The Gianfar Ethernet Driver
Sysfs File description

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SYSFS

Several of the features of the gianfar driver are controlled
through sysfs files.   These are:

bd_stash:
To stash RX Buffer Descriptors in the L2, echo 'on' or '1' to
bd_stash, echo 'off' or '0' to disable

rx_stash_len:
To stash the first n bytes of the packet in L2, echo the number
of bytes to buf_stash_len.   echo 0 to disable.

WARNING: You could really screw these up if you set them too low or high!
fifo_threshold:
To change the number of bytes the controller needs in the
fifo before it starts transmission, echo the number of bytes to
fifo_thresh.   Range should be 0-511.

fifo_starve:
When the FIFO has less than this many bytes during a transmit, it
enters starve mode, and increases the priority of TX memory
transactions.   To change, echo the number of bytes to
fifo_starve.   Range should be 0-511.

fifo_starve_off:
Once in starve mode, the FIFO remains there until it has this
many bytes.   To change, echo the number of bytes to
fifo_starve_off.   Range should be 0-511.

CHECKSUM OFFLOADING

The eTSEC controller (first included in parts from late 2005 like
the 8548) has the ability to perform TCP, UDP, and IP checksums
in hardware.   The Linux kernel only offloads the TCP and UDP
checksums (and always performs the pseudo header checksums), so
the driver only supports checksumming for TCP/IP and UDP/IP
packets.   Use ethtool to enable or disable this feature for RX
and TX.

VLAN

In order to use VLAN, please consult Linux documentation on
configuring VLANs.   The gianfar driver supports hardware insertion and
extraction of VLAN headers, but not filtering.   Filtering will be
done by the kernel.

MULTICASTING

The gianfar driver supports using the group hash table on the

TSEC (and the extended hash table on the eTSEC) for multicast
filtering. On the eTSEC, the exact-match MAC registers are used
before the hash tables. See Linux documentation on how to join
multicast groups.

PADDING

The gianfar driver supports padding received frames with 2 bytes
to align the IP header to a 16-byte boundary, when supported by
hardware.

ETHTOOL

The gianfar driver supports the use of ethtool for many
configuration options. You must run ethtool only on currently
open interfaces. See ethtool documentation for details.