NAME

gzero - the zero disk/block device

DESCRIPTION

The **gzero** device is provider in the GEOM(4) modular disk I/O requestion transformation framework. It simulates a 1 Exabyte write-only disk where all blocks read are filled with the byte 0x00. It differs from zero(4), which is a regular character device and has an infinite length. The /dev/gzero device is created by loading the geom_zero kernel module with either the command:

```
# kldload geom_zero
```

or

```
# geom load zero
```

The /dev/gzero device is removed by unloading the geom_zero kernel module with either the command

```
# kldunload geom_zero
```

or

```
# geom unload zero
```

Once loaded, information about the gzero device can be found with the following command:

```
# geom zero list
Geom name: gzero
Providers:
1. Name: gzero
  Mediasize: 1152921504606846976 (1.0E)
  Sectorsize: 512
  Mode: r0w0egzero0
```

The fill byte of the gzero device can be set (in this case to 42) using the following sysctl:

```
# sysctl kern.geom.zero.clear=42
```

It can be used as a simple benchmark of the speed of a disk or subsystem, where compression of the data does not affect the results (clearly, blocks from /dev/gzero will compress exceptionally well.) Example of a benchmarks that might use /dev/gzero is comparing the speed of two disk encryption algorithms or comparing a hardware versus software implementation of a single encryption algorithms.

FILES

/dev/gzero

SEE ALSO

GEOM(4), zero(4), geom(8), sysctl(8)

18.3.3. Creating a Mirror with an Existing Drive, *The FreeBSD Handbook*,
https://www.freebsd.org/doc/handbook/geom-mirror.html#geom-mirror-existing-drive.

HISTORY

A **gzero** device first appeared in FreeBSD 6

AUTHORS

The **gzero** device was written by Pawel Jakub Dawidek <pjd@FreeBSD.org>. The **gzero** manual page was written by Greg White <*gkwhite@gmail.com*>.