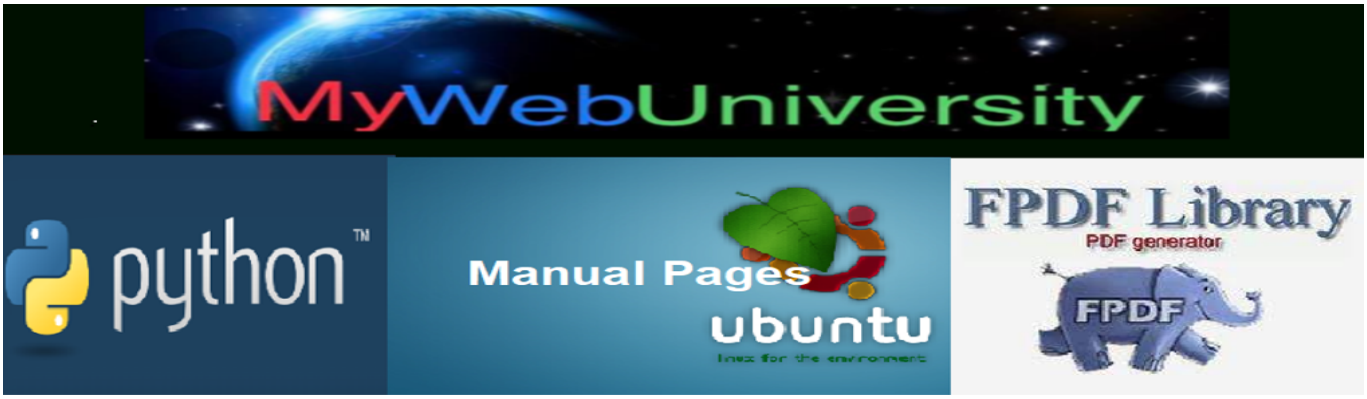

Rocky Enterprise Linux 9.2 Manual Pages on command 'sg_sat_set_features.8'

$ man sg_sat_set_features.8

SG_SAT_SET_FEATURES(8) SG3_UTILS SG_SAT_SET_FEATURES(8)

NAME

sg_sat_set_features - use ATA SET FEATURES command via a SCSI to ATA Translation (SAT) layer

SYNOPSIS

sg_sat_set_features [--count=CO] [--ck_cond] [--extended] [--feature=FEA] [--help] [--lba=LBA] [--len={16|12}] [--readonly] [--verbose] [--version] DEVICE

DESCRIPTION

This utility sends an ATA SET FEATURES command to the DEVICE. This command is used to change settings of ATA non-packet (i.e. disks) and packet devices (e.g. cd/dvd drives). Rather than send the SET FEATURES command directly to the device it is sent via a SCSI transport which is assumed to contain a SCSI to ATA Translation (SAT) Layer (SATL). The SATL may be in an operating system driver, in host bus adapter firmware or in some exter? nal enclosure.

The SAT standard (SAT ANSI INCITS 431-2007, prior draft: sat-r09.pdf at www.t10.org) de? fines two SCSI "ATA PASS-THROUGH" commands: one using a 16 byte "cdb" and the other with a 12 byte cdb. This utility defaults to using the 16 byte cdb variant. SAT-2 is also a stan? dard: SAT-2 ANSI INCITS 465-2010 and the draft prior to that is sat2r09.pdf . The SAT-3 project has started and the most recent draft is sat3r05b.pdf .

The features can be read using the sg_sat_identify utility which uses either the ATA IDEN? TIFY DEVICE (for non-packet devices) or the IDENTIFY PACKET DEVICE (for packet devices) command.

OPTIONS

Arguments to long options are mandatory for short options as well.

-c, --count=CO

the number CO is placed in the "count" field in the ATA SET FEATURES command. Only some subcommands (a term used for the value placed in the "feature" field) require the count field to be set. The default value placed in the "count" field is 0.

-C, --ck_cond

sets the CK_COND bit in the ATA PASS-THROUGH SCSI cdb. The default setting is clear (i.e. 0). When set the SATL should yield a sense buffer containing a ATA Result de? scriptor irrespective of whether the ATA command succeeded or failed. When clear the SATL should only yield a sense buffer containing a ATA Result descriptor if the ATA command failed.

-e, --extended

allow for extended LBA numbers (i.e. larger than 32 bits). This value is enabled automatically for large LBA numbers, but can be enabled explicitly even for low LBA numbers with this option.

-f, --feature=FEA

the value FEA is placed in the "feature" field in the ATA SET FEATURES command. The term "subcommand" is sometimes used for this value. The default value placed in the "feature" field is 0 which is reserved and hence should not change anything. Two common examples are 2h to enable the write cache and 82h to disable it.

-h, --help

outputs the usage message summarizing command line options then exits. Ignores DE? VICE if given.

-L, --lba=LBA

the number LBA is placed in the "lba" field of the ATA SET FEATURES command. Only some sub-commands (a term used for the value placed in the "feature" field) require the lba field to be set. This value is typically not a "logical block address" as the acronym might imply. The default value placed in the "lba" field is 0. The maximum value allowed for LBA is 0xfffffffe (or 0xffffff if --len=12).

-l, --len={16|12}

this is the length of the SCSI cdb used for the ATA PASS-THROUGH commands. The ar? gument can either be 16 or 12. The default is 16. Some SCSI transports cannot con? vey SCSI commands longer than 12 bytes.

-r, --readonly

causes the DEVICE to be opened with the read-only flag (O_RDONLY in Unix). The de? fault action is to open DEVICE with the read-write flag (O_RDWR in Unix). In some cases sending power management commands to ATA disks are defeated by OS actions on the close() if the DEVICE was opened with the read-write flag (e.g. the OS might think it needs to flush something to disk).

-v, --verbose

increases the level or verbosity.

-V, --version

print out version string

NOTES

In the 2.4 series of Linux kernels the DEVICE must be a SCSI generic (sg) device. In the 2.6 and 3 series block devices (e.g. disks and ATAPI DVDs) can also be specified. For ex? ample "sg_inq /dev/sda" will work in the 2.6 series kernels. From lk 2.6.6 other SCSI "char" device names may be used as well (e.g. "/dev/st0m"). Prior to lk 2.6.29 USB mass storage limited sense data to 18 bytes which made the --ck_cond option yield strange (truncated) results.

EXIT STATUS

The exit status of sg_sat_set_features is 0 when it is successful. Otherwise see the sg3_utils(8) man page.

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REPORTING BUGS

Report bugs to <dgilbert at interlog dot com>.

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SEE ALSO

sg_sat_identify(sg3_utils), sg_inq(sg3_utils), sdparm(sdparm), hdparm(hdparm)