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

$ man sg_reset.8

SG_RESET(8)   SG3_UTILS   SG_RESET(8)

NAME

    sg_reset - sends SCSI device, target, bus or host reset; or checks re?

    set state

SYNOPSIS

    sg_reset [--bus] [--device] [--help] [--host] [--no-esc] [--target]

    [--verbose] [--version] DEVICE

DESCRIPTION

    The sg_reset utility with no options (just a DEVICE) reports on the re?

    set state (e.g. if a reset is underway) of the DEVICE. When given a

    --device, --target, --bus or --host option it requests a device, tar?

    get, bus or host reset respectively.

    A device reset is applied to the Logical Unit (LU) corresponding to DE?

    VICE. It is most likely implemented by a Low level Driver (LLD) in

    Linux as a LOGICAL UNIT RESET task management function.

    The ability to reset a SCSI target was added in Linux kernel 2.6.27 . A

    LLD may send Low level Drivers (LLDs) the I_T NEXUS RESET task manage?

    ment function. Alternatively it may use a transport mechanism to do the

same thing (e.g. a hard reset on the link containing a SAS target).

In the Linux kernel 2.6 and 3 series this utility can be called on sd,

sr (cd/dvd), st or sg device nodes; if the user has appropriate permis?

sions.

Users of this utility can check whether a reset recovery is already un?

derway before trying to send a new reset with this utility. Calling

this utility with no options, just the DEVICE, will do such a check.

OPTIONS

-b, --bus

attempt a SCSI bus reset. A bus reset is a SCSI Parallel Inter?

face (SPI) concept not found in modern transports. A recent LLD

may implement it as a series of resets on targets that might be

considered as siblings to the target on the DEVICE path.

-d, --device

attempt a SCSI device reset. This would typically involve send?

ing a LOGICAL UNIT RESET task management function to DEVICE.

-z, --help

print the usage message then exit.

-H, --host

attempt a host reset. The "host" in this context is often called

a Host Bus Adapter (HBA) and contains one or more SCSI initia?

tors.

-N, --no-esc

without this option, if a device reset (--device) fails then it

will escalate to a target reset. And if a target reset (--tar?

get) fails then it will escalate to a bus reset. And if a bus

reset (--bus) fails then it will escalate to a host reset. With

this option only the requested reset is attempted. An alternate

option name of --no-escalate is also accepted.

--no-escalate

The same as -N, --no-esc.

-t, --target

attempt a SCSI target reset. A SCSI target contains one or more

LUs. This would typically involve sending a I_T NEXUS RESET task

management function to DEVICE There may be a transport action

that is equivalent (e.g. in SAS a hard reset on the link that

contains the target).

-v, --verbose

increase the degree of verbosity (debug messages).

-V, --version

prints the version string then exits.

NOTES

The error recovery code within the Linux kernel (SCSI mid-level) when

faced with a SCSI command timing out and no response from the device

(LU) does the following. First it tries a device reset and if that is

not successful tries a target reset. If that is not successful it tries

a bus reset. If that is not successful it tries a host reset. The "de?

vice,target,bus,host" order is the reset escalation that the --no-esc

option attempts to stop. In large storage configurations the escalation

may be (very) undesirable.

This utility calls the SG_SCSI_RESET ioctl and as of lk 3.10.7 the

--no-esc option is not supported. Patches to implement this functional?

ity may be accepted in lk 3.18 or 3.19 .

SAM-4 and 5 define a hard reset, a LOGICAL UNIT RESET and a I_T NEXUS

RESET. A hard reset is defined to be a power on condition, a microcode

change or a transport reset event. LOGICAL UNIT RESET and I_T NEXUS RE?

SET can be requested via task management functions (and support for

LOGICAL UNIT RESET is mandatory). In Linux the SCSI subsystem leaves it

up to the LLDs as to exactly what type (if any) of reset is performed.

The "bus reset" is SCSI Parallel Interface (SPI) concept that may not

map well to recent SCSI transports so it may be a dummy operation. A

"host reset" attempts to re-initialize the HBA that the request passes

through en route to the DEVICE. Note that a "host reset" and a "bus re?

set" may cause collateral damage.

This utility does not allow individual SCSI commands to be aborted.

SAM-4 defines ABORT TASK and ABORT TASK SET task management functions

for that.

Prior to SAM-3 there was a TARGET RESET task management function. And in SAM-4 I_T NEXUS RESET appeared which seems closely related: the "I_T" stands for Initiator-Target.

Transports may have their own types of resets not supported by this utility. For example SAS has a link reset in which both ends of a physical link (e.g. between a SAS expander and a SAS tape drive) rene?
gotiate their connection.

Prior to version 0.57 of this utility the command line had short op?
tions only (e.g. -d but not --device). Also -h invoked a host reset while in the current version -h is equivalent to --help and both -H and --host invoke a host reset. For backward compatibility define the envi?
ronment variable SG3_UTILS_OLD_OPTS or SG_RESET_OLD_OPTS . In this case -h will invoke a host reset and the output will be verbose as it was previously (equivalent to using the --verbose option now). For exam?
ple:

    SG_RESET_OLD_OPTS=1 sg_reset -h /dev/sg1
sg_reset: starting host reset
sg_reset: completed host reset

ENVIRONMENT VARIABLES

Since sg3_utils version 1.23 the environment variables SG3_UTILS_OLD_OPTS or SG_RESET_OLD_OPTS can be given. When either is present this utility will expect the older command line options as out?
lined in the NOTES section.

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