

**NAME**

**targ** - SCSI target emulator driver

**SYNOPSIS**

To compile this driver into the kernel, place the following line in your kernel configuration file:

```
device targ
```

**DESCRIPTION**

The **targ** driver provides an interface for usermode programs to emulate SCSI target devices. A sample program that emulates a disk drive (similar to da(4)) can be found in */usr/share/examples/scsi\_target*.

The **targ** driver supplies the control device */dev/targ*. After opening the device, the file descriptor must be bound to a specific bus/target/LUN and enabled to process CCBs using the TARGIOCENABLE ioctl. The process then uses write(2) to send CCBs to the SIM and poll(2) or kqueue(2) to see if responses are ready. Pointers to completed CCBs are returned via read(2). Any data transfers requested by the user CCBs are done via zero-copy IO.

**IOCTLS**

The following ioctl(2) calls are defined in the header file *<cam/scsi/scsi\_targetio.h>*.

TARGIOCENABLE (*struct ioc\_enable\_lun*) Enable target mode on the LUN specified by the following structure:

```
struct ioc_enable_lun {
    path_id_t path_id;
    target_id_t target_id;
    lun_id_t lun_id;
    int grp6_len;
    int grp7_len;
};
```

The selected path (bus), target, and LUN must not already be in use or EADDRINUSE is returned. If *grp6\_len* or *grp7\_len* are non-zero, reception of vendor-specific commands is enabled.

TARGIOCDISABLE Disable target mode and abort all pending CCBs. The CCBs may optionally be read as they complete. TARGIOCENABLE can then be called to activate a different LUN. Multiple disable calls have no effect. The close(2) system call automatically disables target mode if enabled.

**TARGIOCDEBUG** (*int*) Enables CAM\_PERIPH debugging if the argument is non-zero, otherwise disables it.

## FILES

*<cam/scsi/scsi\_targetio.h>*

describes the usermode interface.

*/sys/cam/scsi/scsi\_target.c* is the driver source file.

*/dev/targ* is the control device.

## SEE ALSO

*/usr/share/examples/scsi\_target*, *ahc(4)*, *isp(4)*, *scsi(4)*

*FreeBSD Target Information*, <http://www.root.org/~nate/freebsd/>.

## AUTHORS

The **targ** driver first appeared in FreeBSD 3.0 and was written by Justin T. Gibbs. It was rewritten for FreeBSD 5.0 by Nate Lawson *<nate@root.org>*.

## BUGS

Currently, only the *ahc(4)* and *isp(4)* drivers fully support target mode.

The *ahc(4)* driver does not support tagged queuing in target mode.