NVIDIA MLNX_OFED Documentation v24.01-0.3.3.1

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Overview

NVIDIA® OpenFabrics Enterprise Distribution for Linux (MLNX_OFED) is a single Virtual Protocol Interconnect (VPI) software stack that operates across all NVIDIA network adapter solutions.

NVIDIA OFED (MLNX_OFED) is an NVIDIA-tested and packaged version of OFED and supports two interconnect types using the same RDMA (remote DMA) and kernel bypass APIs called OFED verbs—InfiniBand and Ethernet. Up to 400Gb/s InfiniBand and RoCE (based on the RDMA over Converged Ethernet standard) over 10/25/40/50/100/200/400Gb/s are supported with OFED to enable OEMs and System Integrators to meet the needs of end users in the said markets.

Further information on this product can be found in the following MLNX_OFED documents:

- Release Notes

- User Manual

Software Download

Please visit nvidia.com/en-us/networking Products Software InfiniBand Drivers NVIDIA MLNX_OFED

Document Revision History

For the list of changes made to the User Manual, refer to User Manual Revision History.

For the list of changes made to the Release Notes, refer to Release Notes History.

Release Notes

Release Notes Update History

Version	Date	Description
24.01-0.3.3.1	February 08, 2024	Initial release of this document version. This release introduces Bug Fixes in This Version.

> ⚠️ **Warning**
>
> As of MLNX_OFED version v5.1-0.6.6.0, the following are no longer supported.
>
> - ConnectX-3
>
> - ConnectX-3 Pro
>
> - Connect-IB
>
> - RDMA experimental verbs libraries (mlnx_lib)
>
> To utilize the above devices/libraries, refer to version 4.9 long-term support (LTS).

Release Notes contain the following sections:

- General Support

- Changes and New Features

- Bug Fixes in This Version

- Known Issues

Supported NIC Speeds

The Linux Driver operates across all NVIDIA network adapter solutions supporting the following uplinks to servers:

Uplink/Adapter Card	Driver Name	Uplink Speed
BlueField-2	mlx5	• InfiniBand: SDR, FDR, EDR, HDR • Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE[2], 100GbE[2]
BlueField		• InfiniBand: SDR, QDR, FDR, FDR10, EDR • Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE, 100GbE
ConnectX-7		• InfiniBand: EDR, HDR100, HDR, NDR200, NDR • Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE[2], 100GbE[2], 200GbE [3], 400GbE
ConnectX-6 Lx		• Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE[2]
ConnectX-6 Dx		• Ethernet: 10GbE, 25GbE, 40GbE, 50GbE[2], 100GbE[2], 200GbE[2]
ConnectX-6		• InfiniBand: SDR, FDR, EDR, HDR • Ethernet: 10GbE, 25GbE, 40GbE, 50GbE[2], 100GbE[2], 200GbE[2]
ConnectX-5/ConnectX-5 Ex		• InfiniBand: SDR, QDR, FDR, FDR10, EDR • Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE, 100GbE
ConnectX-4 Lx		• Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE
ConnectX-4		• InfiniBand: SDR, QDR, FDR, FDR10, EDR

Uplink/Adapter Card	Driver Name	Uplink Speed
		- Ethernet: 1GbE, 10GbE, 25GbE, 40GbE, 50GbE, 56GbE[1], 100GbE

1. 56GbE is an NVIDIA proprietary link speed and can be achieved while connecting an NVIDIA adapter card to NVIDIA SX10XX switch series or when connecting an NVIDIA adapter card to another NVIDIA adapter card.

2. Speed that supports both NRZ and PAM4 modes in Force mode and Auto-Negotiation mode.

3. Speed that supports PAM4 mode only.

Package Contents

Package	Revision	Licenses
clusterkit	1.12.449-1.2401033	BSD
dpcp	1.1.46-1.2401033	BSD-3-Clause
hcoll	4.8.3227-1.2401033	Proprietary
ibarr	0.1.3-1.2401033	(GPL-2.0 WITH Linux-syscall-note) OR BSD-2-Clause
ibdump	6.0.0-1.2401033	BSD2+GPL2
ibsim	0.12-1.2401033	GPLv2 or BSD
ibutils2	2.1.1-0.1.MLNX20240128.g605c7811.2401033	Mellanox Confidential and Proprietary
iser	24.01-OFED.24.01.0.3.3.1	GPLv2
isert	24.01-OFED.24.01.0.3.3.1	GPLv2
kernel-mft	4.27.0-83	Dual BSD/GPL
knem	1.1.4.90mlnx3-OFED.23.10.0.2.1.1	BSD and GPLv2

Package	Revision	Licenses
libvma	9.8.51-1	GPLv2 or BSD
libxlio	3.21.2-1	GPLv2 or BSD
mlnx-en	24.01-0.3.3.0.g480e4c3	GPLv2
mlnx-ethtool	6.4-1.2401033	GPL
mlnx-iproute2	6.4.0-1.2401033	GPL
mlnx-nfsrdma	24.01-OFED.24.01.0.3.3.1	GPLv2
mlnx-nvme	24.01-OFED.24.01.0.3.3.1	GPLv2
mlnx-ofa_kernel	24.01-OFED.24.01.0.3.3.1	GPLv2
mlnx-tools	24.01-0.2401033	GPLv2 or BSD
mlx-steering-dump	1.0.0-0.2401033	GPLv2
mpitests	3.2.22-8f11314.2401033	BSD
mstflint	4.16.1-2.2401033	GPL/BSD
multiperf	3.0-3.0.2401033	BSD 3-Clause, GPL v2 or later
ofed-docs	24.01-OFED.24.01.0.3.3	GPL/BSD
ofed-scripts	24.01-OFED.24.01.0.3.3	GPL/BSD
openmpi	4.1.7a1-1.2401033	BSD
opensm	5.18.0.MLNX20240128.3f266a48-0.1.2401033	GPLv2 or BSD
openvswitch	2.17.8-1.2401033	ASL 2.0 and LGPLv2+ and SISSL
perftest	24.01.0-0.38.gd185c9b.2401033	BSD 3-Clause, GPL v2 or later
rdma-core	2307mlnx47-1.2401033	GPLv2 or BSD
rshim	2.0.19-0.gbf7f1f2	GPLv2
sharp	3.6.0.MLNX20240128.e669b4e8-1.2401033	Proprietary
sockperf	3.10-0.git5ebd327da983.2401033	BSD

Package	Revision	Licenses
srp	24.01-OFED.24.01.0.3.3.1	GPLv2
ucx	1.16.0-1.2401033	BSD
xpmem	2.7.3-1.2401033	GPLv2 and LGPLv2.1
xpmem-lib	2.7-0.2310055	LGPLv2.1

User Manual

- [Introduction](#)

- [Installation](#)

- [Features Overview and Configuration](#)

- [Programming](#)

- [InfiniBand Fabric Utilities](#)

- [Troubleshooting](#)

- [Common Abbreviations and Related Documents](#)

Documentation History

- [Release Notes History](#)

- [User Manual Revision History](#)

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Product	Version	Legal Notices and 3rd Party Licenses
MLNX_OFED	24.01-0.3.3.1	• License • 3rd Part Notice
Firmware	xx.40.1000	• HCA Firmware EULA • 3rd Party Notice
MFT	4.27.0	• License • 3rd Party Notice
Clusterkit	2.18	• License • 3rd Party Notice
DPCP	1.1.46	• License • 3rd Party Notice
VMA	9.8.51	• License • 3rd Party Notice
XLIO	3.21.2	• License • 3rd Party Notice
HCOLL	4.8	• License • 3rd Party Notice
SHARP	3.5.0	• License

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		• [3rd Party Notice](#)
ibutils2	2.16	• [License](#) • [3rd Party Notice](#)
OpenSM	5.18.0	• [3rd Party Unify Notice](#) • [3rd Party Notice](#)
mpitests	3.2.21	• [License](#) • [3rd Party Notice](#)