NAME

sg_test_rwbuf − test a SCSI host adapter by issuing dummy writes and reads

SYNOPSIS

sg_test_rwbuf [−−*addrd=AR*] [−−*addwr=AW*] [−−*help*] [−−*quick*] −−*size=SZ* [−−*times=NUM*] [−−*verbose*] [−−*version*] *DEVICE*

or an older deprecated format **sg_test_rwbuf** *DEVICE SZ* [*AW*] [*AR*]

DESCRIPTION

sg_test_rwbuf writes and reads back *SZ* bytes to the internal buffer of *DEVICE* (e.g. /dev/sda or /dev/sg0). A pseudo random pattern is written to the data buffer on the device then read back. If the same pattern is found 'Success' is reported. If they do not match (checksums unequal) then this is reported and up to 24 bytes from the first point of mismatch are reported; the first line shows what was written and the second line shows what was received. For testing purposes, you can ask it to write *AW* or read *AR* additional bytes.

OPTIONS

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

−r, **−−addrd=***AR*

Read an additional *AR* bytes (more than indicated by *SZ*) from the data buffer. Checksum is performed over the first *SZ* bytes.

−w, **−−addwr=***AW*

Write an additional *AW* bytes (more than indicated by *SZ*) of zeros into the data buffer. Checksum is generated over the first *SZ* bytes.

−h, **−−help**

Print out a usage message the exit.

−q, **−−quick**

Perform a READ BUFFER descriptor command to find out the available data buffer length and offset, print them out then exit (without testing with write/read sequences).

−s, **−−size=***SZ*

where *SZ* is the size of buffer in bytes to be written then read and checked. This number needs to be less than or equal to the size of the device's data buffer which can be seen from the −−*quick* option. Either this option or the −−*quick* option should be given.

−t, **−−times=***NUM*

where *NUM* is the number of times to repeat the write/read to buffer test. Default value is 1 .

−v, **−−verbose**

increase verbosity of output.

−V, **−−version**

print version number (and data of last change) then exit.

NOTES

The microcode in a SCSI device is _not_ modified by doing a WRITE BUFFER command with its mode set to "data" (0x2) as done by this utility. Therefore this utility is safe in that respect. [Mode values 0x4, 0x5, 0x6 and 0x7 are the dangerous ones :−)]

WARNING: If you access the device at the same time (e.g. because it's a hard disk with a mounted file system on it) the device's buffer may be used by the device itself for other data at the same time, and overwriting it may or may not cause data corruption! **HOWEVER** the SPC−3 draft standard does state in its WRITE BUFFER command: "This command shall not alter any medium of the logical unit when data mode ... is specified". This implies that it _is_ safe to use this utility with devices that have mounted file systems on them. Following this theme further, a disk with active mounted file systems may cause the data read back to be different (due to caching activity) to what was written and hence a checksum error.

EXIT STATUS

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

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