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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'sg_requests.8' command

$ man sg_requests.8

SG_REQUESTS(8) SG3_UTILS SG_REQUESTS(8)

NAME

sg_requests - send one or more SCSI REQUEST SENSE commands

SYNOPSIS

sg_requests [--desc] [--error] [--help] [--hex] [--maxlen=LEN]

[--num=NUM] [--number=NUM] [--progress] [--raw] [--status] [--time]

[--verbose] [--version] DEVICE

DESCRIPTION

Send SCSI REQUEST SENSE command to DEVICE and output the parameter data

response which is expected to be in sense data format. Both fixed and

descriptor sense data formats are supported.

Multiple REQUEST SENSE commands can be sent with the --num=NUM option.

This can be used for timing purposes or monitoring the progress indica?

tion.

OPTIONS

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

-d, --desc

sets the DESC bit in the REQUEST SENSE SCSI cdb. The DEVICE

should return sense data in descriptor (rather than fixed) for?

mat. This will only occur if the DEVICE recognizes descriptor

format (SPC-3 and later). If the device is pre SPC-3 then set?

ting a bit in a reserved field may cause a check condition sta?

tus with an illegal request sense key, but will most likely be

ignored.

-e, --error

when used once it changes the REQUEST SENSE opcode from 0x3 to 0xff which should be rejected by the DEVICE. There is a small chance that the device vendor has implemented a vendor specific command at that opcode (0xff). When used twice the pass-through call to send the SCSI command is bypassed. The idea here is to measure the user space overhead of this package's library to set up and process the response of a SCSI command. This option will be typically used with the --num=NUM and --time options where NUM is a large number (e.g. 1000000).

-h, --help

output the usage message then exit.

-H, --hex

output response in ASCII hexadecimal.

-m, --maxlen=LEN

where LEN is the (maximum) response length in bytes. It is placed in the cdb's "allocation length" field. If not given (or LEN is zero) then 252 is used. The maximum value of LEN is 255 (but SPC-4 recommends 252).

-n, --num=NUM

perform NUM SCSI REQUEST SENSE commands, stopping when either NUM is reached or an error occurs. The default value for NUM is 1 .

--number=NUM

same action as --num=NUM. Added for compatibility with sg_turs.

-p, --progress

show progress indication (a percentage) if available. If --num=NUM is given, NUM is greater than 1 and an initial progress indication was detected then this utility waits 30 sec? onds before subsequent checks. Exits when NUM is reached or there are no more progress indications. Ignores --hex, --raw and --time options. See NOTES section below.

-r, --raw

output response in binary (to stdout).

-s, --status

if the REQUEST SENSE command finished without error (as indi?
cated by its SCSI status) then the contents of the parameter
data are analysed as sense data and the exit status is set ac?
cordingly. The default action (i.e. when this option is not
given) is to ignore the contents of the parameter data for the
purposes of setting the exit status. Some types of error set a
sense key of "NO SENSE" with non-zero information in the addi?
tional sense code (e.g. the FAILURE PREDICTION THRESHOLD EX?
CEEDED group of codes); this results in an exit status value of
10. If the sense key is "NO SENSE" and both asc and ascq are
zero then the exit status is set to 0 . See the sg3_utils(8) man
page for exit status values.

-t, --time

time the SCSI REQUEST SENSE command(s) and calculate the average
number of operations per second.

-v, --verbose

increase the level of verbosity, (i.e. debug output). Addition?
ally the response (if received) is output in ASCII-HEX. Use this
option multiple times for greater verbosity.

-V, --version

print the version string and then exit.

NOTES

In SCSI 1 and 2 the REQUEST SENSE command was very important for error and warning processing in SCSI. The autosense capability rendered this command almost superfluous.

However recent SCSI drafts (e.g. SPC-4 rev 14 and SBC-3 rev 14) in? crease the utility of the REQUEST SENSE command. Idle and standby (low) power conditions can be detected with this command.

The REQUEST SENSE command is not marked as mandatory in SPC-3 (i.e. for all SCSI devices) but is marked as mandatory in SBC-2 (i.e. for disks),

SSC-3 (i.e. for tapes) and MMC-4 (i.e. for CD/DVD/HD-DVD/BD drives).

The progress indication is optionally part of the sense data. When a prior command that takes a long time to complete (and typically pre? cludes other media access commands) is still underway, the progress in? dication can be used to determine how long before the device returns to its normal state.

The SCSI FORMAT command for disks used with the IMMED bit set is an ex? ample of an operation that takes a significant amount of time and pre? cludes other media access during that time. The IMMED bit set instructs the FORMAT command to return control to the application client once the format has commenced (see SBC-3). Several long duration SCSI commands associated with tape drives also use the progress indication (see SSC-3).

Early standards suggested that the SCSI TEST UNIT READY command be used for polling the progress indication (see the sg_turs utility). Since SPC-3 the standards suggest that the SCSI REQUEST SENSE command should be used instead.

The DEVICE is opened with a read-only flag (e.g. in Unix with the O_RDONLY flag).

EXIT STATUS

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

AUTHORS

Written by Douglas Gilbert.

REPORTING BUGS

Report bugs to <dgilbert at interlog dot com>.

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SEE ALSO

sg_turs (sg3_utils)