



Connect. Accelerate. Outperform.™

MLNX-OFED-ESX Driver for VMware ESXi 5.5 & 6.0 Release Notes

Rev 1.9.10.5

NOTE:

THIS HARDWARE, SOFTWARE OR TEST SUITE PRODUCT (“PRODUCT(S)”) AND ITS RELATED DOCUMENTATION ARE PROVIDED BY MELLANOX TECHNOLOGIES “AS-IS” WITH ALL FAULTS OF ANY KIND AND SOLELY FOR THE PURPOSE OF AIDING THE CUSTOMER IN TESTING APPLICATIONS THAT USE THE PRODUCTS IN DESIGNATED SOLUTIONS. THE CUSTOMER’S MANUFACTURING TEST ENVIRONMENT HAS NOT MET THE STANDARDS SET BY MELLANOX TECHNOLOGIES TO FULLY QUALIFY THE PRODUCT(S) AND/OR THE SYSTEM USING IT. THEREFORE, MELLANOX TECHNOLOGIES CANNOT AND DOES NOT GUARANTEE OR WARRANT THAT THE PRODUCTS WILL OPERATE WITH THE HIGHEST QUALITY. ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT ARE DISCLAIMED. IN NO EVENT SHALL MELLANOX BE LIABLE TO CUSTOMER OR ANY THIRD PARTIES FOR ANY DIRECT, INDIRECT, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING, BUT NOT LIMITED TO, PAYMENT FOR PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY FROM THE USE OF THE PRODUCT(S) AND RELATED DOCUMENTATION EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.



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

© Copyright 2016. Mellanox Technologies. All Rights Reserved.

Mellanox®, Mellanox logo, BridgeX®, CloudX logo, Connect-IB®, ConnectX®, CoolBox®, CORE-Direct®, GPUDirect®, InfiniHost®, InfiniScale®, Kotura®, Kotura logo, Mellanox Federal Systems®, Mellanox Open Ethernet®, Mellanox ScalableHPC®, Mellanox Connect Accelerate Outperform logo, Mellanox Virtual Modular Switch®, MetroDX®, MetroX®, MLNX-OS®, Open Ethernet logo, PhyX®, SwitchX®, TestX®, The Generation of Open Ethernet logo, UFM®, Virtual Protocol Interconnect®, Voltaire® and Voltaire logo are registered trademarks of Mellanox Technologies, Ltd.

Accelio™, CyPU™, FPGADirect™, HPC-X™, InfiniBridge™, LinkX™, Mellanox Care™, Mellanox CloudX™, Mellanox Multi-Host™, Mellanox NEO™, Mellanox PeerDirect™, Mellanox Socket Direct™, Mellanox Spectrum™, NVMeDirect™, StPU™, Spectrum logo, Switch-IB™, Unbreakable-Link™ are trademarks of Mellanox Technologies, Ltd.

All other trademarks are property of their respective owners.

Table of Contents

Table of Contents	3
List Of Tables	4
Chapter 1 Overview	5
1.1 Contents of Mellanox OFED ESXi Package	5
1.2 Supported HCAs Firmware Versions	5
Chapter 2 Changes and New Features in Rev 1.9.10.5	6
2.1 Unsupported Functionality/Features	6
Chapter 3 Known Issues	7
Chapter 4 Bug Fixes History	8
Chapter 5 Change Log History	9

List Of Tables

Table 1:	Supported HCAs Firmware Versions	5
Table 2:	Changes and New Features in Rev 1.9.10.5	6
Table 3:	Known Issues.....	7
Table 4:	Fixed Bugs List	8
Table 5:	Change Log History.....	9

1 Overview

These are the Release Notes of MLNX-OFED-ESX Driver for ESXi 5.5 and 6.0. This document provides instructions on drivers for Mellanox Technologies ConnectX® based adapter cards with VMware ESXi Server environment.

1.1 Contents of Mellanox OFED ESXi Package

The MLNX-OFED-ESX driver package is distributed as an offline bundle (.zip file) and contains:

- ESXi 6.0:
 - MLNX-OFED-ESX-1.9.10.5-10EM-600.0.0.2494585.zip - Hypervisor bundle For ESXi 6.0
- ESXi 5.5:
 - MLNX-OFED-ESX-1.9.10.5-10EM-550.0.0.1331820.zip - Hypervisor bundle For ESXi 5.5

Each bundle contains the following kernel modules:

- mlx4_en (ConnectX family Ethernet driver)
- mlx4_core (ConnectX family low-level PCI driver)
- ib-addr (IB Address Translation)
- ib-cm (InfiniBand Connection Manager support)
- ib-core (Core kernel InfiniBand API)
- ib-mad (Kernel IB MAD API)
- ib-sa (InfiniBand subnet administration query support)
- ib-umad (InfiniBand userspace MAD packet access)
- mlx4-ib (Mellanox Technologies ConnectX core driver)
- rdma-cm (DMA Connection Manager support)
- ib-iser (Mellanox Technologies iSER driver)

1.2 Supported HCAs Firmware Versions

MLNX-OFED-ESX Rev 1.9.10.5 supports the following Mellanox Ethernet HCA:

Table 1 - Supported HCAs Firmware Versions

HCA	Recommended Firmware Rev.
ConnectX-3 Pro	2.35.5100
ConnectX-3	2.35.5100

Please note that older firmware versions were not tested with this release.

For the latest firmware versions, visit:

- http://www.mellanox.com/page/vmware_matrix
- or
- <http://www.mellanox.com/supportdownloader/>

2 Changes and New Features in Rev 1.9.10.5

Table 2 - Changes and New Features in Rev 1.9.10.5

Category	Description
OS	Added support for ESXi 6.0
RoCE over VLAN	Enabled RoCE traffic when VLAN is configured on the portgroup.
Storage	<ul style="list-style-type: none">iSER:<ul style="list-style-type: none">Implemented LUN reset error handlingImplemented abort error handling
Bug Fixes	<ul style="list-style-type: none">See “Bug Fixes History” on page 8.

2.1 Unsupported Functionality/Features

The following are the unsupported functionalities/features:

- ConnectX®-2 adapter cards

3 Known Issues

The following is a list of general limitations and known issues of the various components of this MLNX-OFED-ESX release.

Table 3 - Known Issues

Index	Issue	Description	Workaround
1.	Driver update	Updating the driver from the last certified driver is not supported.	Uninstall any previous drive prior to installing the new driver manually.
2.	vSwitch	Frequent vSwitch MTU changes or link/unlink operations during background heavy stress traffic might cause traffic loss.	-
3.	WoL	WoL is not supported in 40Gb mode.	-
4.	Ring Size	Frequent changes of ring size during background heavy stress traffic is not supported.	-
5.	RoCE	RoCE does not work against MLNX_OFED_LINUX-2.1-x.x.x version.	-
6.	iSER	Manually unloading and reloading mlx4 low-level drivers may stop iSER from working.	-
7.		ESXi stops trying to reconnect a target that is lost for a long period of time. For further information, please refer to: http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2004684	-
8.		Rescanning vmhbas while creating and deleting targets may freeze the scan.	-
9.		On rare occasions, port fail-over during stress traffic may cause a PSOD event.	-

4 Bug Fixes History

Table 4 lists the bugs fixed in this release.

Table 4 - Fixed Bugs List

#	Issue	Description	Discovered in Release	Fixed in Release
1.	iSER	Fixed a PSOD during IO stress	1.9.10.0	1.9.10.5
2.		Fixed queue command failures during IO stress	1.9.10.0	1.9.10.5
3.		Fixed a stress R/W pattern on an RDM device formatted with FileSystem which caused the device to abort and reconnect afterwards.	1.9.10.0	1.9.10.5
4.		Enabled TX CQ draining before RX CQ, to avoid disconnection hanging	1.9.10.0	1.9.10.5
5.		Fixed a PSOD event during an error flow.	1.9.10.0	1.9.10.5
6.		Removed max sessions transport limit.	1.9.10.0	1.9.10.5
7.	High Memory	Enabled module heap to expand into high memory	1.9.10.0	1.9.10.5

5 Change Log History

Table 5 - Change Log History

Release	Category	Description
1.9.10.0	Hardware Performance	<ul style="list-style-type: none"> • 1G • 10G • 40G (Only for ESXi5.5Ux)
	Hardware Offload	<ul style="list-style-type: none"> • Large Send Offload (TCP Segmentation Offload) • WoL (only on supported hardware) • RSS Queues • VLAN Tx/Rx acceleration (HW VLAN stripping/insertion) • HW Tx/Rx checksum offload
	Hardware Capabilities	<ul style="list-style-type: none"> • Multiple Tx/Rx rings • NetQueue support • Fixed Pass-Through • Single/Dual port • MSI-X/Int-X • Auto moderation • RoCE • Network Controller Sideband Interface (NC-SI)
	Ethernet Network	<ul style="list-style-type: none"> • Ethtool support
	Accelerations	<ul style="list-style-type: none"> • NAPI support
	Debug	<ul style="list-style-type: none"> • Net dump (Only for ESXi5.5Ux)