

# 10GigEthr-00 (ixgbe) Driver Release Notes

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This document provides information about the B.11.23.0807 release of the HP 10GigEthr-00 (ixgbe) driver.

## 10GigEthr-00 (ixgbe) Driver Overview

This release of the HP 10GigEthr-00 (ixgbe) driver provides support for 4-tuple hash based steering on the AD385A.

## New and Changed Features in This Release

### New Features

The following features are new with the B.11.23.0807 version of the 10GigEthr-00 (ixgbe) driver:

- This release of the driver introduces support for 4-tuple hash based steering on the AD385A,

### How 4-tuple Hash Based Steering Works

In 4-tuple hash based steering, as implemented with the AD385A, there is no need for a lookup table. The driver and card steer all packets based on a hash value, calculated using the packet's source port, destination port, source IP, and destination IP. With this approach, all 8 queues are used evenly. It is applicable to both TCP and UDP.

4-tuple hash based steering requires NOSYNC patches. If NOSYNC patches are in the kernel, the default steering configuration is port based when the driver is up. Consequently, when NOSYNC patches are in the kernel, 4-tuple hash based steering has to be turned on and off manually.

### How to Turn 4-tuple Hash Based Steering On and Off

4-tuple hash based steering is turned **on** via the `lanadmin -X drv_rth_on <ppa>` command.

4-tuple hash based steering is turned **off** via the `lanadmin -X drv_rth_off <ppa>`.

When the 4-tuple hash based steering feature is turned on, all 8 queues on the AD385A are used; when it is turned off, port based steering uses a maximum of 4 queues, unless the user otherwise configures the number of queues.

To make the setting persistent across reboots, `HP_IXGBE_4TUPLE_RTH` in `/etc/rc.config.d/hpixonbeconf` must be set to `on`.



**NOTE:** UDP multi-fragment packets are always steered to the default queue in both steering methods.

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### When to Use 4-tuple Hash Based Steering

HP recommends 4-tuple hash based steering when both the following are true:

- When the server host uses only a few listening ports, and there are a large number of connections to the server.
- The server host has a large number of CPUs (exceeding 16).

In this situation, destination-port based steering does not work optimally, and it is recommended that you use 4-tuple hash based steering instead.