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

    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.