

NAME

nvdimm - ACPI NVDIMM driver

SYNOPSIS

To load the driver as a module at boot, place the following line in loader.conf(5):

```
nvdimm_load="YES"
```

DESCRIPTION

Note: The nvdimm driver is under development and has some important limitations described below.

The **nvdimm** driver provides access to Non-Volatile DIMM (NVDIMM) persistent memory devices, which are ACPI-enumerated under the root NVDIMM device with a *_HID* of ACPI0012 and in the NFIT table.

For each System Physical Address (SPA) Range described by NFIT, a device node */dev/nvdimm_spaNNN* is created, where NNN is the SPA position in the table. The node can be used to read(2), write(2), or mmap(2) the device.

Also, for each SPA, the geom provider *spaNNN* is created, which can be used to create a conventional filesystem (e.g., by newfs(8)) and mount(8) it as any storage volume. Content accessible by */dev/nvdimm_spaNNN* and */dev/spaNNN* is coherent.

The **nvdimm** driver has support for reading NVDIMM namespaces (if supported by your hardware and already configured by some other mechanism, e.g., a BIOS configuration screen). The driver will provide a */dev/nvdimm_spaNNNsMMM* device node and *spaNNNsMMM* geom provider for each namespace in a SPA, which behave analogously to their full-SPA cousins described above.

SEE ALSO

acpi(4), GEOM(4), geom(8), mount(8), newfs(8), disk(9)

HISTORY

The **nvdimm** driver first appeared in FreeBSD 12.0.

AUTHORS

The **nvdimm** driver was originally written by Konstantin Belousov <kib@FreeBSD.org>, and then updated by D. Scott Phillips <scottph@FreeBSD.org>.

BUGS

The **nvdimm** driver does not utilize the Block Window interface, so if a write to an NVDIMM is

interrupted due to a system crash or power outage, the corresponding page might be left in a partially updated state.

There is no support for Device-Specific Methods (DSM), used to report and control device health and wearing.

The driver depends on the `pmap_largemap(9)` `pmap` interface, which is currently only implemented on `amd64`. The interface can be only reasonable implemented on 64bit architectures.