



Red Hat Enterprise Linux (RHEL) 6.8 Driver Release Notes

RHEL 6.8

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Mellanox Technologies
350 Oakmead Parkway Suite 100
Sunnyvale, CA 94085
U.S.A.
www.mellanox.com
Tel: (408) 970-3400
Fax: (408) 970-3403

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Table of Contents

| | |
|---|----------|
| Table of Contents | 3 |
| List Of Tables | 4 |
| Chapter 1 Overview | 5 |
| 1.1 Supported HCAs Firmware Versions | 5 |
| 1.2 SR-IOV Support | 6 |
| 1.3 RoCE Support | 6 |
| 1.4 VXLAN Support | 6 |
| Chapter 2 Changes and New Features | 7 |
| Chapter 3 Known Issues | 8 |



List Of Tables

| | | |
|----------|--|---|
| Table 1: | Supported Uplinks to Servers | 5 |
| Table 2: | Supported HCAs Firmware Versions | 5 |
| Table 3: | SR-IOV Support. | 6 |
| Table 4: | RoCE Support | 6 |
| Table 5: | VXLAN Support. | 6 |
| Table 6: | Changes and New Features. | 7 |
| Table 7: | Known Issues | 8 |

1 Overview

These are the release notes of Red Hat Enterprise Linux (RHEL) 6.8 Driver Release Notes. This document provides instructions on drivers for Mellanox Technologies ConnectX® based adapter cards with Red Hat Enterprise Linux (RHEL) 6.8 Inbox Driver environment.

This version supports the following uplinks to servers:

Table 1 - Supported Uplinks to Servers

| Uplink/HCAs | Uplink Speed | Supported Driver |
|---------------------------------|---|---|
| ConnectX®-4 | <ul style="list-style-type: none"> 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) |
| 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

Red Hat Enterprise Linux (RHEL) 6.8 Driver Rev 1.0 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® | 10.14.2036 | N/A |
| ConnectX®-4 Lx | 14.14.2036 | N/A |
| ConnectX®-4 | 12.14.2036 | N/A |
| ConnectX®-3 Pro | 2.36.5000 | N/A |
| ConnectX®-3 | 2.36.5000 | 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 | Technical Preview ^a |
| mlx5_core (includes ETH functionality), mlx5_ib | No |

a. Technical Preview is not fully supported production feature.

1.3 RoCE Support

Table 4 - RoCE Support

| Driver | Support |
|-------------------|---------|
| mlx4 - RoCE v1 | Yes |
| mlx4 - RoCE v2 | No |
| mlx5 - RoCE v1/v2 | No |

1.4 VXLAN Support

Table 5 - VXLAN Support

| Driver | Support |
|----------------------|---------|
| mlx4 - VXLAN offload | Yes |
| mlx5 - VXLAN offload | No |

2 Changes and New Features

Table 6 - Changes and New Features

| Feature/Change | Description |
|------------------|--|
| MLX5 Ethernet | Added Ethernet support for ConnectX-4/ConnectX-4 Lx adapter cards. |
| MLX4 | Updated the MLX4 drivers to v4.1 upstream kernel. |
| IPoIB | Updated the IPoIB driver to v4.1 upstream kernel. |
| mstflint Package | Updated the mstflint package to the latest upstream version. |

3 Known Issues

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

Table 7 - Known Issues

| Internal Ref. | Description |
|---------------|--|
| 783472 | Description: mlx4_en network interfaces could be created as a renameX on RHEL6.8 SR-IOV guest. |
| | WA: N/A |
| | Keywords: mlx4_en network interfaces |
| 783435 | Description: The error message "mlx4_en 0000:05:00.0: Failed assigning an EQ to p6p1-16, falling back to legacy EQ's" will appear in the log messages after changing the number of channels of the mlx4_en interface. |
| | WA: N/A |
| | Keywords: mlx4_en network interfaces |
| 783298 | Description: Kdump is not supported on the mlx5 driver. |
| | WA: N/A |
| | Keywords: Kdump |
| 783294 | Description: Lower than expected TCP throughput over the ConnectX-4 IPoIB interface. |
| | WA: N/A |
| | Keywords: TCP throughput |
| 783293 | Description: The mlx4 driver is not loaded on SR-IOV Ubuntu 16.04 guest when it is installed on RHEL 6.8 hypervisor. |
| | WA: N/A |
| | Keywords: mlx4 driver load |
| 751674 | Description: In certain scenarios invalid MTU < 68 can be configured for MLX5 Ethernet interface. |
| | WA: N/A |
| | Keywords: MTU, MLX5 Ethernet interface |
| 751532 | Description: Lower than expected TCP throughput over ConnectX-4 100Gb Ethernet. |
| | WA: N/A |
| | Keywords: TCP throughput, ConnectX-4 100Gb Ethernet |