



WinOF-2 Inbox Driver for Windows Server 2016 Release Notes

Rev 1.33.14901

NOTE:

THIS HARDWARE, SOFTWARE OR TEST SUITE PRODUCT ("PRODUCT(S)") AND ITS RELATED DOCUMENTATION ARE PROVIDED BY MELLANOX TECHNOLOGIES "ASIS" 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 NON-INFRINGEMENT 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 2017. Mellanox Technologies Ltd. All Rights Reserved.

Mellanox®, Mellanox logo, Accelio®, BridgeX®, CloudX logo, CompustorX®, Connect-IB®, ConnectX®, CoolBox®, CORE-Direct®, EZchip®, EZchip logo, EZappliance®, EZdesign®, EZdriver®, EZsystem®, GPUDirect®, InfiniHost®, InfiniBridge®, InfiniScale®, Kotura®, Kotura logo, Mellanox CloudRack®, Mellanox CloudXMellanox®, Mellanox Federal Systems®, Mellanox HostDirect®, Mellanox Multi-Host®, Mellanox Open Ethernet®, Mellanox OpenCloud®, Mellanox OpenCloud Logo®, Mellanox PeerDirect®, Mellanox ScalableHPC®, Mellanox StorageX®, Mellanox TuneX®, Mellanox Connect Accelerate Outperform logo, Mellanox Virtual Modular Switch®, MetroDX®, MetroX®, MLNX-OS®, NP-1c®, NP-2®, NP-3®, NPS®, Open Ethernet logo, PhyX®, PlatformX®, PSIPHY®, SiPhy®, StoreX®, SwitchX®, Tiler®, Tiler logo, TestX®, TuneX®, The Generation of Open Ethernet logo, UFM®, Unbreakable Link®, Virtual Protocol Interconnect®, Voltaire® and Voltaire logo are registered trademarks of Mellanox Technologies, Ltd.

All other trademarks are property of their respective owners.

For the most updated list of Mellanox trademarks, visit <http://www.mellanox.com/page/trademarks>

Table of Contents

| | |
|--|----------|
| Table of Contents | 1 |
| List of Tables | 1 |
| Release Update History | 2 |
| Chapter 1 Overview | 3 |
| 1.1 WinOF-2 Package Contents | 3 |
| 1.2 Supported Operating System Versions | 3 |
| 1.3 Supported Network Adapter Cards | 4 |
| Chapter 2 New Features in Rev 1.33.14901. | 5 |
| Chapter 3 Known Issues | 6 |

List of Tables

| | | |
|----------|--|---|
| Table 1: | Release Update History | 2 |
| Table 2: | Supported Operating Systems. | 3 |
| Table 3: | Supported Network Adapter Cards. | 4 |
| Table 4: | Known Issues | 6 |

Release Update History

Table 1 - Release Update History

| Release | Date | Description |
|----------------|-------------------|----------------------------|
| Rev 1.33.14901 | October 31, 2017 | Added known issue #1176725 |
| | December 22, 2016 | Initial beta release |

1 Overview

These are the release notes for Mellanox WinOF-2 Inbox Driver for Windows Server 2016 Rev 1.33.14901 Ethernet drivers.



Please note that WinOF-2 does not support ConnectX-3/ConnectX-3 Pro adapter cards.

1.1 WinOF-2 Package Contents

The Mellanox WinOF-2 Rev 1.33.14901 for Windows package contains the following components:

- Ethernet driver
- Basic tools
- Performance tools

1.2 Supported Operating System Versions

The following describes the supported operating systems and their roles in a virtualization environment.

Table 2 - Supported Operating Systems

| Virtualization Mode | Supported Host OS | Supported Guest OS |
|---------------------|-----------------------------------|--|
| Native and VMQ | Windows Server 2016 (64 bit only) | Any supported guest OS for Hyper-V |
| SR-IOV | Windows Server 2016 (64 bit only) | Windows Server 2016 (64 bit only) Windows Server 2012 (64 bit only) Windows Server 2012 R2 (64 bit only) Windows 8.1 Client (64 bit only) |

1.3 Supported Network Adapter Cards

Mellanox WinOF-2 Rev 1.33.14901 supports the following Mellanox network adapter cards:

Table 3 - Supported Network Adapter Cards

| NICs | Supported Protocol | Supported Link Speed |
|----------------|--------------------|-----------------------------|
| ConnectX®-4 | Ethernet | 10, 25, 40, 50 and 100 Gb/s |
| ConnectX®-4 Lx | Ethernet | 10, 25, 40, and 50 Gb/s |

2 New Features in Rev 1.33.14901

The Mellanox WinOF-2 Inbox Driver release introduces the following capabilities:

- Support for Single and Dual port Adapters
- Receive Side Scaling (RSS)
- Receive Side Coalescing (RSC)
- Hardware Tx/Rx checksum offload
- Large Send Offload (LSO)
- Adaptive interrupt moderation
- Support for MSI-X interrupts
- Network Direct Kernel (NDK) with support for SMBDirect
- Network Direct SPI (NDSPI) v1 and v2
- Virtual Machine Queue (VMQ) for Hyper-V
- Hardware VLAN filtering
- RDMA over Converged Ethernet
 - RoCE MAC Based (v1)
 - RoCE IP Based (v1)
 - RoCE over UDP (v2)
- NVGRE hardware encapsulation task offload
- VXLAN hardware encapsulation task offload
- Quality of Service (QoS)
 - Support for global flow control and Priority Flow Control (PFC)
 - Enhanced Transmission Selection (ETS)
- SR-IOV
- Virtual Multiple Machine Queue (VMMQ)
- PacketDirect

3 Known Issues

The following table provides a list of known bugs and limitations in regards to this release of WinOF-2.

Table 4 - Known Issues

| Internal Ref. | Issue |
|---------------|--|
| 1176726 | Description: A BSOD occurs in the Inbox Driver while the miniport is reset in the virtualized environment. |
| | Workaround: N/A |
| | Keywords: miniport, virtualized environment |
| - | Description: The installation process of the driver does not close any RoCE user space applications running in the background, and may cause a bug check as a result of a stuck cmd. |
| | Workaround: It is recommended to close all running RoCE user space applications prior to upgrading the driver. |
| | Keywords: Installation/Upgrade |
| - | Description: Installation/upgrade fails due to PNP failure to copy the driver files to the driver store, and the following text is printed in the event logs: Fault bucket, type 0 Event Name: PnPDriverImportError Response: Not available Attached Files: C:\Users\ <user>\AppData\Local\Temp\DMI1_51A.tmp.log.xml C:\Program Files\Mellanox\MLNX_WinOF2\Drivers\"Current OS\"mlx5.inf</user> |
| | Workaround: Reboot the machine and reinstall. |
| | Keywords: Installation/Upgrade |
| - | Description: Installing both WinOF for ConnectX-3 and ConnectX-3 Pro, and WinOF-2 for ConnectX-4 is supported only from WinOF version 5.00 and above. |
| | Workaround: N/A |
| | Keywords: Installation/Upgrade |
| 654674 | Description: When trying to uninstall the mlx5 driver manually (by using pnputil/DPINST or DIFX API), additional hardware scan will be required before viewing the device in the Device Manager or before reinstalling. This used to happen due to a bug in the NetCfgx.dll. (Microsoft case ID is: 115020112345121). |
| | Workaround: Rescan the hardware after performing the uninstallation. |
| | Keywords: Installation/Upgrade |
| - | Description: On machines configured with NVGRE encapsulation with the encapsulation task offload enabled, incoming VXLAN traffic on the interface may be reported with wrong checksum status. |
| | Workaround: N/A |
| | Keywords: Virtualization |

Table 4 - Known Issues

| Internal Ref. | Issue |
|---------------|---|
| 689041 | <p>Description: The virtual machines' incoming and outgoing tagged traffic is dropped by the internal e-switch when QoS policy traffic classes are customized by the user (using, for example, TCP port or EtherType).</p> <p>Workaround: N/A</p> <p>Keywords: Virtualization</p> |