



### ***Rocky Enterprise Linux 9.2 Manual Pages on command 'smartpqi.4'***

#### ***\$ man smartpqi.4***

SMARTPQI(4)                      Linux Programmer's Manual                      SMARTPQI(4)

#### NAME

smartpqi - Microsemi Smart Family SCSI driver

#### SYNOPSIS

```
modprobe smartpqi [disable_device_id_wildcards={0|1}]
                  [disable_heartbeat={0|1}]
                  [disable_ctrl_shutdown={0|1}]
                  [lockup_action={none|reboot|panic}]
                  [expose_ld_first={0|1}] [hide_vsep={0|1}]
```

#### DESCRIPTION

smartpqi is a SCSI driver for Microsemi Smart Family controllers.

#### Supported ioctl() operations

For compatibility with applications written for the cciss(4) and hpsa(4) drivers, many, but not all of the ioctl(2) operations supported by the hpsa driver are also supported by the smartpqi driver. The data structures used by these operations are described in the Linux kernel source file include/linux/cciss\_ioctl.h.

CCISS\_DEREGDISK, CCISS\_REGNEWDISK, CCISS\_REGNEWD

These operations all do exactly the same thing, which is to cause the driver to re-scan for new devices. This does exactly the same thing as writing to the smartpqi-specific host rescan attribute.

CCISS\_GETPCIINFO

This operation Returns the PCI domain, bus, device and function and "board ID" (PCI subsystem ID).

CCISS\_GETDRIVER

This operation returns the driver version in four bytes, encoded as:

$$(major\_version \ll 28) \mid (minor\_version \ll 24) \mid (release \ll 16) \mid revision$$

CCISS\_PASSTHRU

Allows BMIC and CISS commands to be passed through to the controller.

Boot options

disable\_device\_id\_wildcards={0|1}

Disables support for device ID wildcards. The default value is 0.

disable\_heartbeat={0|1}

Disables support for the controller's heartbeat check. This parameter is used for debugging purposes. The default value is 0, leaving the controller's heartbeat check active.

disable\_ctrl\_shutdown={0|1}

Disables support for shutting down the controller in the event of a controller lockup. The default value is 0.

lockup\_action={none|reboot|panic}

Specifies the action the driver takes when a controller lockup is detected. The default action is none.

parameter    action

??

none        take controller offline only

reboot     reboot the system

panic      panic the system

expose\_id\_first={0|1}

This option enables support for exposing logical devices to the operating system before physical devices. The default value is 0.

hide\_vsep={0|1}

This option enables disabling exposure of the virtual SEP to the host. This is usually associated with direct attached drives.

The default value is 0.

## FILES

### Device nodes

Logical drives are accessed via the SCSI disk driver (sd), tape drives via the SCSI tape driver (st), and the RAID controller via the SCSI generic driver (sg), with device nodes named /dev/sd\*, /dev/st\*, and /dev/sg\*, respectively.

### SmartPQI-specific host attribute files in /sys

/sys/class/scsi\_host/host\*/rescan

The host rescan attribute is a write-only attribute. Writing to this attribute will cause the driver to scan for new, changed, or removed devices (e.g., hot-plugged tape drives, or newly configured or deleted logical drives) and notify the SCSI mid-layer of any changes detected. Usually this action is triggered automatically by configuration changes, so the user should not normally have to write to this file. Doing so may be useful when hot-plugging devices such as tape drives or entire storage boxes containing pre-configured logical drives.

/sys/class/scsi\_host/host\*/version

The host version attribute is a read-only attribute. This attribute contains the driver version and the controller firmware version.

For example:

```
$ cat /sys/class/scsi_host/host1/version
```

```
driver: 1.1.2-126
```

firmware: 1.29-112

/sys/class/scsi\_host/host\*/lockup\_action

The host lockup\_action attribute is a read/write attribute.

This attribute will cause the driver to perform a specific ac?

tion in the unlikely event that a controller lockup has been de?

tected. See OPTIONS above for an explanation of the lockup\_ac?

tion values.

/sys/class/scsi\_host/host\*/driver\_version

The driver\_version attribute is read-only. This attribute con?

tains the smartpqi driver version.

For example:

```
$ cat /sys/class/scsi_host/host1/driver_version
```

```
1.1.2-126
```

/sys/class/scsi\_host/host\*/firmware\_version

The firmware\_version attribute is read-only. This attribute

contains the controller firmware version.

For example:

```
$ cat /sys/class/scsi_host/host1/firmware_version
```

```
1.29-112
```

/sys/class/scsi\_host/host\*/model

The model attribute is read-only. This attribute contains the

product identification string of the controller.

For example:

```
$ cat /sys/class/scsi_host/host1/model
```

```
1100-16i
```

/sys/class/scsi\_host/host\*/serial\_number

The serial\_number attribute is read-only. This attribute con?

tains the unique identification number of the controller.

For example:

```
$ cat /sys/class/scsi_host/host1/serial_number
```

```
6A316373777
```

/sys/class/scsi\_host/host\*/vendor

The vendor attribute is read-only. This attribute contains the

vendor identification string of the controller.

For example:

```
$ cat /sys/class/scsi_host/host1/vendor  
  
Adaptec
```

SmartPQI-specific disk attribute files in /sys

In the file specifications below, c stands for the number of the appropriate SCSI controller, b is the bus number, t the target number, and l is the logical unit number (LUN).

/sys/class/scsi\_disk/c:b:t:l/device/raid\_level

The raid\_level attribute is read-only. This attribute contains the RAID level of each logical drive.

For example:

```
$ cat /sys/class/scsi_disk/4:0:0:0/device/raid_level  
  
RAID 0
```

/sys/class/scsi\_disk/c:b:t:l/device/sas\_address

The sas\_address attribute is read-only. This attribute contains the unique identifier of the disk.

For example:

```
$ cat /sys/class/scsi_disk/1:0:3:0/device/sas_address  
  
0x5001173d028543a2
```

/sys/class/scsi\_disk/c:b:t:l/device/ssd\_smart\_path\_enabled

The ssd\_smart\_path\_enabled attribute is read-only. This attribute is for ioaccel-enabled volumes. (ioaccel is an alternative driver submission path that allows the driver to send I/O requests directly to backend SCSI devices, bypassing the controller firmware. This results in an increase in performance. This method is used for HBA disks and for logical volumes comprised of SSDs.) Contains 1 if ioaccel is enabled for the volume and 0 otherwise.

For example:

```
$ cat /sys/class/scsi_disk/1:0:3:0/device/ssd_smart_path_enabled  
  
0
```

The smartpqi driver was added in Linux 4.9.

## NOTES

### Configuration

To configure a Microsemi Smart Family controller, refer to the User Guide for the controller, which can be found by searching for the specific controller at <https://storage.microsemi.com/?>.

## SEE ALSO

[cciss\(4\)](#), [hpsa\(4\)](#), [sd\(4\)](#), [st\(4\)](#)

Documentation/ABI/testing/sysfs-bus-pci-devices-cciss in the Linux kernel source tree.

## COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

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