WinOF-2 Inbox Driver for Windows Server 2016
Release Notes

Rev 1.33.14901
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### Release Update History

*Table 1 - Release Update History*

<table>
<thead>
<tr>
<th>Release</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev 1.33.14901</td>
<td>October 31, 2017</td>
<td>Added known issue #1176725</td>
</tr>
<tr>
<td></td>
<td>December 22, 2016</td>
<td>Initial beta release</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Virtualization Mode</th>
<th>Supported Host OS</th>
<th>Supported Guest OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native and VMQ</td>
<td>Windows Server 2016 (64 bit only)</td>
<td>Any supported guest OS for Hyper-V</td>
</tr>
</tbody>
</table>
| 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*

<table>
<thead>
<tr>
<th>NICs</th>
<th>Supported Protocol</th>
<th>Supported Link Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ConnectX®-4</td>
<td>Ethernet</td>
<td>10, 25, 40, 50 and 100 Gb/s</td>
</tr>
<tr>
<td>ConnectX®-4 Lx</td>
<td>Ethernet</td>
<td>10, 25, 40, and 50 Gb/s</td>
</tr>
</tbody>
</table>
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
## 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**

<table>
<thead>
<tr>
<th>Internal Ref.</th>
<th>Description</th>
<th>Workaround</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>1176726</td>
<td>A BSOD occurs in the Inbox Driver while the miniport is reset in the virtualized environment.</td>
<td>N/A</td>
<td>miniport, virtualized environment</td>
</tr>
<tr>
<td>-</td>
<td>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.</td>
<td>It is recommended to close all running RoCE user space applications prior to upgrading the driver.</td>
<td>Installation/Upgrade</td>
</tr>
<tr>
<td>-</td>
<td>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&lt;user&gt;\AppData\Local\Temp\DMI1 51A.tmp.log.xml C:\Program Files\Mellanox\ MLNX_WinOF2\Drivers&quot;Current OS&quot;\mlx5.inf</td>
<td>Reboot the machine and reinstall.</td>
<td>Installation/Upgrade</td>
</tr>
<tr>
<td>654674</td>
<td>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).</td>
<td>Rescan the hardware after performing the uninstallation.</td>
<td>Installation/Upgrade</td>
</tr>
<tr>
<td>-</td>
<td>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.</td>
<td>N/A</td>
<td>Virtualization</td>
</tr>
</tbody>
</table>
### Table 4 - Known Issues

<table>
<thead>
<tr>
<th>Internal Ref.</th>
<th>Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>689041</td>
<td><strong>Description:</strong> 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).</td>
</tr>
<tr>
<td></td>
<td><strong>Workaround:</strong> N/A</td>
</tr>
<tr>
<td></td>
<td>Keywords: Virtualization</td>
</tr>
</tbody>
</table>