Using the efiutil Utility

Revision History

Date	Rev	Reason	By	Comments
3-21-03	1.0	Initial	T. Leonard	
4-03-03	1.1	Added batch mode commands	T. Leonard	
4-14-03	1.2	Added nvram support	T. Leonard	
4-21-03	1.3	Fixed nvram option letters	T. Leonard	
4-28-03	1.4	Added /d option to batch mode	T. Leonard	CLI x,y,z modes allow user to specify .def file.
5-05-03	1.5	Added /I option, Name change	T. Leonard	Change all occurrences of Efiutil to HpUtil. Modify utility to only report adapters with the HP SSID. Add /i option to override this checking.
6-10-03	1.6	Change auxiliary driver name	T. Leonard	Change name of qlcflash.efi to hpaux.drv.
7-01-03	1.7	Added f option to cli mode	T. Leonard	Start EFI Configuration Protocol from efiutil
9-20-03	1.8	Change requests.	J. Carnuccio	Renamed utility to efiutil, renamed command parameters.
10-03-03	1.9	Changed command syntax	D. Wagner	Changed command syntax for interactive and batch commands.
10-07-03	1.10	Renamed auxiliary driver	D. Wagner	Renamed hpaux to efiaux, deleted exit command
10-09-03	1.11	Minor updates	D. Wagner	Remove ‘override’ command parameter, removed ‘all’ from CLI parameters
11-17-03	1.12	Minor updates	J. Carnuccio	Added restriction to adapter=n command
11-19-03	1.13	Minor updates	D. Wagner	Manju changes
4-15-04	1.14	New feature	T. Greene	Added the luns command.
4-29-04	1.15	New feature	T. Greene	Added the lun_attribs command.
11-1-04	1.16	Minor Update	T. Greene	Removed “QLogic Confidential”. Cleaned up header and footer.
7-15-05	1.17	Changes for 4 GB HBA	D. Wagner	Added file types for 4 GB HBA’s. NVRAM filenames TBD

Introduction

The QLogic efiutil Utility is used to access and modify the contents of the flash ROM on the QLogic Host Bus Adapter. This utility is an efi application that is run from the efi shell. It consists of the program *efiutil.efi* and an auxiliary driver, *efiaux.drv*. The auxiliary driver is used if *efiutil.efi* is unable to detect a QLogic efi driver capable of supporting the flash ROM protocol. All these files need to be in the same directory as *efiutil.efi*.

The utility may be run in batch mode or in interactive mode (CLI mode). The mode of operation is determined by the number command line parameters used to start *efiutil.efi*; if no parameters are used, *efiutil.efi* starts in CLI mode; for example:

```
efiutil
```

otherwise *efiutil.efi* starts in batch mode.

The CLI mode commands are the batch mode parameters.

Batch Mode

A number of parameters may be specified on the command line when *efiutil.efi* is started. The command format is:

```
efiutil [parameters...]
```

where `[parameters...]` indicates zero or more optional parameters (the brackets [ ] are meta-characters and are not part of the syntax) where each parameter has the syntax described in the following paragraphs.

Each parameter is a set of underscore (_) separated words, optionally followed by filename specification; for example, the command to write an efi driver image to flash is:

```
efiutil adapter=0 efi_write
```

In addition, some commands allow the specification of a filename; a filename is indicated by an equal sign (an “assignment”) followed by the filename; for example, the command to read a risc firmware image from flash and save it to the named file is:

```
efiutil adapter=0 risc_fw_read=abc.bin
```

Note that spaces are not allowed within a command, but at least one space is required between each pair of commands on the same command line.

Default filenames

Each parameter that can accept a filename has a default filename in case the filename is not supplied; the default filenames are:

`ql23efi.bin`	ISP2300 efi driver file
`ql2312ef.bin`	ISP2312 efi driver file
`ql2422ef.bin`	ISP2422 efi driver file
`ql23fw.bin`	ISP2300 risc firmware file
`ql2312fw.bin`	ISP2312 risc firmware file
`2400.bin`	ISP24xx risc firmware file
`hp6826.dat`	nvram data/format file
`nvram23.dat`	nvram data/format file (second default)
`qla246x.dat`	nvram data/format file
`efiaux.drv`	efi auxiliary driver
`ql23xx.drv`	efi auxiliary driver
`ql24xx.drv`	efi auxiliary driver

The correct default filenames are determined from the commands specified and the adapter type of the selected adapters.

Parameters

In showing the format of the syntax, brackets `[]` indicate a component is optional, and braces `{}` indicate a component is required from a selection of components (within the braces, components are shown separated by the `|` symbol).

adapter

This parameter specifies the adapter on which the one or more specified commands are to be executed; this parameter is required for all batch mode invocations (unless **all** is specified) and may be specified once only on each invocation; the specified adapter must have a recognized subsystem vendor id (ssvid); the format of this parameter is

```
adapter=adapternumber
```

where *adapternumber* is the adapter instance number (a small integer starting from zero).

Example:

```
efiutil adapter=0 info
```
perform the command on adapter instance 0

all

This parameter specifies that the one or more specified commands are to be executed on all adapters that have a recognized subsystem vendor id (ssvid); the format of this parameter is:

```
all
```

Example:

```
efiutil all info
```
perform the command on all adapters

configure

This parameter starts the configuration protocol on the specified adapter; this is used to modify the nvram parameters on the adapter; it is especially useful for accessing an adapter that has not been bound to the standard efi driver and otherwise can not have its nvram parameters modified; the format of this parameter is:

```
configure
```

Example:

```
efiutil adapter=0 configure
```
configure the specified adapter

directory

This parameter displays a directory listing of the images in flash for the specified adapters; the format of this parameter is:

```
directory
```

Example:

```
efiutil all directory          display a flash directory on all adapters
```

efi

This parameter specifies an efi driver operation; the available efi driver operations are:

```
efi_read        read efi driver image from flash to file
efi_write       write efi driver image to flash from file
efi_verify      verify efi driver image in flash with file
```

A filename may be specified by appending the following to any of the above:

```
=filename
```

the specified filename overrides the default filename, and the command is applied to all specified adapters, regardless of adapter type; the format of this parameter is:

```
efi_{read|write|verify}=filename
```

Examples:

```
efiutil all efi_write
```

write efi driver image using default file to all adapters

```
efiutil adapter=0 efi_read=abc.bin
```

read efi driver image in adapter 0 and save to file abc.bin

```
efiutil adapter=1 efi_verify=abc.bin
```

verify efi driver image in adapter 1 with file abc.bin

Only one adapter can be used in batch mode when specifying adapter index.

When writing a efi driver image to flash, the vpd field `efi-version` in flash is updated with the version of the newly written image, and no other vpd fields are altered.

help

This parameter prints the list and format of the batch mode commands, and also prints a list of QLogic adapters found in the system.

Example:

```
efiutil help
```

info

This parameter prints information for each adapter; the format of this parameter is:

```
info
```

Example:

```
efiutil all info
```

lun_attribs

This parameter displays the LUN attributes for all LUNs on the specified adapter. The format of the parameter is:

```
lun_attribs
```

Example:

```
efiutil all lun_attribs
```

luns

This parameter displays LUN inquiry information for all LUNs on the specified adapter. The format of the parameter is:

```
luns
```

Example:

```
efiutil all luns
```

nvram

This parameter specifies an nvram operation; the available nvram operations are:

nvram_read	read data set from nvram to file
nvram_write	write data set to nvram from file
nvram_verify	verify data set in nvram with file

A filename may be specified by appending the following to any of the above:

=*filename*

the specified filename overrides the default filename, and the command is applied to all specified adapters, regardless of adapter type; the format of this parameter is:

nvram_{write|verify}=*filename*

nvram_read[=*filename*[,*filename*]]

The second form allows the specification of a second filename for the data template to be used when saving the nvram data to the file specified by the first filename; if the second filename is not specified, a default template is generated.

Examples:

```
efiutil all nvram_write
```

write nvram from default file to all adapters

```
efiutil adapter=0 nvram_read=abc.sav
```

read nvram from adapter 0 to file abc.sav

```
efiutil adapter=1 nvram_verify=abc.dat
```

verify nvram from adapter 1 with file abc.dat

risc

This parameter specifies a risc firmware operation; the available risc firmware operations are:

`risc_fw_read`	read risc firmware from flash to file
`risc_fw_write`	write risc firmware to flash from file
`risc_fw_verify`	verify risc firmware in flash with file

`A filename may be specified by appending the following to any of the above:`

`=`*`filename`*

the specified filename overrides the default filename, and the command is applied to all specified adapters, regardless of adapter type; the format of this parameter is:

`risc_{read|write|verify}=`*`filename`*

Examples:

`efiutil all risc_fw_write`

write risc firmware image from default filename to all adapters

`efiutil adapter=0 risc_fw_read=abc.bin`

read risc firmware image from adapter 0 to file abc.bin

`efiutil adapter=1 risc_fw_verify=abc.bin`

verify risc firmware image in flash with file abc.bin

When writing a risc firmware image to flash, the vpd field `fw-version` in flash is updated with the version of the newly written image, and no other vpd fields are altered.

vpd

This parameter prints the vpd image contents to the screen; the format of the parameter is:

```
vpd_display
```

Example:

`efiutil all vpd_display`	print the vpd image contents for all adapters

When efi driver and/or risc firmware images are written to flash, the vpd image is updated with the version levels of these newly written images; otherwise, the vpd image in flash is not altered under any circumstances (it is written once only during manufacture time).

CLI Mode

Starting CLI Mode

To enter CLI mode, at the efi shell, enter the following command:

```
efiutil
```

the program loads and displays the following prompt on prompt:

```
efiutil>
```

at any time, the menu of available command may be displayed by entering the command `help` which displays a list of commands and their syntax.

CLI Commands

The CLI commands are the same as the batch mode commands, and the format and syntax of the CLI commands is the identical to the syntax for the batch commands, except that filenames and adapter numbers cannot be specified inline; CLI mode will prompt for these items; if no filename is entered (i.e. if the user just types ENTER), a default filename is used. The **`all`** command is not available in CLI mode (to prevent unintentionally applying operations to all adapters).

The CLI mode commands are the batch mode parameters with the exception that filenames and adapter numbers cannot be specified with the assignment `(=)` operator. Refer to the batch mode parameters to see the syntax of the CLI mode commands.

Exiting CLI Mode

To exit from CLI mode and return to the efi shell, enter either of the following:

```
quit
```