



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

C:\>man sg_compare_and_write.8

COMPARE AND WRITE(8) SG3_UTILS COMPARE AND WRITE(8)

NAME

sg_compare_and_write - send the SCSI COMPARE AND WRITE command

SYNOPSIS

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sg_compare_and_write [--dpo] [--fua] [--fua_nv] [--grpnum=GN] [--help] --in=IF
[--inw=WF] --lba=LBA [--num=NUM] [--quiet] [--timeout=TO] [--verbose] [--version]
[--wrprotect=WP] [--xferlen=LEN] DEVICE
```

DESCRIPTION

Send the SCSI COMPARE AND WRITE command to DEVICE. This utility reads a compare buffer and a write buffer from either one or two files. If the --in=WF option is not given then the concatenated compare and write buffers are read from the file indicated by the --in=IF option. If the --in=WF option is given then the compare buffer is read from the file indicated by the --in=IF while the write buffer is read from the file indicated by the --inw=WF.

Those buffers are expected to each contain NUM blocks of data. The compare starts at logical block address LBA on the DEVICE and if the comparison fails (i.e. the provided compare buffer does not equal at LBA on the DEVICE) then the COMPARE AND WRITE command finishes with a sense key of MISCOMPARE. In this case this utility will complete and set an exit status of 14 (which happens to be the sense key value of MISCOMPARE).

If the comparison succeeds then the provided write buffer is written to starting at LBA for NUM blocks on the DEVICE.

The actual number of bytes transferred in the data-out buffer of the COMPARE AND WRITE command may need to be given by the user with the --xferlen=LEN option. LEN defaults to (2 * NUM * 512) which is 1024 for the default NUM of 1. If the block size is other than 512 then the user will need to use --xferlen=LEN option. If protection information is given (indicated by a value of WP other than 0 (the default)) then for a NUM of 1 LEN should be 1040. Note that the SCSI READ CAPACITY command is not checked by this utility (e.g. to find the block size).

The definition of the SCSI COMPARE AND WRITE command requires that the DEVICE implement the compare and optional write as an uninterrupted series of actions. Depending on some other DEVICE settings a verify operation may occur prior to the compare.

When a mismatch occurs between the compare buffer and the blocks starting at LBA read from the DEVICE the sense buffer containing the MISCOMPARE sense key causes several messages to be sent to stderr (including the offset of the first byte mismatch). To suppress these messages use the --quiet option. With or without the --quiet option the exit status will be set to 14.

This command is defined in SBC-3 whose most recent revision is 36. SBC-3 and other SCSI documents can be found at <http://www.t10.org>.

OPTIONS

Arguments to long options are mandatory for short options as well. The options are arranged in alphabetical order based on the long option name.

-d, --dpo

Set the DPO bit in the COMPARE AND WRITE CDB

-f, --fua

Set the FUA bit in the COMPARE AND WRITE CDB

-F, --fua_nv

Set the FUA_NV bit in the COMPARE AND WRITE CDB. This bit was removed in SBC-3 revision 35d and its position marked as "reserved".

-g, --grpnum=GN

where GN is the value to be placed in the group number field in the COMPARE AND WRITE CDB.

-h, --help

output the usage message then exit.

-i, --in=IF

read data (binary) from file named IF. This will either be the combined compare and write buffers (when the --inw=WF option is not given) or just the compare buffer (when the --inw=WF option is given). If IF is '-' then stdin (e.g. a pipe) is read.

-C, --inc=IF

The same as the --in option.

-D, --inw=WF

read data (binary) from file named WF. This will be the write buffer that will become the second half of the data-out buffer sent to the DEVICE associated with the COMPARE AND WRITE command. Note that when this option is given then the --in=IF is expected to hold the associated compare buffer.

-l, --lba=LBA

where LBA is the logical block address to start the COMPARE AND WRITE command. Assumed to be in decimal unless prefixed with '0x' or has a trailing 'h'.

-n, --num=NUM

where NUM is the number of blocks, starting at LBA, to read and compare with the verify instance. And given a match, the NUM of blocks to write starting LBA. The default value for NUM is 1.

-q, --quiet

suppress the sense buffer messages associated with a MISCOMPARE sense key that would otherwise be sent to stderr. Still set the exit status to 14 which is the sense key value indicating a MISCOMPARE.

-t, --timeout=TO

where TO is the command timeout value in seconds. The default value is 60 seconds. If NUM is large (or zero) a WRITE SAME command may require considerably more time than 60 seconds to complete.

-v, --verbose

increase the degree of verbosity (debug messages).

-V, --version

output version string then exit.

-w, --wrprotect=WP

set the WRPROTECT field in the cdb to WP. The default value is 0 which implies no protection information is sent (along with the user data) by this utility.

-x, --xferlen=LEN

where LEN is the data out buffer length in byte. It defaults to (2 * NUM * 512) bytes. If the DEVICE block size is other than 512 bytes or WP is non-zero (implying additional protection information) then this default will be incorrect; the use must supply the correct value for LEN

NOTES

Various numeric arguments (e.g. LBA) may include multiplicative suffixes or be given in hexadecimal. See the "NUMERIC ARGUMENTS" section in the sg3_utils(8) man page.

EXIT STATUS

The exit status of sg_compare_and_write is 0 when it is successful. If the compare step fails then the exit status is 14. For other exit status values see the EXIT STATUS section in the sg3_utils(8) man page.

Earlier versions of this utility set an exit status of 98 when there was a MISCOP? PARE.

AUTHORS

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REPORTING BUGS

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SEE ALSO

sg_xcopy, sg_receive_copy_results(sg3_utils)

sg3_utils-1.43

August 2018

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