SUSE Linux Enterprise Server (SLES) 15 SP3 Inbox Driver Release Notes

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Chapter 1. Overview

These are the release notes SUSE Linux Enterprise Server (SLES) 15 SP3 Inbox Driver. This document provides instructions on drivers for CONNECTX®-based adapter cards with SUSE Linux Enterprise Server (SLES) 15 SP3 Inbox Driver environment.

This version supports the following uplinks to servers.

Table 1: Supported Uplinks to Servers

HCAs	Uplink Speed	Supported Driver
BlueField®[a]	• Ethernet: 1GbE, 10GbE, 25GbE,40GbE, 50GbE, and 100GbE	mlx5_core (includes the ETHfunctionality as well)
BlueField-2[b]	• Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE, 100GbE, 200 GbE	mlx5_core (includes the ETHfunctionality as well)
ConnectX-6 Lx	• Ethernet: 1GbE, 10GbE, 25GbE,50GbE	mlx5_core (includes the ETHfunctionality as well)
ConnectX-6 Dx	• Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE, 100GbE, 200 GbE	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX-6	• InfiniBand: SDR, DDR, QDR, FDR,EDR, HDR100, HDR • Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE, 100GbE, 200 GbE	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX-5	• InfiniBand: SDR, QDR, FDR, FDR10,EDR • Ethernet: 1GbE, 10GbE, 25GbE,40GbE, 50GbE, 56GbE[c], and 100GbE	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX-4	• InfiniBand: SDR, QDR, FDR, FDR10,EDR • Ethernet: 1GbE, 10GbE, 25GbE,40GbE, 50GbE, 56GbE[c], and 100GbE	mlx5_core (includes the ETH functionality as well), mlx5_ib
ConnectX-4 Lx	• Ethernet: 1GbE, 10GbE, 25GbE,40GbE, and 50GbE	mlx5_core (includes the ETHfunctionality as well)
Connect-IB®	• InfiniBand: SDR, QDR, FDR10, FDR	mlx5_core, mlx5_ib
ConnectX-3/ ConnectX-3 Pro	• InfiniBand: SDR, QDR, FDR10, FDR • Ethernet: 10GbE, 40GbE and56GbE[c]	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, On DPU only as tech preview see also:

https://www.suse.com/releasenotes/x86_64/SUSE-SLES/15-SP3/index.html section 2.8.1.2

c. 56GbE is an NVIDIA propriety link speed and can be achieved while connecting an NVIDIA adapter cards to NVIDIA SX10XX switch series or connecting an NVIDIA adapter card to another NVIDIA adapter card

1.1 Supported HCAs Firmware Versions

SLES15-SP3 driver supports the following Mellanox network adapter cards firmwareversions.

Table 2: Supported HCAs Firmware Versions

HCA	Recommended Firmware Version
Connect-IB	10.16.1002
BlueField	18.29.2002
BlueField-2	24.29.2002
ConnectX-6 Lx	26.29.2002
ConnectX-6 Dx	22.29.2002
ConnectX-6	20.29.2002
ConnectX-5	16.29.2002
ConnectX-4 Lx	14.29.2002
ConnectX-4	12.28.2006
ConnectX-3/ ConnectX-3Pro	2.42.5000

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 a 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	NVIDIA PMD is enabled by default.
mlx5	NVIDIA PMD is enabled by default.

Chapter 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 31.0-2.14
mstflint user-space	mstflint	Updated mstflint package to version 4.15.0-3.3.1
General update	mlx5	Aligned the mlx5 driver to the Linux upstream kernel driver version 5.9
General update	mlx4	Aligned the mlx4 driver to the Linux upstream kernel driver version 5.9

Chapter 3. Known Inbox-Related Issues

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

Internal Ref.	Description
1751408	**Description**: BW degradations due to Intel's Page Table Isolation (PTI) CPU security fix.
	Workaround: • Disable the PTI at run time by writing `0` to `/sys/kernel/debug/x86/pti_enabled`. • adding `"nopti"` or `"pti=off"` to `grub.conf`
	Keywords: Performance

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