



## General Support

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## Supported Operating Systems

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS-Kernel SR-IOV	ASAP <sup>2</sup> OVS-DPD K SR-IOV	UCX - CUDA Version
Alma 8.5	x86_64	4.18.0-348.12.2.EL8_5.X86_64	Community	✗	✗	✗
Anolis OS 8.4	AArch64	4.18.0-348.2.1.AN8_4.AARCH64	Community	✗	✗	✗
	x86_64	4.18.0-305.AN8.X86_64	Community	✗	✗	✗
Anolis OS 8.6	AArch64	5.10.134+	Primary	✗	✗	✗
	x86_64	5.10.134+	Primary	✗	✗	✗
BCLINUX21.10 SP2	AArch64	4.19.90-2107.6.0.0098.oe1.bclinux.aarch64	Primary	✗	✗	✗
	x86_64	4.19.90-2107.6.0.0100.oe1.bclinux.x86_64	Primary	✗	✗	✗
CentOS Stream v8	AArch64	4.18.0-539.el8.aarch64	Community	✗	✗	✗
	x86_64	4.18.0-539.el8.x86_64	Community	✗	✗	✗
CentOS Stream v9	AArch64	5.14.0-419.el9.x86_64	Community	✗	✗	✗
	x86_64	5.14.0-419.el9.aarch64	Community	✗	✗	✗

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CUDA Version
CTYUNOS2.0	AArch64	4.19.90-2102.2.0.0062.ctl2.aarch64	Primary	✘	✘	✘
	x86_64	4.19.90-2102.2.0.0062.ctl2.x86_64	Primary	✘	✘	✘
CTYUNOS23.01	AArch64	5.10.0-136.12.0.86.ctl3.aarch64	Primary	✘	✘	✘
	x86_64	5.10.0-136.12.0.86.ctl3.x86_64	Primary	✘	✘	✘
Debian10.8	AArch64	4.19.0-14-arm64	Primary	✘	✘	✘
	x86_64	4.19.0-14-amd64	Primary	✘	✘	✘
Debian10.9	x86_64	4.19.0-16-amd64	Primary	✔	✘	✘
Debian10.13	AArch64	4.19.0-21-arm64	Primary	✔	✘	✘
	x86_64	4.19.0-21-amd64	Primary	✔	✘	✘
Debian12	AArch64	6.1.0-10-arm64	Primary	✔	✘	✘
	x86_64	6.1.0-10-amd64	Primary	✔	✘	✘
Debian11.3	AArch64	5.10.0-13-arm64	Primary	✔	✘	✘
	x86_64	5.10.0-13-amd64	Primary	✔	✘	✘
Debian9.13	AArch64	4.9.0-13-arm64	Primary	✘	✘	✘
	x86_64	4.9.0-13-amd64	Primary	✘	✘	✘
EulerOS2.0sp9	AArch64	4.19.90-vhulk2006.2.0.h171.eulerosv2r9.aarch64	Community	✘	✘	✘
	x86_64	4.18.0-147.5.1.0.h269.eulerosv2r9.	Community	✘	✘	✘

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CUDA Version
		x86_64				
EulerOS2.0sp10	AArch64	4.19.90- vhulk2110.1.0.h860.euleros v2r10.aarch64	Primary	✘	✘	✘
	x86_64	4.18.0- 147.5.2.4.h694.eulerosv2r10 .x86_64	Primary	✘	✘	✘
EulerOS2.0sp11	AArch64	5.10.0- 60.18.0.50.h323.eulerosv2r1 1.aarch64	Primary	✘	✘	✘
	x86_64	5.10.0- 60.18.0.50.h323.eulerosv2r1 1.x86_64	Primary	✘	✘	✘
EulerOS2.0sp12	AArch64	5.10.0- 136.12.0.86.h1032.eulerosv 2r12.aarch64	Primary	✘	✘	✘
	x86_64	5.10.0- 136.12.0.86.h1032.eulerosv 2r12.x86_64	Primary	✘	✘	✘
KYLIN10SP2	AArch64	4.19.90- 24.4.v2101.ky10.aarch64	Primary	✘	✘	✘
	x86_64	4.19.90- 24.4.v2101.ky10.x86_64	Primary	✔	✘	✘
KYLIN10SP3	AArch64	4.19.90- 52.15.v2207.ky10.aarch64	Primary	✔	✘	✘
	x86_64	4.19.90- 52.15.v2207.ky10.x86_64	Primary	✔	✘	✘

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CU DA Vers ion
<b>Mariner 2.0</b>	x86_64	5.15.118.1-1.cm2.x86_64	Community	✘	✘	✘
Oracle Linux 7.9	x86_64	5.4.17- 2011.6.2.el7uek.x86_64	Primary	✘	✘	✘
Oracle Linux 8.4	x86_64	5.4.17- 2102.201.3.el8uek.x86_64	Primary	✘	✘	✘
Oracle Linux 8.6	x86_64	5.4.17- 2136.307.3.1.el8uek.x86_64	Primary	✘	✘	✘
Oracle Linux 8.7	x86_64	5.15.0- 3.60.5.1.el8uek.x86_64	Primary	✘	✘	✘
<b>Oracle Linux 8.8</b>	x86_64	5.15.0- 101.103.2.1.el8uek.x86_64	Primary	✘	✘	✘
Oracle Linux 9.0	x86_64	5.15.0- 0.30.19.el9uek.x86_64	Primary	✘	✘	✘
Oracle Linux 9.1	x86_64	5.15.0- 3.60.5.1.el9uek.x86_64	Primary	✘	✘	✘
<b>Oracle Linux 9.2</b>	x86_64	5.15.0- 101.103.2.1.el9uek.x86_64	Primary	✘	✘	✘
OpenSUSE 15.3	AArch64	-	Community	✘	✘	✘
	x86_64	5.3.18-150300.59.43- DEFAULT	Community	✘	✘	✘
OPENEULER20.03SP1	AArch64	4.19.90- 2012.4.0.0053.OE1.AARCH64	Community	✘	✘	✘

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CUDA Version
	x86_64	4.19.90- 2110.8.0.0119.OE1.X86_64	Community	✘	✘	✘
OPENEULER20.03SP3	AArch64	4.19.90- 2112.8.0.0131.oe1.aarch64	Primary	✘	✘	✘
	x86_64	4.19.90- 2112.8.0.0131.oe1.x86_64	Primary	✘	✘	✘
OPENEULER22.03	AArch64	5.10.0- 60.18.0.50.oe2203.aarch64	Primary	✘	✘	✘
	x86_64	5.10.0- 60.18.0.50.oe2203.x86_64	Primary	✘	✘	✘
Photon OS 3.0	x86_64	4.19.225-3.ph3	Community	✘	✘	✘
RHEL/CentOS7.2	x86_64	3.10.0-327.el7.x86_64	Primary	✘	✘	12.2
<b>RHEL/CentOS 7.4</b>	x86_64	3.10.0-693.el7.x86_64	Primary	✔	✔	12.2
<b>RHEL/CentOS 7.6</b>	x86_64	3.10.0-957.el7.x86_64	Primary	✔	✔	12.2
RHEL/ CentOS7.6alter nate	aarch64	4.14.0-115.el7a.aarch64	Community	✔	✔	✘
RHEL/CentOS7.7	x86_64	3.10.0-1062.el7.x86_64	Primary	✔	✔	12.2
<b>RHEL/CentOS 7.8</b>	x86_64	3.10.0-1127.el7.x86_64	Primary	✔	✔	12.2

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CUDA Version
<b>RHEL/CentOS 7.9</b>	x86_64	3.10.0-1160.el7.x86_64	Primary	✓	✓	12.2
RHEL/CentOS8.0	AArch64	4.18.0-80.el8.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0-80.el8.x86_64	Primary	✓	✓	12.2
RHEL/CentOS8.1	AArch64	4.18.0-147.el8.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0-147.el8.x86_64	Primary	✓	✓	12.2
RHEL/CentOS8.2	AArch64	4.18.0-193.el8.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0-193.el8.x86_64	Primary	✓	✓	12.2
RHEL/CentOS8.3	AArch64	4.18.0-240.el8.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0-240.el8.x86_64	Primary	✓	✓	12.2
RHEL/CentOS8.4	AArch64	4.18.0-305.el8.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0-305.el8.x86_64	Primary	✓	✓	12.2
RHEL/CentOS/ Rocky8.5	AArch64	4.18.0-348.el8.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0-348.el8.x86_64	Primary	✓	✓	12.2
RHEL/Rocky8.6	AArch64	AArch644.18.0- 372.41.1.el8_6.aarch64	Primary	✓	✓	12.2
	x86_64	4.18.0- 372.41.1.el8_6.x86_64	Primary	✓	✓	12.2
RHEL/Rocky8.7	AArch64	4.18.0- 425.14.1.el8_7.aarch64	Primary	✓	✗	12.2
	x86_64	4.18.0- 425.14.1.el8_7.x86_64	Primary	✓	✗	12.2



Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CUDA Version
RHEL/Rocky8.8	AArch64	4.18.0-477.10.1.el8_8.aarch64	Primary	✓	✗	12.2
	x86_64	4.18.0-477.10.1.el8_8.x86_64	Primary	✓	✗	12.2
RHEL/Rocky8.9	AArch64	4.18.0-513.5.1.el8_9.aarch64	Primary	✓	✗	12.2
	x86_64	4.18.0-513.5.1.el8_9.x86_64	Primary	✓	✗	12.2
RHEL/Rocky9.0	AArch64	4.18.0-513.5.1.el8_9.aarch64	Primary	✓	✗	12.2
	x86_64	4.18.0-513.5.1.el8_9.x86_64	Primary	✓	✗	12.2
RHEL/Rocky9.1	AArch64	5.14.0-70.46.1.el9_0.aarch64	Primary	✓	✗	12.2
	x86_64	5.14.0-70.46.1.el9_0.x86_64	Primary	✓	✗	12.2
RHEL/Rocky9.2	AArch64	5.14.0-162.19.1.el9_1.aarch64	Primary	✓	✗	12.2
	x86_64	5.14.0-162.19.1.el9_1.x86_64	Primary	✓	✗	12.2
RHEL/Rocky9.3	AArch64	5.14.0-362.8.1.el9_3.aarch64	Primary	✓	✗	12.2
	x86_64	5.14.0-362.8.1.el9_3.x86_64	Primary	✓	✗	12.2
SLES12.1SP2	AArch64	5.14.0-284.11.1.el9_2.aarch64	Community	✗	✗	✗
<b>SLES12SP3</b>	x86_64	5.14.0-284.11.1.el9_2.x86_64	Community	✗	✗	✗
SLES12SP4	AArch64	4.12.14-94.41-default	Community	✓	✗	✗
	x86_64	4.12.14-94.41-default	Community	✓	✗	✗

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CU DA Vers ion
SLES12SP5	AArch64	4.12.14-120-default	Primary	✓	✗	✗
	x86_64	4.12.14-120-default	Primary	✓	✗	✗
SLES15SP2	AArch64	5.3.18-22-default	Primary	✓	✓	✗
	x86_64	5.3.18-22-default	Primary	✓	✓	✗
SLES15SP3	AArch64	5.3.18-57-default	Primary	✓	✗	✗
	x86_64	5.3.18-57-default	Primary	✓	✗	✗
SLES15SP4	AArch64	5.14.21-150400.22-default	Primary	✓	✗	✗
	x86_64	5.14.21-150400.22-default	Primary	✓	✗	✗
SLES15SP5	AArch64	5.14.21-150500.53-default	Primary	✓	✗	✗
	x86_64	5.14.21-150500.53-default	Primary	✓	✗	✗
<b>Ubuntu16.04</b>	x86_64	4.4.0-21-generic	Community	✗	✗	✗
Ubuntu18.04	AArch64	4.15.0-20-generic	Primary	✓	✓	11.6
	x86_64	4.15.0-20-generic	Primary	✓	✓	11.6
Ubuntu20.04	AArch64	5.4.0-26-generic	Primary	✓	✓	12.2
	x86_64	5.4.0-26-generic	Primary	✓	✓	12.2
Ubuntu22.04	AArch64	5.15.0-25-generic	Primary	✓	✗	12.2
	x86_64	5.15.0-25-generic	Primary	✓	✗	12.2
Ubuntu23.04	x86_64	6.2.0-20-generic	Primary	✓	✗	✗
<b>Ubuntu23.10</b>	x86_64	6.5.0-5-generic	Primary	✓	✗	✗
UOS20.1020	AArch64	4.19.90- 2109.1.0.0108.up2.uel20.aar	Primary	✗	✗	✗

Operating System	Architecture	Default Kernel Version (Primary)/ Tested with Kernel Version (Community)	OS Support Model	ASAP <sup>2</sup> OVS- Kernel SR-IOV	ASA p <sup>2</sup> OVS - DPDK SR- IOV	UCX - CUDA Version
		ch64				
	x86_64	4.19.90- 2109.1.0.0108.up2.uel20.x86_64	Primary	✘	✘	✘
UOS20.1040	AArch64	4.19.0-arm64-server	Primary	✘	✘	✘
	x86_64	4.19.0-server-amd64	Primary	✘	✘	✘
Citrix XenServer Host7.1	x86_64	4.4.0+2	Primary	✘	✘	✘
Citrix XenServer Host8.2	x86_64	4.19.0+1	Primary	✘	✘	✘
Kernel 6.6	AArch64	6.6	Primary	✔	✘	✘
	x86_64	6.6	Primary	✔	✘	✘

**Note**

32 bit platforms are no longer supported in MLNX\_EN.

## Upgrade/Downgrade Matrix

This section reflects which versions were tested and verified for upgrade and downgrade.

Target Version	Versions Verified for Upgrade/Downgrade	Release Type	Release Date
23.10-2.1.3.1 GA	5.8-4.1.5.0	GA-LTS-Update	December 2023
	23.10-1.1.9.0 - MLNX_OFED and DOCA-OFED Profile	GA-LTS-Update	November 2023
	23.10-0.5.5.0 - MLNX_OFED and DOCA-OFED Profile	GA-LTS-U0	October 2023

## MLNX\_OFED Version Interoperability

This section reflects which versions were tested and verified for multi-version environments.

Target Version	Verified OFED Version Interoperability	Release Type	Release Date
23.10-2.1.3.1 GA	5.8-4.1.5.0	GA-LTS-Update	December 2023
	23.10-1.1.9.0	GA-LTS-Update	November 2023

## Supported NIC Firmware Versions

### Note

As of version 5.1, ConnectX-3, ConnectX-3 Pro or Connect-IB adapter cards are no longer supported. To work with a version that supports these adapter cards, please refer to version 4.9 long-term support (LTS).

This current version is tested with the following NVIDIA adapter card firmware versions:

Adapter Card	Bundled Firmware Version
BlueField®-2	24.39.3004
ConnectX-7	28.39.3004
ConnectX-6 Lx	26.39.3004
ConnectX-6 Dx	22.39.3004
ConnectX-6	20.39.3004
ConnectX-5/ConnectX-5 Ex	16.35.3006
BlueField	18.33.1048
ConnectX-4	12.28.2006
ConnectX-4 Lx	14.32.1010

For the official firmware versions, please see [https://www.nvidia.com/en-us/networking/Support Support Firmware Download](https://www.nvidia.com/en-us/networking/Support%20Support%20Firmware%20Download).

## Supported Non-Linux Virtual Machines

The following are the supported non-Linux Virtual Machines in this current version:

NIC	Windows Virtual Machine Type	Minimal WinOF Version	Protocol
ConnectX-4	Windows 2012 R2 DC	MLNX_WinOF2 2.50	IB, IPoIB, ETH
ConnectX-4 Lx	Windows 2016 DC	MLNX_WinOF2 2.50	IB, IPoIB, ETH
ConnectX-5 family	All Windows server editions	MLNX_WinOF2 2.50	IPoIB, ETH
ConnectX-6 family		MLNX_WinOF2 2.50	IPoIB, ETH

## Support in ASAP2—Accelerated Switch and Packet Processing®

ASAP <sup>2</sup> Requirements	<ul style="list-style-type: none"> <li>• iproute &gt;= 4.12 (for tc support)</li> </ul>
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	<ul style="list-style-type: none"> <li>• Upstream Open vSwitch &gt;= 2.8 for CentOS 7.2 NVIDIA openvswitch</li> </ul>
ASAP2-Supported Adapter Cards	<ul style="list-style-type: none"> <li>• ConnectX-5</li> <li>• ConnectX-6 Dx</li> <li>• ConnectX-6 Lx</li> <li>• ConnectX-7</li> </ul>

## Unsupported Functionalities/Features/NICs

The following are the unsupported functionalities/features/NICs in the current version:

- ConnectX-2 adapter card
- ConnectX-3 adapter card
- ConnectX-3 Pro adapter card
- Connect-IB adapter card
- Soft-RoCE
- RDMA experimental verbs library (mInx\_lib)
- CIFS (Common Internet File System) module installation

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