



# Ubuntu 20.10 Driver Release Notes

**20.10**

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# 1 Overview

These are the release notes of Ubuntu 20.10 Driver Release Notes. This document provides instructions on drivers for Mellanox Technologies ConnectX® based adapter cards with Ubuntu 20.10 Inbox Driver environment.

This version supports the following uplinks to servers:

**Table 1: Supported Uplinks to Servers**

HCAs	Uplink Speed	Supported Driver
BlueField® <sup>a</sup>	<ul style="list-style-type: none"><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, and 100GigE</li></ul>	mlx5_core (includes the ETH functionality as well)
BlueField-2® <sup>b</sup>	<ul style="list-style-type: none"><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 100GigE, 200 GigE</li></ul>	mlx5_core (includes the ETH functionality as well)
ConnectX®-6 Lx	<ul style="list-style-type: none"><li>Ethernet: 1GigE, 10GigE, 25GigE, 50GigE</li></ul>	mlx5_core (includes the ETH functionality as well)
ConnectX®-6 Dx	<ul style="list-style-type: none"><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 100GigE, 200 GigE</li></ul>	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX®-6	<ul style="list-style-type: none"><li>InfiniBand: SDR, DDR, QDR, FDR, EDR, HDR100, HDR</li><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 100GigE, 200 GigE</li></ul>	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX®-5	<ul style="list-style-type: none"><li>InfiniBand: SDR, QDR, FDR, FDR10, EDR</li><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 56GigE<sup>c</sup>, and 100GigE</li></ul>	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX®-4	<ul style="list-style-type: none"><li>InfiniBand: SDR, QDR, FDR, FDR10, EDR</li><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 56GigE<sup>c</sup>, and 100GigE</li></ul>	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX®-4 Lx	<ul style="list-style-type: none"><li>Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, and 50GigE</li></ul>	mlx5_core (includes the ETH functionality as well)
Innova™ IPsec EN	<ul style="list-style-type: none"><li>Ethernet: 10GigE, 40GigE</li></ul>	mlx5_core (includes the ETH functionality as well)
Connect-IB®	<ul style="list-style-type: none"><li>InfiniBand: SDR, QDR, FDR10, FDR</li></ul>	mlx5_core, mlx5_ib
ConnectX®-3/ ConnectX®-3 Pro	<ul style="list-style-type: none"><li>InfiniBand: SDR, QDR, FDR10, FDR</li><li>Ethernet: 10GigE, 40GigE and 56GigE<sup>c</sup></li></ul>	mlx4_core, mlx4_en, mlx4_ib

a. BlueField is supported as a standard ConnectX-5 Ethernet NIC only.

- b. BlueField-2 is supported as a standard ConnectX-6 Dx Ethernet NIC only.
- c. 56GbE is a Mellanox propriety link speed and can be achieved while connecting a Mellanox adapter cards to Mellanox SX10XX switch series or connecting a Mellanox adapter card to another Mellanox adapter card.

## Supported HCAs Firmware Versions

Driver Ubuntu 20.10 supports the following Mellanox network adapter cards firmware versions.

**Table 2: Supported HCAs Firmware Versions**

HCA	Recommended Firmware Rev.
Connect-IB®	10.16.1002
BlueField®	18.29.1016
BlueField®-2	24.29.1016
ConnectX®-6 Lx	26.29.1016
ConnectX®-6 Dx	22.29.1016
ConnectX®-6	20.29.1016
ConnectX®-5	16.29.1016
Innova™ IPsec EN	14.22.1002
ConnectX®-4 Lx	14.29.1016
ConnectX®-4	12.28.2006
ConnectX®-3 Pro	2.42.5000
ConnectX®-3	2.42.5000
ConnectX®-2	2.9.1000

## SR-IOV Support

**Table 3: SR-IOV Support**

Driver	Support
mlx4_core, mlx4_en, mlx4_ib	Eth InfiniBand: Technical Preview <sup>a</sup>
mlx5_core (includes ETH functionality), mlx5_ib	Eth InfiniBand: Technical Preview <sup>a</sup>

a. Technical Preview is not a fully supported production feature.

## RoCE Support

Table 4: RoCE Support

Driver	Support
mlx4 - RoCE v1/v2	Yes
mlx5 - RoCE v1/v2	Yes

## VXLAN Support

Table 5: VXLAN Support

Driver	Support
mlx4 - VXLAN offload	Yes
mlx5 - VXLAN offload	Yes (without RSS)

## Open vSwitch Hardware Offloads Support

Table 6: Open vSwitch Hardware Offloads Support

Driver	Support
mlx4	No
mlx5	Yes

## DPDK Support

Table 7: DPDK Support

Driver	Support
mlx4	Mellanox PMD is enabled by default.
mlx5	Mellanox PMD is enabled by default.

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## 2 Changes and New Features

Table 8: Changes and New Features

Feature/Change	Component	Description
RDMA user-space	rdma-core	Updated the RDMA package to version 31.0
mstflint user-space	mstflint	Updated mstflint package to version 4.14.0
General update	mlx5	Aligned the mlx5 driver to the Linux upstream kernel driver version 5.8
General update	mlx4	Aligned the mlx4 driver to the Linux upstream kernel driver version 5.8

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### 3 Known Inbox-Related Issues

The following table describes known issues in this release and possible workarounds.

Internal Ref.	Description
1751408	<p><b>Description:</b> BW degradations due to Intel's Page Table Isolation (PTI) CPU security fix.</p> <p><b>Workaround:</b> Disable the PTI at run time by:</p> <ul style="list-style-type: none"><li>• writing 0 to /sys/kernel/debug/x86/pti_enabled.</li></ul> <p>or</p> <ul style="list-style-type: none"><li>• adding "nopti" or "pti=off" to grub.conf</li></ul> <p><b>Keywords:</b> Performance</p>

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