

**NAME**

**liquidio** - Cavium 10Gb/25Gb Ethernet driver for the FreeBSD operating system

**SYNOPSIS**

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

```
device lio
```

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

```
if_lio_load="YES"
```

**DESCRIPTION**

The **liquidio** driver provides support for 23XX 10Gb/25Gb Ethernet adapters. The driver supports Jumbo Frames, Transmit/Receive checksum offload, TCP segmentation offload (TSO), Large Receive Offload (LRO), VLAN tag insertion/extraction, VLAN checksum offload, VLAN TSO, and Receive Side Steering (RSS)

Support for Jumbo Frames is provided via the interface MTU setting. Selecting an MTU larger than 1500 bytes with the ifconfig(8) utility configures the adapter to receive and transmit Jumbo Frames. The maximum MTU size for Jumbo Frames is 16000.

For more information on configuring this device, see ifconfig(8).

**HARDWARE**

The **liquidio** driver supports the following cards:

- ◆ LiquidIO II CN2350 210SV/225SV
- ◆ LiquidIO II CN2360 210SV/225SV

**LOADER TUNABLES**

Tunables can be set at the loader(8) prompt before booting the kernel or stored in loader.conf(5).

*hw.lio.fw\_type*

String that specifies type of firmware to be loaded. Default is "nic". Use "none" to load firmware from flash.

*hw.lio.num\_queues\_per\_pf0*

Unsigned integers that specify number of queues per PF0. Valid range is 0 to 64. Use 0 to derive autoconfigures based on the number of cpus with a max of 8

*hw.lio.num\_queues\_per\_pfl*

Unsigned integers that specify number of queues per PF1. Valid range is 0 to 64. Use 0 to derive autoconfigures based on the number of cpus with a max of 8

*hw.lio.console\_bitmask*

Bitmask indicating which consoles have debug output redirected to syslog.

*hw.lio.rss*

To enable/disable driver RSS support

*hw.lio.hwlro*

To enable/disable hardware LRO

## **SUPPORT**

For general information and support, go to the Cavium support website at: <http://support.cavium.com>.

## **SEE ALSO**

altq(4), arp(4), netintro(4), ng\_ether(4), vlan(4), ifconfig(8)

## **HISTORY**

The **liquidio** device driver first appeared in FreeBSD 12.0.

## **AUTHORS**

The **liquidio** driver was written by Derek Chickles <[derek.chickles@cavium.com](mailto:derek.chickles@cavium.com)>.