

Ubuntu 19.04 Driver Release Notes

Ubuntu 19.04

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1 Overview

These are the release notes of Ubuntu 19.04 Driver Release Notes. This document provides instructions on drivers for Mellanox Technologies ConnectX® based adapter cards with Ubuntu 19.04 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 19.04 supports the following Mellanox network adapter cards firmware versions:

Table 2 - Supported HCAs Firmware Versions

HCA	Recommended Firmware Rev.
Connect-IB®	10.16.1200
ConnectX®-5	16.25.1020
Innova™ IPsec EN	14.25.1020
ConnectX®-4 Lx	14.25.1020
ConnectX®-4	12.25.1020
ConnectX®-3 Pro	2.42.5000

Table 2 - Supported HCAs Firmware Versions

HCA	Recommended Firmware Rev.
ConnectX®-3	2.42.5000
ConnectX®-2	2.9.1000

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 22.1
mstflint user-space	mstflint	Update mstflint package to version 4.11.0
mlx5	General update	Align to Linux upstream kernel driver version 5.0
mlx4	General update	Align to Linux upstream kernel driver version 5.0

3 Known Inbox-Related Issues

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

Table 9 - Known Issues

Internal Ref.	Description
1751408	<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>