All supported Windows platforms
scli-1.7.1-bb.SPARC-X86.Solaris.pkg.Z	Solaris SPARC and x86
scli-1.7.1-bb.SPARC.Solaris26.pkg.Z	Solaris SPARC 2.6
scli.1.7.1-bb.macosx.pkg.tgz	Mac OS X (Intel/Power PC)
scli-1.7.1-bb.i386.rpm.gz	Linux (Intel x86, Intel 64, and AMD64)
scli-1.7.1-bb.IA64.rpm.gz	Linux (Intel IA64)
scli-1.7.1-bb.ppc64.rpm.gz	Linux (PPC64)
scli-1.7.1-14.i386.rpm.gz	VMware ESX Server

NOTE: The *bb* 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 CLI has the following minimum hardware requirements:

- QLogic QLx2xxx / QLx2xx 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.
  - Pentium III with 450 MHz or greater for Windows XP Professional, Windows 2000, Windows Server 2003, Red Hat/SLES Linux, Solaris x86, or NetWare.
  - Power Mac G5 1.8 Mhz, Intel based Xserve/Mac Pro or greater with 512 MB memory.
- Fibre Channel devices, such as disks and RAID subsystems. SANsurfer FC HBA CLI 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/interopguide/info.aspx.
  NOTE: Tape devices appear as part of the configuration, even though SANsurfer FC HBA CLI does not fully support them. (It only provides persistent binding and LUN masking for tape devices.)
- 256 MB physical RAM required to run SANsurfer FC HBA CLI; running with less memory can cause disk swapping, which severely affects performance.
- Video card capable of 256 colors and a screen resolution of 800x600 pixels required.
- About 7 MB disk space.

2.2 Software Requirements

SANsurfer FC HBA CLI has the following minimum software requirements:

- QLogic QLA2xxx drivers for your OS platform.
- Administrative privileges to perform management functions.
- One of the operating systems identified in the OS Support section.

3. OS Support

The SANsurfer FC HBA CLI 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
	Windows Server 2008		
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
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	ESX Server 3.5	32-bit, 64-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?id=m10).

4. Supported Features

The SANsurfer FC HBA CLI provides a command line interface (CLI) 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. This application can only configure HBAs on the local machine upon which the application is installed.

You can operate the SANsurfer FC HBA CLI in two modes:

- Interactive mode (menu-driven interface) - This mode requires user intervention.
- Non-interactive mode (Command line interface) - Use this mode for scripting or when you just want to perform a single operation.

5. Using SANsurfer FC HBA CLI

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

See the following topics:

- 5.1 Installing SANsurfer FC HBA CLI
- 5.2 Starting SANsurfer FC HBA CLI
- 5.3 Removing SANsurfer FC HBA CLI

5.1 Installing SANsurfer FC HBA CLI

For detailed procedures, refer to the *SANsurfer FC HBA CLI Application User's Guide*.

TIP: On Linux, add the verify options `--nodeps` to skip the dependency check when installing the distribution rpm package on a Novell SLES 8/9/10 IA64 system. For example:

```
#rpm -iv scli-x.xx.xx-xx.IA64.rpm --nodeps
```

5.2 Starting SANsurfer FC HBA CLI

For detailed procedures, refer to the `SANsurfer FC HBA CLI Application User's Guide`.

5.3 Removing SANsurfer FC HBA CLI

For detailed procedures, refer to the `SANsurfer FC HBA CLI Application User's Guide`.

NOTE: The un-install process might leave certain files and directories behind. You must manually delete these files.

6. Application Notes

The application notes provide additional information in the following subsections:

- 6.1 General (Applies to All Operating Systems)
- 6.2 Windows Operating System
- 6.3 Solaris Operating System
- 6.4 VMware ESX Server

6.1 General (Applies to All Operating Systems)

Understanding the Displayed Hard Drive Size Under LUN Information

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 Operating System

ConfigRequired Parameter

Under Windows, the `ConfigRequired` parameter in the registry dictates how the OS sees devices.

When `ConfigRequired=0`, both persistently bound and new devices display as enabled. This includes devices that might have been previously unconfigured using the SANsurfer FC HBA CLI. You can set this parameter in the "Driver Setting" of SANsurfer FC HBA CLI 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 the SANsurfer FC HBA CLI display as unconfigured. You can set this parameter in the"Driver Setting" of SANsurfer FC HBA CLI called:
"`Present target that are persistently bound only`".

NOTE: With 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 Solaris Operating System

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 target configuration data is saved using SANsurfer FC HBA CLI.

SANsurfer FC HBA CLI sets the `qla_mp_config_required` flag to 1 by default. When this flag is set to 1, the driver reports only target devices that are persistently bound in the configuration file 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`'.

NOTEs:

- SANsurfer FC HBA CLI does not read the value of the `persistent-binding-configuration` parameter from the configuration file.
- The QLC driver does not support persistent binding/failover configuration.
- The QLC driver does not support selective LUN configuration.

6.4 VMware ESX Server

None

7. Known Issues and Workarounds

The following subsections describe the known issues and workarounds for the SANsurfer FC CLI. See the following topics:

7.1 Windows Operating System

Known Issue	Work Around
When performing a driver update on unsigned Windows drivers, the OS displays a confirm dialog box in front of the application (focus).	None
When updating the Windows driver using SANsurfer FC HBA CLI, 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.

7.2 Linux Operating System

Known Issue	Work Around
After deleting the Persistent Configuration, the string "options qla2x00 ConfigRequired=1 ql2xuseextopts=1" remains in the /etc/modules file.	You must manually edit this file to fully delete any and all persistent data.
Under Linux, when running with a non-failover driver, the ConfigRequired=1 parameter is ignored. Consequently, the driver automatically configures the device if it does not find a persistent binding entry. When running with a failover driver, the ConfigRequired=1 parameter indicates that a device must have the matching config entry for it to be configured by the driver.	Do one of the following: * Make sure there is a persistent binding entry. * Make sure the device has a matching config entry.
When running the IOCTL module driver on a Linux OS, the following features are not available: * Persistent binding * Selective LUN * HBA port statistics * Driver settings * Host topology	None
When running the Sysfs Inbox driver on a Linux OS, the following features are not available: * Persistent binding * Selective LUN * HBA port statistics * Driver settings * Host topology * Link Status * Loopback test	None
When running the VMware driver on a Linux OS, the following features are not available with virtual ports: * HBA parameters settings * HBA parameters restore default * Flash update from file * Flash save to file * HBA parameters update from file * HBA parameters save to file * HBA parameters update from templates * iiDMA (Intelligence Interleave Factor) settings * Boot device settings * Driver settings * HBA beacon	None
When running the driver with NPIV enabled on Windows, the following features are not available with virtual port: * HBA parameters settings * HBA parameters restore default * Flash update from file * Flash save to file * HBA parameters update from file * HBA parameters save to file * HBA parameters update from templates * Target link speed * Boot device settings * Driver settings * HBA beacon * Target / LUN list	None

When launching the SANsurfer FC HBA CLI, the following warning messages may appear on the console: qla2xxx 0000:01:02.0: Unable to read SFP data (102/a0/0). qla2xxx 0000:01:02.0: Unable to read SFP data (102/a0/0). qla2xxx 0000:01:02.1: Unable to read SFP data (102/a0/0). qla2xxx 0000:01:02.1: Unable to read SFP data (102/a0/0). qla2xxx 0000:01:02.0: Unable to read SFP data (102/a0/0). qla2xxx 0000:01:02.1: Unable to read SFP data (102/a0/0). qla2xxx 0000:01:02.0: Unable to read SFP data (102/a0/0).	The driver displays these messages when it is unable to read SFP data. You can safely ignore them.

7.3 Solaris Operating System

Known Issue	Work Around
On Solaris, when launching the SANsurfer FC HBA CLI in interactive mode from a telnet session using a serial console port login, the application takes a long time to start.	To resolve the issue, add the flag "int" to the command to start the interactive mode. For example: #scli int
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 CLI does not support FCode/BIOS update with Sun-branded 2Gb HBAs.	None

7.4 Mac OS X Operating System

Known Issue	Work Around
With Mac OS X, the HBA instance number may not be the same as current with a next reboot. SANsurfer FC HBA CLI does not accept the HBA number as a valid input and will abort the command.	None TIP: Use the HBA WWPN instead of HBA number when writing scripts.
Under Mac OS X, non-root users with admin privilege cannot save Target Persistent Binding or Selective LUN configuration.	Use the "sudo" command. This allows you to run the application as the superuser or another user. For example: #sudo scli [options] By default, sudo requires that users authenthicate themselves with a password. NOTE: By default, this is the user's password, not the root password.

7.5 VMware ESX Server

Issue: None

8. Contacting Support

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
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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