Rocky Enterprise Linux 9.2 Manual Pages on command 'hpsa.4'

C:\>man hpsa.4

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

NAME

hpsa - HP Smart Array SCSI driver

SYNOPSIS

modprobe hpsa [hpsa_allow_any=1]

DESCRIPTION

hpsa is a SCSI driver for HP Smart Array RAID controllers.

Options

hpsa_allow_any=1: This option allows the driver to attempt to operate on any HP Smart Array hardware RAID controller, even if it is not explicitly known to the driver. This allows newer hardware to work with older drivers. Typically this is used to allow installation of operating systems from media that predates the RAID controller, though it may also be used to enable hpsa to drive older controllers that would normally be handled by the cciss(4) driver. These older boards have not been tested and are not supported with hpsa, and cciss(4) should still be used for these.

Supported hardware

The hpsa driver supports the following Smart Array boards:

Smart Array P700M

Smart Array P212

Smart Array P410

Smart Array P410i

Smart Array P411

Smart Array P812

Smart Array P712m

Smart Array P711m

StorageWorks P1210m

Since Linux 4.14, the following Smart Array boards are also supported:

Smart Array 5300

Smart Array 5312

Smart Array 532

Smart Array 5i

Smart Array 6400

Smart Array 6400 EM

Smart Array 641

Smart Array 642

Smart Array 6i

Smart Array E200

Smart Array E200i

Smart Array E200i

Smart Array E200i

Smart Array E200i

Smart Array E500

Smart Array P400

Smart Array P400i

Smart Array P600

Smart Array P700m

Smart Array P800

Configuration details

To configure HP Smart Array controllers, use the HP Array Configuration Utility (either hpacuxe(8) or hpacucli(8)) or the Offline ROM-based Configuration Utility (ORCA) run from the Smart Array's option ROM at boot time.

FILES

Device nodes

Logical drives are accessed via the SCSI disk driver (sd(4)), tape drives via the

SCSI tape driver (st(4)), and the RAID controller via the SCSI generic driver (sg(4)), with device nodes named /dev/sd*, /dev/st*, and /dev/sg*, respectively.

HPSA-specific host attribute files in /sys

/sys/class/scsi_host/host*/rescan

This 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, etc.) and notify the SCSI midlayer of any changes detected. Normally a rescan is triggered auto? matically by HP's Array Configuration Utility (either the GUI or the com? mand-line variety); thus, for logical drive changes, the user should not normally have to use this attribute. This attribute may be useful when hot plugging devices like tape drives, or entire storage boxes containing pre? configured logical drives.

/sys/class/scsi_host/host*/firmware_revision

This attribute contains the firmware version of the Smart Array.

For example:

```
# cd /sys/class/scsi_host/host4
# cat firmware_revision
7.14
```

HPSA-specific disk attribute files in /sys

/sys/class/scsi_disk/c:b:t:l/device/unique_id

This attribute contains a 32 hex-digit unique ID for each logical drive.

For example:

```
# cd /sys/class/scsi_disk/4:0:0:0/device
# cat unique_id
600508B1001044395355323037570F77
```

/sys/class/scsi_disk/c:b:t:l/device/raid_level

This attribute contains the RAID level of each logical drive.

For example:

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

/sys/class/scsi_disk/c:b:t:l/device/lunid

This attribute contains the 16 hex-digit (8 byte) LUN ID by which a logical drive or physical device can be addressed. c:b:t:l are the controller, bus, target, and lun of the device.

For example:

```
# cd /sys/class/scsi_disk/4:0:0:0/device
# cat lunid
0x0000004000000000
```

Supported ioctl() operations

For compatibility with applications written for the cciss(4) driver, many, but not all of the ioctls supported by the cciss(4) driver are also supported by the hpsa driver. The data structures used by these ioctls are described in the Linux kernel source file include/linux/cciss_ioctl.h.

CCISS_DEREGDISK, CCISS_REGNEWDISK, CCISS_REGNEWD

These three ioctls all do exactly the same thing, which is to cause the driver to rescan for new devices. This does exactly the same thing as writ? ing to the hpsa-specific host "rescan" attribute.

CCISS_GETPCIINFO

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

CCISS_GETDRIVVER

Returns driver version in three bytes encoded as:

```
(major_version << 16) | (minor_version << 8) |
    (subminor_version)
```

CCISS_PASSTHRU, CCISS_BIG_PASSTHRU

Allows "BMIC" and "CISS" commands to be passed through to the Smart Array. These are used extensively by the HP Array Configuration Utility, SNMP stor? age agents, and so on. See cciss_vol_status at ?http://cciss.sf.net? for some examples.

SEE ALSO

cciss(4), sd(4), st(4), cciss_vol_status(8), hpacucli(8), hpacuxe(8), ?http://cciss.sf.net?, and Documentation/scsi/hpsa.txt and Documentation/ABI/test? ing/sysfs-bus-pci-devices-cciss in the Linux kernel source tree

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