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Mellanox ConnectX-4 NATIVE ESX Driver for VMware vSphere 5.5/6.0 Release Notes

Rev 4.15.4.1100/4.5.4.1100

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Release Update History

Table 1 - Release Update History

Release	Date	Description
Rev 4.15.4.1100/ 4.5.4.1100	March 29, 2016	Initial release of this MLNX-NATIVE-ESX-ConnectX-4 version

1 Overview

These are the release notes of Mellanox ConnectX-4 NATIVE ESX Driver for VMware vSphere 5.5/6.0. This document provides instructions on drivers for Mellanox Technologies ConnectX® based adapter cards with VMware ESXi Server environment.

1.1 Content of MLNX-NATIVE-ESX-ConnectX-4 Package

The MLNX-NATIVE-ESX-ConnectX-4 driver package is distributed as an offline bundle (.zip file) and contains:

- **ESXi 5.5:**

MLNX-NATIVE-ESX-ConnectX-4-4.5.4.1100-10EM-550.0.0.1391871.zip - Hypervisor bundle for ESXi 5.5 contains the following kernel modules:

- nmlx5_core (Mellanox Technologies Ethernet driver)

- **ESXi 6.0:**

MLNX-NATIVE-ESX-ConnectX-4-4.15.4.1100-10EM-600.0.0.2768847.zip - Hypervisor bundle for ESXi 6.0 contains the following kernel modules:

- nmlx5_core (Mellanox Technologies Ethernet driver)

1.2 Supported HCAs Firmware Versions

MLNX-NATIVE-ESX-ConnectX-4 Rev 4.15.4.1100/4.5.4.1100 supports the following Mellanox Ethernet HCA:

Table 2 - Supported HCAs Firmware Versions

HCAs	Recommended Firmware Rev.
ConnectX-4	12.14.2036
ConnectX-4 Lx	14.14.2036

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 4.15.4.1100/ 4.5.4.1100

Table 3 - Changes and New Features

Feature/Change	Description
Bug Fixes	See Section 4, “Bug Fixes History” , on page 10

3 Known Issues

The following is a list of general limitations and known issues of the various components of this MLNX-NATIVE-ESX-ConnectX-4 release.

Table 4 - Known Issues

Internal Ref.	Description
-	Description: ESX displays incorrect NIC speed in case of 100GB configuration.
	WA: N/A
	Key Words: Link Speed
-	Description: Throughput performance on 100GB configuration might be lower than line rate.
	WA: N/A
	Key Words: Performance
-	Description: This driver support Ethernet cards only, VPI cards can be configured as Ethernet only mode when burning the firmware. For further information on firmware burning, please refer to the MFT User Manual. (www.mellanox.com > Products > Software > InfiniBand/VPI Drivers > Firmware Tools)
	WA: N/A
	Key Words: Protocols, InfiniBand, Ethernet
-	Description: Multicast and IPv6 traffic might be unstable over SR-IOV.
	WA: N/A
	Key Words: SR-IOV, IPv6, Multicast
656416	Description: Reboot is required after any SR-IOV configuration change.
	WA: N/A
	Key Words: SR-IOV
670046	Description: The maximum number of Virtual Functions currently supported in SR-IOV is 10.
	WA: N/A
	Key Words: SR-IOV, VF
653679	Description: Firmware VF configuration must be N+1 (while N is the required VF number). For example: If your configuration requires 10 VFs, the firmware must be set to support 11 VFs (ESX 6.0 Limitation).
	WA: N/A
	Key Words: VFs

Table 4 - Known Issues

Internal Ref.	Description
641252	Description: Driver specific statistics are not supported in ESX 5.5.
	WA: N/A
	Key Words: ESX 5.5, Statistics
689573	Description: When SR-IOV is enabled and the <code>max_vfs</code> is not equal to 0, new filters are not applied.
	WA: N/A
	Key Words: SR-IOV, filters
676293	Description: After the initial driver installation, the driver may fail to load the first PCI device.
	WA: Cold boot the machine.
	Key Words: PCI device, initial driver installation

4 Bug Fixes History

Table 5 lists the bugs fixed in this release.

Table 5 - Fixed Bugs List

Internal Ref.	Issue
745415	Description: Fixed an issue which prevented the driver to load on machines with 64 or more CPU cores.
	Keywords: MSI-X
	Discovered in Release: 4.15.2.0/4.5.2.0
	Fixed in Release: 4.15.4.1100/4.5.2.1100

5 Change Log History

Table 6 - Change Log History

Release	Category	Description
4.15.4.0/ 4.5.2.0	VXLAN Hardware Stateless Offloads	VXLAN hardware offload enables the traditional offloads to be performed on the encapsulated traffic.
	SR-IOV (at Beta level)	Single Root IO Virtualization (SR-IOV) is a technology that allows a physical PCIe device to present itself multiple times through the PCIe bus. Note: SR-IOV is currently supported in ESXi 6.0 only.
	NetDump	Enables a host to transmit diagnostic information via the network to a remote netdump service, which stores it on disk. Network-based coredump collection can be configured in addition to or instead of disk-based coredump collection.
	NetQueue	NetQueue is a performance technology in VMware ESX that significantly improves performance in 10 Gigabit Ethernet virtualized environments.
	Wake-on-LAN	Allows a network administrator to remotely power on a system or to wake it up from sleep mode
	RX/TX Ring Resize	Allows the network administrator to set new RX\TX ring buffer size.
4.15.2.0	Hardware Performance	<ul style="list-style-type: none"> • 10G • 25G • 40G • 50G • 100G
	Hardware Offload	<ul style="list-style-type: none"> • Large Send Offload (TCP Segmentation Offload) • RSS (Device RSS)
	Hardware Capabilities	<ul style="list-style-type: none"> • Multiple Tx/Rx rings • Fixed Pass-Through • Single/Dual port • MSI-X
	Ethernet Network	<ul style="list-style-type: none"> • TX/RX checksum • Auto moderation and Coalescing • VLAN stripping offload