**NAME**

    **msk** - Marvell/SysKonnect Yukon II Gigabit Ethernet adapter driver

**SYNOPSIS**

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

        **device miibus**
        **device msk**

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

        if_msk_load="YES"

**DESCRIPTION**

    The **msk** device driver provides support for various NICs based on the Marvell/SysKonnect Yukon II Gigabit Ethernet controller chip.

    All NICs supported by the **msk** driver have TCP/UDP/IP checksum offload for transmit, TCP segmentation offload (TSO), hardware VLAN tag stripping/insertion features and an interrupt moderation mechanism as well as a 64-bit multicast hash filter.  The Yukon II supports TBI (ten bit interface) and GMII transceivers, which means it can be used with either copper or 1000baseX fiber applications.

    The Yukon II also supports Jumbo Frames (up to 9022 bytes), which can be configured 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 **msk** driver supports the following media types:

    **autoselect**     Enable autoselection of the media type and options.  The user can manually override the autoselected mode by adding media options to rc.conf(5).

    **10baseT/UTP**  Set 10Mbps operation.  The ifconfig(8) **mediaopt** option can also be used to select either **full-duplex** or **half-duplex** modes.

    **100baseTX**    Set 100Mbps (Fast Ethernet) operation.  The ifconfig(8) **mediaopt** option can also be used to select either **full-duplex** or **half-duplex** modes.

    **1000baseTX**   Set 1000baseTX operation over twisted pair.  The ifconfig(8) **mediaopt** option can also be used to select either **full-duplex** or **half-duplex** modes.

**1000baseSX**   Set 1000Mbps (Gigabit Ethernet) operation.  Both **full-duplex** and **half-duplex** modes are supported.

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

**full-duplex**  Force full duplex operation.

**half-duplex**
            Force half duplex operation.

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

## HARDWARE

The **msk** driver provides support for various NICs based on the Marvell/SysKonnect Yukon II based Gigabit Ethernet controller chips, including:

- D-Link 550SX Gigabit Ethernet
- D-Link 560SX Gigabit Ethernet
- D-Link 560T Gigabit Ethernet
- Marvell Yukon 88E8021CU Gigabit Ethernet
- Marvell Yukon 88E8021 SX/LX Gigabit Ethernet
- Marvell Yukon 88E8022CU Gigabit Ethernet
- Marvell Yukon 88E8022 SX/LX Gigabit Ethernet
- Marvell Yukon 88E8061CU Gigabit Ethernet
- Marvell Yukon 88E8061 SX/LX Gigabit Ethernet
- Marvell Yukon 88E8062CU Gigabit Ethernet
- Marvell Yukon 88E8062 SX/LX Gigabit Ethernet
- Marvell Yukon 88E8035 Fast Ethernet
- Marvell Yukon 88E8036 Fast Ethernet
- Marvell Yukon 88E8038 Fast Ethernet
- Marvell Yukon 88E8039 Fast Ethernet
- Marvell Yukon 88E8040 Fast Ethernet
- Marvell Yukon 88E8040T Fast Ethernet
- Marvell Yukon 88E8042 Fast Ethernet
- Marvell Yukon 88E8048 Fast Ethernet
- Marvell Yukon 88E8050 Gigabit Ethernet
- Marvell Yukon 88E8052 Gigabit Ethernet
- Marvell Yukon 88E8053 Gigabit Ethernet
- Marvell Yukon 88E8055 Gigabit Ethernet
- Marvell Yukon 88E8056 Gigabit Ethernet

- ✛   Marvell Yukon 88E8057 Gigabit Ethernet
- ✛   Marvell Yukon 88E8058 Gigabit Ethernet
- ✛   Marvell Yukon 88E8059 Gigabit Ethernet
- ✛   Marvell Yukon 88E8070 Gigabit Ethernet
- ✛   Marvell Yukon 88E8071 Gigabit Ethernet
- ✛   Marvell Yukon 88E8072 Gigabit Ethernet
- ✛   Marvell Yukon 88E8075 Gigabit Ethernet
- ✛   SysKonnect SK-9Sxx Gigabit Ethernet
- ✛   SysKonnect SK-9Exx Gigabit Ethernet

## LOADER TUNABLES

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

*hw.msk.msi_disable*
> This tunable disables MSI support on the Ethernet hardware.  The default value is 0.

## SYSCTL VARIABLES

The following variables are available as both sysctl(8) variables and loader(8) tunables:

*dev.mskc.%d.int_holdoff*
> Maximum number of time to delay interrupts.  The valid range is 0 to 34359738 for 125MHz clock in units of 1us, the default is 100 (100us).  The interface need to be brought down and up again before a change takes effect.

*dev.mskc.%d.process_limit*
> Maximum amount of Rx events to be processed in the event loop before rescheduling a taskqueue.  The accepted range is 30 to 256, the default value is 128 events.  The interface does not need to be brought down and up again before a change takes effect.

## SEE ALSO

altq(4), arp(4), miibus(4), netintro(4), ng_ether(4), vlan(4), ifconfig(8)

## HISTORY

The **msk** driver was written by Pyun YongHyeon *<yongari@FreeBSD.org>* and it is based on sk(4) and Marvell's FreeBSD driver.  It first appeared in FreeBSD 7.0 and FreeBSD 6.3.