

**NAME**

**tsec** - Freescale Three-Speed Ethernet Controller device driver

**SYNOPSIS**

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

```
device tsec  
device miibus
```

**DESCRIPTION**

The **tsec** driver provides support for the gigabit Ethernet controller integrated in some of the Freescale system-on-chip devices.

The **tsec** driver supports the following media types:

autoselect	Enable autoselection of the media type and options
10baseT/UTP	Set 10Mbps operation
100baseTX	Set 100Mbps operation
1000baseT	Set 1000baseT operation

The **tsec** driver supports the following media options:

full-duplex	Set full duplex operation
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The **tsec** driver supports polled operation when the system is configured with `DEVICE_POLLING` kernel option, see `polling(4)` for more details.

The **tsec** driver supports reception and transmission of extended frames for `vlan(4)`. This capability of **tsec** can be controlled by means of the `vlanmtu` parameter to `ifconfig(8)`.

The **tsec** driver supports interrupts coalescing (IC) so that raising a transmit/receive frame interrupt is delayed, if possible, until a threshold-defined period of time has elapsed, or a threshold-defined frame counter has been reached (whichever occurs first). The following sysctls regulate this behaviour:

*dev.tsec.X.int\_coal.rx\_time*

*dev.tsec.X.int\_coal.rx\_count*

*dev.tsec.X.int\_coal.tx\_time*

*dev.tsec.X.int\_coal.tx\_count*

Value of 0 for either time or count disables IC on the given path. Time value 1-65535 corresponds to a real time period and is expressed in units equivalent to 64 ticks of the TSEC clock. Count 1-255 represents the number of frames (note that value of 1 is equivalent to IC disabled). User provided values larger than supported will be trimmed to the maximum supported. More details are available in the reference manual of the device.

## HARDWARE

Gigabit Ethernet controllers built into the following Freescale system-on-chip devices are known to work with the **tsec** driver:

- MPC8349
- MPC8533, MPC8541, MPC8555

The enhanced version of the controller (eTSEC), integrated in the following devices, is also supported by this driver:

- MPC8548, MPC8572

## SEE ALSO

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

## HISTORY

The **tsec** device driver first appeared in FreeBSD 8.0.

## AUTHORS

The base version of **tsec** device driver was written by Piotr Kruszynski. It has been extended with polling and interrupt coalescing support by Rafal Jaworowski. It has been further enhanced with multicast, h/w checksum calculation and vlan support by Piotr Ziecik. This manual page was written by Rafal Jaworowski.