QLOGIC®

Readme File

FC HBA Driver Installation Script for Linux

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1. Package Contents

The following table describes the contents provided in the FC HBA driver installation script package.

Filename	Description
agent.properties	Agent properties file, which defines the polling, security and scanning settings.
qla2x00-vn.nn.nn.noarch.rpm	Linux driver rpm file.
qlinstall	Linux driver installation script.
ql-pci.ids	Vendor device mapping file.
qlremote	RPC command and control agent.
qlremote-ia64	RPC command and control agent for IA64 platforms.
qlremote-ppc64	RPC command and control agent for PowerPC platforms.
qlremote-x86_64	RPC command and control agent for x86, AMD64, and EM64T platforms.
scli-1.06.16-bb.i386.rpm	SANsurfer CLI application for x86, AMD64, and EM64T platforms.
scli-1.06.16-bb.ia64.rpm	SANsurfer CLI application for IA64 platforms.
scli-1.06.16-bb.ppc64.rpm	SANsurfer CLI application for PowerPC platforms.
set_driver_param	Ease-of-use installation file which sets the driver parameters.
readme_qinstall_linux.txt	Text version of this readme file.

NOTE: The *n.nn.nn* in the driver file name shown above represents the driver version (7.07.06 for Kernel 2.4 or 8.01.07 for Kernel 2.6) and the *bb* shown in the SANsurfer FC HBA CLI (SCLI) file names represent the build version.

2. Requirements

N/A

3. OS Support

The FC HBA driver installation script runs on the OS platforms shown in the following table.

Operating Systems		
OS Name	**OS Type**	**Hardware Platform**
Red Hat RHEL AS 3.0	32-bit/64-bit	Intel x86, Intel EM64T, AMD64, Intel IA64, and PPC64 platforms
Red Hat RHEL AS 4.0	32-bit/64-bit	Intel x86, Intel EM64T, AMD64, Intel IA64, and PPC64 platforms
Novell SLES 8	32-bit/64-bit	Intel x86, Intel AMD64,Intel IA64, and PPC64 platforms
Novell SLES 9	32-bit/64-bit	32-bit/64-bit on Intel x86, Intel EM64T, AMD64, Intel IA64, and PPC64 platforms
Novell SLES 10	32-bit/64-bit	64-bit on Intel x86, Intel EM64T, AMD64, Intel IA64, and PPC64 platforms

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.asp).

4. Supported Features

The qlinstall script provides the following features:
- Installs the driver source RPM, which installs the driver source code in the following path:
  `/usr/src/qlogic/<driver_version-rpm_release>`
- Builds, installs, and loads the driver with the configuration module for FC HBAs on the 2.4.x and 2.6.x kernel, based on the QLogic HBA Model installed in the system.
- Installs the driver before installing QLogic HBAs.
- Installs and updates the driver in the ramdisk.
- Installs the QLogic SNIA API Library.
- Performs a device discovery and displays devices found.
- Provides command line options:
  - Invoke the device discovery at a later stage.
  - Rebuild the RamDisk to exclude or include the QLogic HBA driver.
  - Unload or load driver.
  - Update the OptionROM (BIOS etc) on all HBAs.
  - Update the NVRAM on all HBAs.
  - Pass driver parameters. For example:
    `ql_port_down_retry` (overrides NVRAM default)
  - Invoke the SANsurfer FC HBA CLI (SCLI) interface.
- Includes SCLI, which is a command line interface that provides flexibility for the HBAs configuration, persistent binding, device discovery, and OptionRom or NVRAM updates.

5. Using the FC HBA Driver Installation Script

This section provides FC HBA Driver Installation Script commands. For details, see the following topics:

- 5.1 Command Line Options
- 5.2 Running qlinstall Commands

5.1 Command Line Options

The following options are available:

```
-i | --install [-dp|--disable_persistent_binding]
               [-ia|--install_agent]
```

This option installs the driver source, builds the driver, and loads the driver immediately. The script installs the driver in the `/lib/modules/[kernel_version]/kernel/driver/scsi` directory, creates the ramdisk to load the QLogic HBA driver at boot time, and saves the persistent binding configuration.

NOTE: Do not use this option with the `-up` option.

Installing the driver loads it. If it detects an existing driver, the script backs up the previous driver version and saves the configuration modules in the following directory:
`/usr/src/qlogic/<driver version-rpm release>/backup`

By default, the installation creates persistent binding. To disable persistent binding use the following option:
`--disable_persistent_binding | --dp`

NOTE: For additional persistent binding options refer to the SCLI utility.

To install the qlremote SANsurfer agent (which is used with SANsurfer FC HBA Manager) use:
`-ia or --install_agent`

```
-a, --agent [ stop|--stop ]
            [ start|--start ]
            [ status|--status]
            [ install|--install ]
```

This option starts or stops the qlremote SANsurfer agent, checks the status of qlremote, and installs qlremote. Selecting the install option performs a new installation if qlremote is not already installed or if the script detects an older qlremote version.

```
-up | --upgrade
```

This option installs the driver source, builds the driver, and loads the driver on the next OS boot. It installs the driver in the `/lib/modules/[kernel_version]/kernel/driver/scsi` directory, creates the ramdisk to load the QLogic HBA driver at boot time, and saves the persistent binding configuration.

NOTE: Do not use this option with the `-i` option.

```
-dl | --device_list
```

This option displays the devices connected on all HBAs.

```
-u | --uninstall [ -l|--loaded]
```

This option uninstalls the driver and restores the previous drivers if present during installations. It restores the previous ramdisk saved during the installation or upgrade.

Specify `-l` or `--loaded` to keep the current drivers loaded during the uninstall process.

`-l | --load [module-name]`

This option detects the installed HBAs in the system and loads the driver for each installed HBA. It unloads any older driver versions before loading the latest drivers. If this option includes a module name, it loads only that module.

For more details, see [section 5.2](#).

`-ul | --unload [module-name]`

This option unloads all drivers for the installed HBAs.

`-br | --buildramdisk [--include | --exclude] [module-name]`

This option, by default, builds the ramdisk again. It stores a backup of the original ram disk in the `/usr/src/qlogic/<driver version-rpm release>/backup` directory with the time stamp *mmddyy-hhmmss*.

It supports the option to include or exclude the qlogic driver. To exclude or include a module specify the module name.

Supports the following options:
```
--exclude, -ex
--include, -in
```

`-p | --persistent_binding [OPTIONS] [ -i | -ignore ]`

This option allows enabling and disabling persistent binding. It also invokes the SANSurfer FC CLI to update the persistent binding.

Supports the following options:
```
--disable, -d
--enable, -e
--update, -u
```

Use the `-i` or `-ignore` option to prevent applying the persistent binding immediately on drivers that are not unloaded and loaded.

Disabling persistent binding clears the persistent data, which removes all the target bindings. To re-enable the target binding, use the `--enable` option.

`-o | --options [-help] [-ignore] (Parm1=Value1) (ParamN=ValueN)...`

This option sets driver command line parameters. It also updates the ramdisk, then unloads and loads the driver so the changes take effect immediately. To keep from applying the changes immediately, use the `-ignore` option.

`-nv | --update_nvram <file name>`

This option updates NVRAM on all HBAs in the system.

`-b | --update_bios <file name>`

This option updates BIOS on all HBAs in the system.

`-s | --scli`

This option invokes SANsurfer FC HBA CLI

```
-al | --autoload [OPTIONS]
```

> This option enables or disables the autoload script.
>
> Supports the following options:
>
> `-e` - enable the script
>
> `-d` - disable the script

```
-h | --help | -?
```

> This option displays the help message.

5.2 Running qlinstall Commands

This section describes how to perform tasks by entering qlinstall command options at the command line with a root or superuser account.

- To start the installation script:
  ```
  # ./qlinstall
  ```

- To display help for the command line options:
  ```
  # ./qlinstall -h
  ```

- To run the installation script:
  ```
  # ./qlinstall
  ```
  or
  ```
  # ./qlinstall -i
  ```
  or
  ```
  # ./qlinstall --install
  ```

- To install the driver without an existing QLogic HBA:
  ```
  # ./qlinstall --force
  ```

- To disable persistent binding at installation:
  ```
  # ./qlinstall -i -dp
  ```

- To install the driver without unloading and loading the current drivers:
  ```
  # ./qlinstall -up
  ```

- To install qlremote agent:
  ```
  # ./qlinstall -i -ia
  ```

- To stop qlremote:
  ```
  # ./qlinstall -a stop
  ```

- To start qlremote:
  ```
  # ./qlinstall -a start
  ```

- To check the status of qlremote:
  ```
  # ./qlinstall -a status
  ```

- To install qlremote:
  ```
  # ./qlinstall -a install
  ```

- To display the device list:
  ```
  # ./qlinstall -dl
  ```

- To uninstall:
  ```
  # ./qlinstall -u
  ```
  or
  ```
  # ./qlinstall --uninstall
  ```

- To disable persistent binding:
  ```
  # ./qlinstall -p -d
  ```

- To enable persistent binding:
  ```
  # ./qlinstall -p -e
  ```

- To update persistent binding:
  ```
  # ./qlinstall -p -u
  ```

- To load the driver:
  ```
  # ./qlinstall -l
  ```
  or
  ```
  # ./qlinstall --load
  ```

- To load a specific module like "`qla2310`" use:
  `# ./qlinstall -l qla2310`

- To unload the driver:
  `# ./qlinstall -ul`
  or
  `# ./qlinstall --unload`

- To unload a specific module like "`qla2310`":
  `# ./qlinstall -ul qla2310`

- To build ramdisk:
  `# ./qlinstall -br`
  or
  `# ./qlinstall --buildramdisk`

- To exclude QLogic module from ramdisk:
  `# ./qlinstall -br -ex`

- To include QLogic module from ramdisk:
  `# ./qlinstall -br -in`

- To exclude or include a specific module specify the module name:
  `# ./qlinstall -br -in qla2310`

- To enter command line parameters:
  `# ./qlinstall -o ql2xmaxqdepth=32`

- To not apply parameters immediately:
  `# ./qlinstall -o -ignore ql2xmaxqdepth=32`

- To update NVRAM:
  `# ./qlinstall -nv <file name>`

- To update BIOS:
  `# ./qlinstall -b <file name>`

- To run SANSurfer CLI:
  `# ./qlinstall -s`

6. Application Notes

N/A

7. Known Issues and Workarounds

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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