NAME

    nfe - NVIDIA nForce MCP Ethernet driver

SYNOPSIS

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

        device miibus
        device nfe

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

        if_nfe_load="YES"

DESCRIPTION

    The **nfe** driver supports PCI Ethernet adapters based on the NVIDIA nForce Media and
    Communications Processors (MCP), such as the nForce, nForce 2, nForce 3, CK804, MCP04, MCP51,
    MCP55, MCP61, MCP65, MCP67, MCP73, MCP77 and MCP79 Ethernet controller chips.

    Supported features include (hardware support provided):

    ● Receive/Transmit IP/TCP/UDP checksum offload
    ● Hardware VLAN tag insertion/stripping
    ● TCP segmentation offload (TSO)
    ● MSI/MSI-X
    ● Jumbo Frames

    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 **nfe** driver supports the following media types:

    autoselect   Enable autoselection of the media type and options.

    10baseT/UTP Set 10Mbps operation.

    100baseTX   Set 100Mbps (Fast Ethernet) operation.

    1000baseT   Set 1000Mbps (Gigabit Ethernet) operation (recent models only).

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

NFE(4)   FreeBSD Kernel Interfaces Manual   NFE(4)

half-duplex   Force half duplex operation.

full-duplex   Force full duplex operation.

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

HARDWARE

The **nfe** driver supports the following NVIDIA MCP onboard adapters:

- NVIDIA nForce MCP Networking Adapter
- NVIDIA nForce MCP04 Networking Adapter
- NVIDIA nForce 430 MCP12 Networking Adapter
- NVIDIA nForce 430 MCP13 Networking Adapter
- NVIDIA nForce MCP51 Networking Adapter
- NVIDIA nForce MCP55 Networking Adapter
- NVIDIA nForce MCP61 Networking Adapter
- NVIDIA nForce MCP65 Networking Adapter
- NVIDIA nForce MCP67 Networking Adapter
- NVIDIA nForce MCP73 Networking Adapter
- NVIDIA nForce MCP77 Networking Adapter
- NVIDIA nForce MCP79 Networking Adapter
- NVIDIA nForce2 MCP2 Networking Adapter
- NVIDIA nForce2 400 MCP4 Networking Adapter
- NVIDIA nForce2 400 MCP5 Networking Adapter
- NVIDIA nForce3 MCP3 Networking Adapter
- NVIDIA nForce3 250 MCP6 Networking Adapter
- NVIDIA nForce3 MCP7 Networking Adapter
- NVIDIA nForce4 CK804 MCP8 Networking Adapter
- NVIDIA nForce4 CK804 MCP9 Networking Adapter

LOADER TUNABLES

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

hw.nfe.msi_disable
        Whether or not MSI support is enabled in the driver. The default value is 0.

hw.nfe.msix_disable
        Whether or not MSI-X support is enabled in the driver. The default value is 0.

SYSCTL VARIABLES

The following sysctl(8) variables can be used to modify or monitor **nfe** behavior.

dev.nfe.%d.process_limit
> Maximum number of Rx events to be processed in the event loop before rescheduling a taskqueue. The accepted range is 50 to 255, the default value is 192. The interface does not need to be brought down and up again before a change takes effect.

SEE ALSO

altq(4), arp(4), intro(4), miibus(4), netintro(4), pci(4), polling(4), rgephy(4), ifconfig(8), sysctl(8)

HISTORY

The **nfe** device driver first appeared in OpenBSD 3.9, and then in FreeBSD 7.0.

AUTHORS

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