

**NAME**

**oce** - Device driver for Emulex OneConnect 10Gb network adapters

**SYNOPSIS**

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

```
device pci  
device oce
```

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

```
if_oce_load="YES"
```

**DEPRECATION NOTICE**

The **oce** driver may not be present in FreeBSD 15.0 and later.

**DESCRIPTION**

Emulex OneConnect adapters come in various skewes and with different combinations of NIC, FCoE and iSCSI functions. The **oce** driver claims the NIC functions in all these adapters.

The **oce** driver supports VLAN Hardware offload, TCP checksum offload, TCP segmentation offload (TSO), Large receive offload (LRO), Bonding, Jumbo frames (from 1500 - 9000), Multiple TX queues, Receive-Side Scaling (RSS) and MSI-X interrupts.

**HARDWARE**

The **oce** driver supports the following network adapters:

- ⊕ Emulex BladeEngine 2
- ⊕ Emulex BladeEngine 3
- ⊕ Emulex Lancer

**UPDATING FIRMWARE**

Adapter firmware updates are persistent.

Firmware can be updated by following the steps below:

1. Copy the below code to a Makefile:

```
KMOD=elxflash  
FIRMWS=imagename.ufi:elxflash
```

```
.include <bsd.kmod.mk>
```

2. Replace imagename in above with UFI file name
3. Copy Makefile and UFI file to a directory
4. Execute make & copy generated elxflash.ko to */lib/modules*
5. `sysctl dev.oce.<if_id>.fw_upgrade=elxflash`
6. Reboot the machine

In case of issues with supplied UFI, flashing fails with one of the following errors.

1. "Invalid BE3 firmware image"
2. "Invalid Cookie. Firmware image corrupted ?"
3. "cmd to write to flash rom failed."

## **SUPPORT**

For general information and support, go to the Emulex website at: <http://www.Emulex.com/> or E-Mail at [freebsd-drivers@emulex.com](mailto:freebsd-drivers@emulex.com).

## **SEE ALSO**

`ifconfig(8)`

## **AUTHORS**

The `oce` driver was written by [freebsd-drivers@emulex.com](mailto:freebsd-drivers@emulex.com).