NAME

gnop - control utility for NOP GEOM class

SYNOPSIS

gnop create [**-v**] [**-c** *count_until_fail*] [**-d** *delaymsec*] [**-e** *error*] [**-o** *offset*] [**-p** *stripesize*] [**-P** *stripeoffset*] [**-q** *rdelayprob*] [**-r** *rfailprob*] [**-s** *size*] [**-S** *secsize*] [**-w** *wfailprob*] [**-x** *wdelayprob*] [**-z** *physpath*] [**-Z** *gnopname*] *dev* ...

gnop configure [**-v**] [**-c** *count_until_fail*] [**-d** *delaymsec*] [**-e** *error*] [**-q** *rdelayprob*] [**-r** *rfailprob*] [**-w** *wfailprob*] [**-x** *wdelayprob*] *prov* ...

gnop destroy [**-fv**] *prov* ...

gnop reset [**-v**] *prov* ...

gnop list

gnop status

gnop load

gnop unload

DESCRIPTION

The **gnop** utility is used for setting up transparent providers on existing ones. Its main purpose is testing other GEOM classes, as it allows forced provider removal and I/O error simulation with a given probability. It also gathers statistics on the number of read, write, delete, getattr, flush, and other requests, and the number of bytes read and written. **gnop** can also be used as a good starting point for implementing new GEOM classes.

The first argument to **gnop** indicates an action to be performed:

create Set up a transparent provider on the given devices. If the operation succeeds, the new provider should appear with name */dev/<dev>.nop*. The kernel module *geom_nop.ko* will be loaded if it is not loaded already.

configure Configure existing transparent provider. At the moment it is only used for changing failure probability.

destroy Turn off the given transparent providers.

reset Reset statistics for the given transparent providers.

list See geom(8).

status See geom(8).

load See geom(8).

unload See geom(8).

Additional options:

-c *count_until_fail* Specifies the number of I/O requests to allow before setting the read, write and delay failure probabilities.

-d *delaymsec* Specifies the delay of the requests in milliseconds. Note that requests will be delayed before they are sent to the backing device.

-e *error* Specifies the error number to return on failure.

-f Force the removal of the specified provider.

-o *offset* Where to begin on the original provider.

-p *stripesize* Value of the stripesize property of the transparent provider.

-P *stripeoffset* Value of the stripeoffset property of the transparent provider.

-q *rdelayprob* Specifies read delay probability in percent.

-r *rfailprob* Specifies read failure probability in percent.

-s *size* Size of the transparent provider.

-S *secsize* Sector size of the transparent provider.

-w *wfailprob* Specifies write failure probability in percent.

-v Be more verbose.

-x *wdelayprob* Specifies write delay probability in percent.

-z *physpath* Physical path of the transparent provider.

-Z *gnopname* The name of the new provider. The suffix ".nop" will be appended to the provider name.

SYSCTL VARIABLES

The following sysctl(8) variables can be used to control the behavior of the **NOP** GEOM class. The default value is shown next to each variable.

kern.geom.nop.debug: 0

Debug level of the **NOP** GEOM class. This can be set to a number between 0 and 2 inclusive. If set to 0, minimal debug information is printed. If set to 1, basic debug information is logged along with the I/O requests that were returned as errors. If set to 2, the maximum amount of debug information is printed including all I/O requests.

EXIT STATUS

Exit status is 0 on success, and 1 if the command fails.

EXAMPLES

The following example shows how to create a transparent provider for disk */dev/da0* with 50% write failure probability, and how to destroy it.

```
gnop create -v -w 50 da0
gnop destroy -v da0.nop
```

The traffic statistics for the given transparent providers can be obtained with the **list** command. The example below shows the number of bytes written with newfs(8):

```
gnop create da0
newfs /dev/da0.nop
gnop list
```

SEE ALSO

geom(4), geom(8)

HISTORY

The **gnop** utility appeared in FreeBSD 5.3.

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