



Ubuntu 18.10 Driver Release Notes

Ubuntu 18.10

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1 Overview

These are the release notes of Ubuntu 18.10 Driver Release Notes. This document provides instructions on drivers for Mellanox Technologies ConnectX® based adapter cards with Ubuntu 18.10 Inbox Driver environment.

This version supports the following uplinks to servers:

Table 1 - Supported Uplinks to Servers

Uplink/HCAs	Uplink Speed	Supported Driver
ConnectX®-5	<ul style="list-style-type: none"> InfiniBand: SDR, QDR, FDR, FDR10, EDR Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 56GigE^a, and 100GigE 	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX®-4	<ul style="list-style-type: none"> InfiniBand: SDR, QDR, FDR, FDR10, EDR Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, 50GigE, 56GigE^a, and 100GigE 	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX®-4 Lx	<ul style="list-style-type: none"> Ethernet: 1GigE, 10GigE, 25GigE, 40GigE, and 50GigE 	mlx5_core (includes the ETH functionality as well)
Innova™ IPsec EN	<ul style="list-style-type: none"> Ethernet: 10GigE, 40GigE 	mlx5_core (includes the ETH functionality as well)
Connect-IB®	<ul style="list-style-type: none"> InfiniBand: SDR, QDR, FDR10, FDR 	mlx5_core, mlx5_ib
ConnectX®-3/ ConnectX®-3 Pro	<ul style="list-style-type: none"> InfiniBand: SDR, QDR, FDR10, FDR Ethernet: 10GigE, 40GigE and 56GigE^a 	mlx4_core, mlx4_en, mlx4_ib
ConnectX®-2	<ul style="list-style-type: none"> InfiniBand: SDR, DDR Ethernet: 10GigE, 20GigE 	mlx4_core, mlx4_en, mlx4_ib

a. 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.

1.1 Supported HCAs Firmware Versions

Driver Ubuntu 18.10 supports the following Mellanox network adapter cards firmware versions:

Table 2 - Supported HCAs Firmware Versions

HCA	Recommended Firmware Rev.	Additional Firmware Rev. Supported
Connect-IB®	10.16.1200	N/A
ConnectX®-5	16.23.1020	N/A
Innova™ IPsec EN	14.23.1020	N/A
ConnectX®-4 Lx	14.23.1020	N/A
ConnectX®-4	12.23.1020	N/A
ConnectX®-3 Pro	2.42.5000	N/A

Table 2 - Supported HCAs Firmware Versions

HCA	Recommended Firmware Rev.	Additional Firmware Rev. Supported
ConnectX®-3	2.42.5000	N/A
ConnectX®-2	2.9.1000	N/A

1.2 SR-IOV Support

Table 3 - SR-IOV Support

Driver	Support
mlx4_core, mlx4_en, mlx4_ib	Eth InfiniBand: Technical Preview ^a
mlx5_core (includes ETH functionality), mlx5_ib	Eth InfiniBand: Technical Preview ^a

a. Technical Preview is not fully supported production feature.

1.3 RoCE Support

Table 4 - RoCE Support

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

1.4 VXLAN Support

Table 5 - VXLAN Support

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

1.5 Open vSwitch Hardware Offloads Support

Table 6 - Open vSwitch Hardware Offloads Support

Driver	Support
mlx4	No
mlx5	Yes

1.6 DPDK Support

Table 7 - DPDK Support

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

2 Changes and New Features

Table 8 - Changes and New Features

Feature/Change		Description
RDMA User-space	rdma-core	Updated the RDMA package to version 19.0.
DPDK	Mellanox PMDs enabled by default	Mellanox PMDs (Poll Mode Driver) are open source upstream drivers, embedded within DPDK releases which are integrated with major Linux distribution releases. Mellanox PMDs enable advanced ConnectX NIC hardware offload capabilities freeing up the server CPU cores for application needs.
mlx5	General update	Aligned to Linux upstream kernel driver version 4.18
mlx4	General update	Aligned to Linux upstream kernel driver version 4.18

3 Known Issues

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

Table 9 - Known Issues

Internal Ref.	Description
1546747	<p>Description: Bandwidth degradations due to Intel's Page Table Isolation (PTI) CPU security fix.</p> <p>Workaround:</p> <ul style="list-style-type: none"> • Disable PTI in run time by writing 0 to <code>/sys/kernel/debug/x86/pti_enabled</code>. • Add "nopti" or "pti=off" to <code>grub.conf</code>. <p>Keywords: Performance</p>