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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'nvme-rpmb.1' command

$ man nvme-rpmb.1

NVME-RPMB(1) NVMe Manual NVME-RPMB(1)

NAME

nvme-rpmb - Send RPMB commands to an NVMe device

SYNOPSIS

nvme rpmb <device> [--cmd=<command> | -c <command>]

[--msgfile=<data-file> | -f <data-file>]

[--keyfile=<key-file> | -g <key-file>]

[--key=<key> | -k <key>]

[--msg=<data> | -d <data>]

[--address=<offset> | -o <offset>]

[--blocks=<512 byte sectors> | -b <sectors>]

[--target=<target-id> | -t <id>]

DESCRIPTION

For the NVMe device given, send an nvme rpmb command and provide the results.

The <device> parameter is mandatory and NVMe character device (ex: /dev/nvme0) must be specified. If the given device supports RPMB targets, command given with --cmd or -c option shall be sent to the controller. If given NVMe device doesn?t support RPMB targets, a message indicating the same shall be printed along with controller register values related RPMB.

OPTIONS

-c <command>, --cmd=<command>

RPMB command to be sent to the device. It can be one of the following

info - print information regarding supported RPMB targets and access and total sizes. No further arguments are required

program-key - program 'key' specified with -k option or key read from file specified with --keyfile option to the specified RPMB target given with --target or -t options. As per spec, this is one time action which can't be undone.

read-counter - Read 'write counter' of specified RPMB target. The counter value read is printed onto STDOUT

read-config - Read 512 bytes of device configuration block data of specified RPMB target of the NVMe device. The data read is written to input file specified with --msgfile or -f option.

write-config - Write 512 byes of device configuration block data from file specified by --msgfile or -f options to the RPMB target specified with --target or -t options.

read-data - Supports authenticated data reading from specified RPMB target (--target or -t option) at given offset specified with --address or -o option, using key specified using --keyfile or -k options. --blocks or -o option should be given to read the amount of data to be read in 512 byte blocks.

write-data - Supports authenticated data writing to specified RPMB target (--target or -t option) at given offset specified with --address or -o option, using key specified using --keyfile or -k options. --blocks or -o option should be given to indicate amount of data to be written in 512 byte blocks.

For data transfer (read/write) commands, if the specified size is not within the total size supported by a target, the request is failed nvme-rpmb without sending it to device. RPMB target 0 is used as the default target if --target or -t is not specified. 0x0 is used as the

default address if no -address or -o option is specified,

-t <target>, --target=<target>

RPMB target id. This should be one of the supported RPMB targets as reported by info command. If nothing is given, default of 0 is used as RPMB target.

-k <key>, --key=<key>, -g <key-file>, --keyfile=<key-file>

Authentication key to be used for read/write commands. This should have been already programmed by program-key command for given target. Key can be specified on command line using --key or -k options. Key can also be specified using file argument specified with --keyfile or -g options.

-f <data-file>, --msgfile=<data-file>

Name of the file to be used for data transfer commands (read or write). For read command, if an existing file is specified, it will be appended.

-d <data>, --msg=<data>

These options provide the data on the command line itself.

-o <offset>, --address=<offset>

The address (in 512 byte sector offset from 0) to be used for data transfer commands (read or write) for a specified RPMB target.

-b, --blocks=<sectors>

The size in 512 byte sectors to be used for data transfer commands (read or write) for a specified RPMB target.

EXAMPLES

? Print RPMB support information of an NVMe device

```
# nvme rpmb /dev/nvme0 --cmd=info
```

? Program SecretKey as authentication key for target 1

```
# nvme rpmb /dev/nvme0 --cmd=program-key -key='SecretKey' --target=1
```

? Read current write counter of RPMB target 0

```
# nvme rpmb /dev/nvme0 --cmd=read-counter --target=0
```

? Read configuration data block of target 2 into config.bin file

```
# nvme rpmb /dev/nvme0 --cmd=read-config --target=2 -f config.bin
```

? Write 200 blocks of (512 bytes) from input.bin onto target 0

nvme rpmb /dev/nvme0 -c write-data -t 0 -f input.bin -b 200 -k 'SecretKey'

? Read 200 blocks of (512 bytes) from target 2, at offset 0x100 and save the

? data onto output.bin

nvme rpmb /dev/nvme0 -c read-data -t 2 -f out.bin -b 200 -o 0x100

NVME

Part of the nvme-user suite