The Gianfar Ethernet Driver

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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.