

**NAME**

**mlx5en** - NVIDIA Mellanox ConnectX-4/5/6 [Dx/Ex/Lx] based 200Gb, 100Gb, 50Gb, 40Gb, 25Gb and 10Gb ethernet adapter driver

**SYNOPSIS**

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

```
options COMPAT_LINUXKPI
options RATELIMIT
options KERN_TLS
device xz
device mlxfw
device firmware
device mlx5
device mlx5en
```

To load the driver as a module at run-time, run the following command as root:

```
kldload mlx5en
```

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

```
mlx5en_load="YES"
```

**DESCRIPTION**

The **mlx5en** driver provides support for PCI Express Ethernet adapters based on ConnectX-4/5/6 [Dx, Ex and Lx variants]. The driver supports Jumbo Frames, Transmit and Receive checksum offload, TCP segmentation offload (TSO), Large Receive Offload (LRO), HW Large Receive Offload (HW LRO), VLAN tag insertion and extraction, VLAN checksum offload, VLAN TSO, hardware rate limiting (TXRTLMT), stateless VxLAN hardware offload for receive and transmit, HW TLS offload for transmit, Receive Side Steering (RSS) and numa(4) awareness.

The network interface name is mce<N> which corresponds to a PCI function, mlx\_core<N>, where <N> is a number starting at zero. There is at most one network interface per PCI function.

For further information and questions related to hardware requirements, see <https://www.mellanox.com>.

**HARDWARE**

The **mlx5en** driver supports 200Gb, 100Gb, 50Gb, 40Gb, 25Gb and 10Gb ethernet adapters.

- ConnectX-6 supports 10/20/25/40/50/56/100Gb/200Gb/s speeds.
- ConnectX-5 supports 10/20/25/40/50/56/100Gb/s speeds.
- ConnectX-4 supports 10/20/25/40/50/56/100Gb/s speeds.
- ConnectX-4 LX supports 10/25/40/50Gb/s speeds and reduced power consumption.

## CONFIGURATION

The **mlx5en** network interface is configured using `ifconfig(8)` and the `sysctl(8)` tree at `dev.mce.<N>`. All configurable entries are also tunables, and can be put directly into the `loader.conf(5)` for persistent configuration.

## SUPPORT

For general information and support, go to the NVIDIA Mellanox networking support website at: <https://www.mellanox.com>.

If an issue is identified with this driver using a supported adapter, e-mail all the specific information related to the issue to [<nbu-freebsd-drivers@nvidia.com>](mailto:nbu-freebsd-drivers@nvidia.com).

## SEE ALSO

`ifconfig(8)`

## HISTORY

The **mlx5en** device driver first appeared in FreeBSD 11.0.

## AUTHORS

The **mlx5en** driver was written by NVIDIA Mellanox networking [<nbu-freebsd-drivers@nvidia.com>](mailto:nbu-freebsd-drivers@nvidia.com).