



# Mellanox Firmware Tools (MFT) Release Notes

Rev 3.8.0

A more updated version of this document may exist in:

[http://www.mellanox.com/pdf/MFT/MFT\\_release\\_notes\\_3\\_8\\_0.pdf](http://www.mellanox.com/pdf/MFT/MFT_release_notes_3_8_0.pdf)

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# Release Update History

**Table 1 - Release Update History**

| Release | Date             | Description     |
|---------|------------------|-----------------|
| 3.8.0   | January 15, 2014 | Initial version |

# 1 Overview

These are the release notes for Rev 3.8.0 of the **Mellanox Firmware Tools (MFT)**.

This release supports the following operating systems: Linux, Windows, VMware ESXi and FreeBSD.

Please see the supported platform table for further details.

The tools functionality is identical in all operating systems unless otherwise noted.

## 1.1 Package Tools

The following is a list of the available tools in the package, together with a brief description of each tool. The tools apply to single switch systems or adapter cards. The MFT tools do not provide cluster wide functionality.

**Table 2 - Mellanox Firmware Tools (MFT) Available Tools (Sheet 1 of 2)**

| Category                        | Tool         | Description                                                                                                                                                                                                                                                                                                                                                                                                                | Operating System                |
|---------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| MST Service                     | mst          | Starts/stops the register access driver (Linux and VMware ESXi only)<br>Lists the available mst devices                                                                                                                                                                                                                                                                                                                    | All                             |
| FW Update and Configuration     | mlxburn      | This tool provides the following functions: <ul style="list-style-type: none"> <li>Generating a standard or customized Mellanox firmware image for burning in .bin format</li> <li>Burning an image to the Flash attached to a Mellanox HCA or switch device</li> <li>Querying the firmware version loaded on a Mellanox device.</li> <li>Displaying the Vital Product Data (VPD) of a Mellanox network adapter</li> </ul> | All                             |
|                                 | flint        | This tool burns a firmware binary image or an expansion ROM image to the Flash of a Mellanox network adapter/bridge/switch device. It includes query functions to the burnt firmware image and to the binary image file.                                                                                                                                                                                                   | All                             |
|                                 | mlxfwmanager | The mlxfwmanager is a Mellanox firmware update and query utility. It provides a simple 'single click' firmware update functionality.                                                                                                                                                                                                                                                                                       | Linux<br>Windows<br>VMware ESXi |
|                                 | mlxconfig    | Allows the user to change some of the device configurations without having to create and burn a new firmware.                                                                                                                                                                                                                                                                                                              | Linux<br>Windows<br>VMware ESXi |
| Debug and Diagnostics Utilities | itrace       | Extracts and prints trace messages generated by the firmware of a ConnectX family adapter devices.                                                                                                                                                                                                                                                                                                                         | All                             |
|                                 | fwtrace      | Extracts and prints trace messages generated by the firmware of a Connect-IB™ family adapter devices.                                                                                                                                                                                                                                                                                                                      | Linux                           |
|                                 | mlxtrace     | Dumps trace messages generated by the device hardware.                                                                                                                                                                                                                                                                                                                                                                     | All                             |

**Table 2 - Mellanox Firmware Tools (MFT) Available Tools (Sheet 2 of 2)**

| Category | Tool       | Description                                                                                                                                                                                                            | Operating System |
|----------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|          | mlxdump    | Dumps device internal configuration registers. The dump file can be used by Mellanox Support for hardware troubleshooting.                                                                                             | All              |
|          | mlxmcg     | Displays the current multicast groups and flow steering rules configured in the device.<br>Target users: Developers of Flow Steering aware applications.                                                               | All              |
|          | wqdump     | Dumps the current QP contexts and Work Queues of a ConnectX®/Connect-IB™ family network adapter                                                                                                                        | All              |
|          | mcra       | Reads/writes a single word from/to a device configuration register space                                                                                                                                               | All              |
|          | i2c        | Generates an i2c transaction using an mtusb usb to i2c adapter or using the device internal i2c compatible master                                                                                                      | All              |
|          | mlx2c      | Scans the i2c bus<br>Routes the i2c bus of an externally managed InfiniscaleIV/SwitchX system to connect to the switch silicon.                                                                                        | All              |
|          | mget_temp  | Reads the hardware temperature from Mellanox Technologies devices internal sensors (ConnectX® family adapter cards, Connect-IB™, BridgeX devices, 4th generation switches), and prints the reading in Celsius degrees. | All              |
|          | pckt_drop  | Corrupts the next transmitted packet from a ConnectX® and Connect-IB™ family adapter port.                                                                                                                             | All              |
|          | mlxuptime  | Prints Mellanox devices' up time and measured/configured core clock frequency (at Beta level)                                                                                                                          | All              |
|          | mlxfwreset | Load Firmware after firmware update on ISFU capable devices.(5th generation devices)                                                                                                                                   | Linux            |
|          | mlxmdio    | Used to read/write MDIO registers (Clause 45) on boards with externally managed PHY                                                                                                                                    | All              |

Detailed installation instructions along with complete descriptions of the various tools in the package can be found in the *Mellanox Firmware Tools User's Manual, Document no. 2329, Rev 1.90* or later.



## 1.2 Software Dependencies

### 1.2.1 Linux Software Dependencies

**Table 3 - MFT Software Dependencies on Linux**

| Software Package                 | Required Version         |
|----------------------------------|--------------------------|
| Kernel sources                   | Machine's kernel version |
| OFED / MLNX_OFED <sup>1, 2</sup> | 1.5.0 or higher          |
| Perl                             | 5.6 or later             |
| Python <sup>3</sup>              | 2.6 and above            |
| lsusb <sup>4</sup>               |                          |
| rpmbuild                         |                          |
| xz <sup>5</sup>                  |                          |

1. OFED can be downloaded from <http://www.openfabrics.org>. Note that installing OFED is *not* required if you wish to install MFT without In-Band capabilities.
2. For the 'mst ib add' command to run, one of the OFED packages "ibutils" or "ibutils2" or "infiniband-diags" should be installed and available in the PATH. (For details on OFED installation, visit <http://www.mellanox.com> and under OFED.)
3. Required for the mlxmcg tool only.
4. Required for the mtusb device usage.
5. For creating UPMF (update package for Mellanox firmware)

### 1.2.2 Windows Software Dependencies

**Table 4 - MFT Software Dependencies on Windows**

| Software Package                | Required Version |
|---------------------------------|------------------|
| Mellanox WinOF VPI <sup>1</sup> | 3.0.0 and later  |

1. WinOF is required only for In-Band access. The package can be downloaded from [www.mellanox.com](http://www.mellanox.com) > Products > Software > InfiniBand /VPI Drivers > Windows SW Drivers.

### 1.2.3 FreeBSD Software Dependencies

**Table 5 - MFT Software Dependencies on FreeBSD**

| Software Package | Required Version            |
|------------------|-----------------------------|
| Perl             | For FreeBSD 9.1 (x64): 5.14 |
|                  | For others: 5.16            |



In order for the tools in the package to work, bash should be installed in:

/bin/bash

In case bash is installed in a different path, you should make a soft link to it in:

/bin/bash:

```
> ln -s <bash-path> /bin/bash
```

### 1.2.4 VMware ESXi Software Dependencies

**Table 6 - MFT Software Dependencies on VMware ESXi**

| Software Package | Required Version |
|------------------|------------------|
| Python           | 2.6 and above    |

## 1.3 Supported Operating Systems and Platforms

### 1.3.1 Linux Supported Operating Systems

MFT is supported on the following platforms: x86, x86\_64, ppc64, ppc64le, arm, and ppc,

**Table 7 - Linux Operating Systems and Platforms**

| Operating System | Kernels                                         |
|------------------|-------------------------------------------------|
| RedHat EL6       | 2.6.32-220.el6 (RHEL6 UP2)                      |
|                  | 2.6.32-279.el6 (RHEL6 UP3)                      |
|                  | 2.6.32_358.el6 (RHEL6 UP4)                      |
|                  | 2.6.32-431.el6 (RHEL6 UP5)                      |
|                  | 2.6.32-504.el6 (RHEL6 UP6)                      |
| RedHat EL7       | 3.10.28 (RHEL 7)                                |
| SLES 10          | 2.6.16.60-0.54.5-smp (SLES 10 SP3) <sup>1</sup> |
| SLES 11          | 2.6.27.19-5-default (SLES 11)                   |
| SLES 12          | SP1 2.6.32.12-0.7-default                       |
|                  | SP2 3.0.13-0.27-default                         |
|                  | SP3 3.0.76-0.11-default                         |
|                  | 3.12.22-2-default                               |
| Kernel.org       | 3.11.10                                         |
|                  | 3.12.9                                          |
|                  | 3.13.1 <sup>1</sup>                             |
|                  | 3.14.3                                          |
|                  | 3.15.6                                          |
|                  | 3.17                                            |
|                  | 3.2.45 Vanilla <sup>1</sup>                     |
| Ubuntu           | 12.04.4                                         |
|                  | 13.04                                           |
|                  | 13.1                                            |
|                  | 14.04                                           |
|                  | 14.10                                           |

**Table 7 - Linux Operating Systems and Platforms**

| Operating System    | Kernels             |
|---------------------|---------------------|
| Debian <sup>2</sup> | 6.0.8               |
|                     | 6.0.9               |
|                     | 7.1                 |
|                     | 7.2                 |
|                     | 7.4                 |
|                     | 7.5                 |
|                     | 7.6                 |
| Fedora              | 14 <sup>1</sup>     |
|                     | 16 <sup>1</sup>     |
|                     | 17                  |
|                     | 18                  |
|                     | 19                  |
|                     | 20                  |
|                     | 21                  |
| Citrix Xenserver    | 6.1 <sup>1</sup>    |
|                     | 6.2                 |
| OEL6.3              | 2.6.32_279.el6      |
|                     | 2.6.32-279.19.1.el6 |
|                     | 2.6.32-279.22.1.el6 |
| OEL6.4              | 2.6.32_358.el6      |
| OEL 6.5             | 3.8.13-16.2.1.el6   |

1. Did not pass QA and Verification.
2. Only latest Debian was tested (7.7).

### 1.3.2 Windows Supported Operating Systems

- Supported Operating Systems and Service Packs:
  - Windows 7 (x64)
  - Windows Server 2008 R2 (x64)
  - Windows Server 2012 (x64)
  - Windows Server 2012 R2 (x64)
  - Windows 8.1 (x64)
  - Windows PE 3.0 (x32/x64)
  - Windows PE 4.0 (x32/x64)
  - Windows PE 5.0 (x32/x64)
  - Windows PE 5.1 (x32/x64)

### 1.3.3 FreeBSD Supported Operating Systems

- Supported Operating Systems and Service Packs:
  - FreeBSD 10 (x86)
  - FreeBSD 10 (x64)
  - FreeBSD 9.1 (x64)
  - FreeBSD 10.1 (x64)

### 1.3.4 VMware ESXi Supported Operating Systems

- ESXi 5.5 (x64)
- ESXi 2015 RC (Native & VMK)

## 1.4 Supported Flash Types

MFT supports the following Flash types.

**Table 8 - Supported Flash Types**

| Vendor          | Flash Family            | Tested P/N  |
|-----------------|-------------------------|-------------|
| Micron          | M25Pxx                  | M25P16      |
|                 | M25Pxxx                 | M25PX16     |
|                 | N25Qxxx                 | N25Q032     |
| Winbond         | W25Xxx <sup>1</sup>     |             |
|                 | W25QxxBV                | W25Q32BV    |
| Microchip (SST) | SST25VFxx               | SST25VF016B |
| Spansion        | S25FLxxxP <sup>1</sup>  |             |
|                 | S25FL1xxK               | S25FL116K   |
| Atmel           | AT25DFxxx               | AT25DF161   |
| Macronix        | MX25L16XXX <sup>1</sup> |             |

1. Were not tested in QA.

## 2 Changes and New Features

### 2.1 Changes in Version 3.8.0

**Table 9 - Changes in Version 3.8.0**

| Component/ Tool | Description                                                       | Operating System              |
|-----------------|-------------------------------------------------------------------|-------------------------------|
| General         | Added support for Switch-IB device (at beta level)                | Linux/Windows                 |
|                 | Added support for Debian/Ubuntu in PPC64 platform                 | Linux                         |
|                 | Added support for ESXi 2015 OS (Native & VMK)                     | VMware ESXi                   |
| Mlxphyburn      | Added support for burning Aquantia external PHY                   | Linux                         |
| Mlxconfig       | Added support for changing BAR size parameter                     | Linux/Windows/<br>VMware ESXi |
| Bug Fixes       | See <a href="#">Section 5, “History of Bug Fixes,” on page 28</a> |                               |

### 3 Known Issues

The following table provides a list of known bugs and limitations in regards to this release of the Mellanox Firmware Tools.

**Table 10 - Known Bugs and Limitations**

|    | Tool                                            | Issue                                                                                                | Description                                                                                                                                                  | Workaround                                                                                                          | To be Fixed    |
|----|-------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------|
| 1. | Mlxconfig/<br>mlxphyburn                        | 469956HCR tools are not supported in FreeBSD                                                         | Mlxconfig/mlxphyburn tools are not supported in FreeBSD                                                                                                      | N/A                                                                                                                 | Future release |
| 2. | mlxmdio                                         | 465159mlxmdio with '-g 0' gives different data output from the case without -g                       | Mlxmdio PHY address may differ when the read/write transactions are performed either directly by manipulating the hardware gateway or by asking the firmware | Run with -g 0 flag (forcing gateway access)                                                                         | Future release |
| 3. | Burning tools (mlxfwmanager, flint and mlxburn) | 385797Running burning tools and restarting the driver at the same time may cause the machine to hang | Burning tools lock hardware resources used by the firmware booting                                                                                           | do not run the burning tools while restarting the driver                                                            | Future Release |
| 4. | mlxburn                                         | 385113Slow VPD access for ConnectX®-3                                                                | Reading the VPD using the “-vpd_rw” flag or programming the VPD may take up to 5 mins.                                                                       | N/A                                                                                                                 | Future release |
| 5. | flint                                           | 221201Long firmware update process in Connect-IB®                                                    | The firmware update process in Connect-IB™ may take up to a minute                                                                                           | N/A                                                                                                                 | Future release |
| 6. |                                                 | 326763Failure to set GUIDs on Connect-IB                                                             | The sg command on Connect-IB fails if the flag -override_cache_replacement is not used                                                                       | Set the GUIDs only when firmware is not active (driver is not loaded) by using the flag -override_cache_replacement | N/A            |
| 7. |                                                 | 409212 & 408374 Remote/MTUSB devices do not support parallel access.                                 | Attempting to access Remote/MTUSB device for parallel does not work well.                                                                                    | Avoid working in parallel through those interfaces                                                                  | Future release |

**Table 10 - Known Bugs and Limitations**

|     | Tool   | Issue                                                                                  | Description                                                                                                                                                                                                                          | Workaround                                                                                                                                                                             | To be Fixed    |
|-----|--------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 8.  | wqdump | 166709On Connect-IB, wqdump does not support WQEs receiving of 1024B                   | wqdump does not support WQEs receiving of 1024B                                                                                                                                                                                      | N/A                                                                                                                                                                                    | Future release |
| 9.  | mst    | 202870“Mst ib add” may fail when there is a device with zero system GUID in the fabric | The failure occurs when the “mst ib add” uses the ibnetdiscover tool                                                                                                                                                                 | Run 'mst ib add --discover-tool ibdiagnet'                                                                                                                                             | N/A            |
| 10. |        | 202869“mst ib add” command may add inaccessible in-band devices                        | When an IB subnet manager is not running in the fabric, some of the ports may be in INIT state. Devices that are accessed via these ports are added to the in-band device list even though they are inaccessible to in-band traffic. | Verify a subnet manager is running and that all the ports are in ACTIVE state                                                                                                          | Future release |
| 11. |        | 15454MFT uninstall may not remove all remote devices                                   | On Windows, mst remote devices added by the ‘mst remote add’ command may still be present after uninstalling MFT.                                                                                                                    | If you still see old remote devices after installing a new WinMFT, you can either run ‘mst restart’ or remove the devs directory manually (resides under the WinMFT install directory) | Future release |
| 12. |        | 383471“mst ib add” uses only ibnetdiscover to discover the cluster                     | “--discover-tool” option is not used to choose the intended tool. The discover tool argument is intended only for parsing purpose, thus the topology file must be specified when using the “--discover-tool”.                        | N/A                                                                                                                                                                                    | Future release |
| 13. |        | 190903mtusb device is not shown in the MST list sometimes                              | When i2c-diolan-u2c driver is installed, it takes ownership over the mtusb device and prevents mst to load it, consequently, prevents access to MFT tools                                                                            | Stop the i2c-diolan-u2c driver.                                                                                                                                                        | N/A            |

**Table 10 - Known Bugs and Limitations**

|     | Tool                  | Issue                                                                                                           | Description                                                                                                                                                                                                                                                                     | Workaround                                                                                                                                                                                                                                                                                                                                                                                     | To be Fixed    |
|-----|-----------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 14. | Install script        | 15629Kernel-mft installation fails in xenserver machine                                                         | Xenserver machine does not have an rpmbuild command which is used to recompile the kernel-mft source RPM in installation phase therefore, MFT installation fails.                                                                                                               | <ol style="list-style-type: none"> <li>1. Prepare the kernel-mft RPM in the DDK server of the xenserver installed in your machine by running: "install.sh --rebuild-srpm"</li> <li>2. Install the kernel-mft binary RPM generated in stage one in the xenserver normal machine by: "rpm -i &lt;kernel-mft binary RPM&gt;"</li> <li>3. Install MFT by: "install.sh --without-kernel"</li> </ol> |                |
| 15. | fwtrace               | 359608For EMC only: fwtrace does not work with Connect-IB™ devices unless external strings db file is provided. | fwtrace does not work with Connect-IB™ devices if "-f" option is not provided.                                                                                                                                                                                                  | Run the tool with the "-f <string db file>" flag                                                                                                                                                                                                                                                                                                                                               | Future release |
| 16. | mlxmcg (formerly mcg) | 18889Running the tool while the steering table is modified is not supported                                     | <p>If the mcg tool is running while steering entries are added or removed from the device, the tool may display warnings in the following format:</p> <pre>"mcg [0x1bfff5].next points to non-existing mcg index 0x1b7f5"</pre> <p>And the displayed data may be incorrect.</p> | It is recommended to run the tool when the steering table is in a static mode.                                                                                                                                                                                                                                                                                                                 | Future release |

**Table 10 - Known Bugs and Limitations**

|     | Tool                | Issue                                                                                                                         | Description                                                                                                       | Workaround                                                    | To be Fixed    |
|-----|---------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------|
| 17. | mlxtrace            | 360252Running mlxtrace over an mtusb connected to an HCA/NIC in a Windows target machine may cause the target machine to hang | In this mode, mlxtrace may cause memory corruption on the target machine which causes it to hang.                 | N/A                                                           | Future release |
| 18. |                     | 383719[ MFT for ESXi ] Exiting mlxtrace with CTRL+Z causes the firmware and the tool to hang.                                 | Terminating the tool when running it in MEM mode with CTRL+Z can cause issues to the device and to the firmware.  | Do not send CTRL+Z to the tool.                               | N/A            |
| 19. |                     | 219570Performance decreases after running mlxtrace                                                                            | Mlxtrace activates a hardware component which may lead to decreasing the packet rate of the HCA                   | Use the flag <code>--stop_on_exit</code>                      | Future release |
| 20. | WinMFT Installation | 384366Downgrading is currently not supported                                                                                  | Downgrading WinMFT to an older version might corrupt the installation dir.                                        | Remove MFT prior to installing any earlier versions of MFT    | N/A            |
| 21. | mlxfwman-ager       | 417033mlx_mfa_gen can not create MFA file under directory with whitespace                                                     | mlx_mfa_gen fails to calculate CRC when MFA's directory name includes spaces                                      | Do not use spaces in the directory name                       | Future release |
| 22. |                     | #434287Running Online updates/downloads in parallel may fail                                                                  | Online firmware update may fail if many processes try to do so in parallel                                        | N/A                                                           | Future release |
| 23. |                     | 416368Running mlxfwman-ager_pci with other mft tools in parallel fails                                                        | running mlxfwman-ager_pci with mft tools in parallel causes read/write corruption and yields unexpected behaviour | Do not run mlxfwman-ager_pci in parallel with other MFT tools | Future Release |

**Table 10 - Known Bugs and Limitations**

|     | Tool       | Issue                                                                                                           | Description                                                                                                                                                                | Workaround                                                                         | To be Fixed    |
|-----|------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------|
| 24. | mlxfwreset | #434487Mlxfwreset does not work in ARM system.                                                                  | Mlxfwreset fails due to some missing files in ARM machines.                                                                                                                | Reboot the machine after burning firmware instead of using mlxfwreset              | Future release |
| 25. |            |                                                                                                                 |                                                                                                                                                                            |                                                                                    |                |
| 26. |            | 402372Mlxfwreset tool is supported only on linux                                                                | mlxfwreset is not supported on Windows/Freebsd/VMware                                                                                                                      | N/A                                                                                | Future Release |
| 27. | General    | 418735Some tools are missing in MFT package for PPC-64 platform                                                 | Fwtrace and mlxfwreset (for Connect-IB) are missing in the MFT package for PPC                                                                                             | Reboot the machine instead of running mlxfwreset after firmware upgrade            | Future Release |
| 28. |            | 355741On FreeBSD, parallel access to a device from multiple MFT tools is not supported                          | The tools running in parallel on the same device may interrupt one another, and may cause the device to be in an undefined state.                                          | Avoid parallel Access to device                                                    | Future Release |
| 29. |            | 374188Live-fish device mode is not supported inVMware ESXi 5.5                                                  | The MFT driver is not a native VMware driver, thus it can not take ownership of the PCI device in live-fish mode.                                                          | N/A                                                                                | Future Release |
| 30. |            | 374188/374039MFT tools do not work when the MLNX-OFED ESXi driver is not installed or loaded in VMware ESXi 5.5 | The MFT driver is not a native VMware driver, thus it can access the Mellanox PCI device only after the MLNX-OFED ESXi driver marks it as accessible by vmkliunix drivers. | Install and load MLNXOFED ESXi driver (which is part of inbox drivers in ESXi 5.5) | Future Release |

**Table 10 - Known Bugs and Limitations**

|     | Tool    | Issue                                                                                             | Description                                                                                           | Workaround                                                          | To be Fixed    |
|-----|---------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------|
| 31. | General | 362100/366285/366286MTUSB, Remote and Inband devices are not supported in FreeBSD and VMware ESXi | MFT does not support MTUSB devices nor remote ETH and IB devices in FreeBSD and VMware ESXi.          | N/A                                                                 | Future Release |
| 32. |         | 207320Running MFT tools in parallel may not work                                                  | MFT tools use the same hardware resources and therefore might interrupt the work of each other.       | Avoid running more than one MFT tool at a time with the same device | Future Release |
| 33. |         | 408360UPMF Generation is not supported in VMware ESXi and FreeBSD                                 | Update Package for Mellanox Firmware cannot be created by using MFT tools for VMware ESXi and FreeBSD | use mlxfwmanager tool and MFA to update firmware                    | Future Release |

## 4 History of Changes and New Features

**Table 11 - History of Changes and New Features**

| Ver.  | Component / Tool | Description                                                                                                                               | Operating System                          |
|-------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 3.7.1 | Bug Fixes        | See <a href="#">Section 5, “History of Bug Fixes,”</a> on page 28                                                                         | Linux/Windows/<br>VMware ESXi/<br>FreeBSD |
| 3.7.0 | mlxfwmanager     | Added online firmware update                                                                                                              | Linux/Windows/<br>VMware ESXi             |
|       | mlxburn          | Added concurrency support to VPD read                                                                                                     | Linux/Windows                             |
|       |                  | Added mlxburn to MFT                                                                                                                      | FreeBSD                                   |
|       | flint            | Added concurrency support to query firmware                                                                                               | Linux/Windows/<br>VMware ESXi/<br>FreeBSD |
|       | General          | Added support for Arm platform and Power8                                                                                                 | Linux                                     |
|       |                  | Removed support for x86                                                                                                                   | Windows                                   |
|       | mlxfwreset       | Firmware reset for Connect-IB                                                                                                             | Linux                                     |
|       | fwtrace          | Added fwtrace tool                                                                                                                        | Windows                                   |
| 3.6.1 | mlxconfig        | Added mlxconfig tool for changing non volatile configuration on device                                                                    | Windows                                   |
|       | Burning Tools    | Added support for micron flash in flint and updated production burn flow on Connect-IB                                                    | Windows                                   |
| 3.6.0 | mlxconfig        | Added mlxconfig tool for changing non volatile configuration on device                                                                    | Linux/VMware<br>ESXi                      |
|       | Burning Tools    | Added support for micron flash in flint and updated production burn flow on Connect-IB                                                    | Linux/VMware<br>ESXi                      |
|       | mtserver         | Added support for mstserver                                                                                                               | FreeBSD                                   |
| 3.5.1 | package content  | Added support for the following tools: mst, mlxfwmanager, itrace, mlxtrace, mlxdump, mlxmcg, wqdump, mcra, mget_temp, pkt_drop, mlxuptime | VMware ESXi                               |
|       | flint<br>mstdump | Added support for ConnectX®-3 Pro                                                                                                         | VMware ESXi                               |
|       |                  | Redesigned the utility to make its look and feel more user friendly                                                                       | VMware ESXi                               |
|       |                  | Added support for ConnectX®-3 Pro                                                                                                         | VMware ESXi                               |
| 3.5.0 | flint/wqdump     | Redesigned the flint and wqdump utility to make their look and feel more user friendly                                                    | Linux/Windows                             |
|       | flint            | Added support for brom in Connect-IB®                                                                                                     | Linux/Windows                             |
|       | mlxmdio          | Added support for the mlxmdio utility                                                                                                     | Linux                                     |
|       | mlxfwmanager     | Added support for Connect-IB                                                                                                              | Linux/Windows                             |
|       | FreeBSD          | Added support for FreeBSD operating system (at beta level)                                                                                | FreeBSD                                   |

| Ver.   | Component / Tool  | Description                                                                                                                                                                                                                                                                                                         | Operating System |
|--------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 3.1.0  | General           | The MFT package now has 2 installation flavours - standard (default mode) and 'OEM'. The OEM mode provides the following extra functionality: <ul style="list-style-type: none"> <li>Tools for creating mlxfwmanager package</li> <li>Several features for flint that are used in Connect-IB™ production</li> </ul> | Linux            |
|        | Flint             | Added support for burning Connect-IB™ via firmware interface. The '-override_cache_replacement' flag is not needed. This provides a 'safe' firmware update flow, without the risk of firmware or driver hanging                                                                                                     | Linux            |
|        | mlxfwmanager      | Added support for the mlxfwmanager utility (at Beta level)                                                                                                                                                                                                                                                          | Linux            |
|        | mlxuptime         | Added support for the mlxuptime utility (at Beta level)                                                                                                                                                                                                                                                             | Linux            |
| 3.0.0  | General           | Added support for Connect-IB™ device (at beta level)                                                                                                                                                                                                                                                                | Linux/Windows    |
|        |                   | Added support for ConnectX®-3 Pro device (at beta level)                                                                                                                                                                                                                                                            | Linux/Windows    |
|        |                   | Added support for Ubuntu operating system                                                                                                                                                                                                                                                                           | Linux            |
|        |                   | Added support for running tools against PCI device [domain]:bus:dev.fn like: 0000:1a:00.0 or 1a:00.0 and devices used by OFED driver like: mlx4_0                                                                                                                                                                   | Linux            |
|        |                   | The package contains only the flint FW update tool. Other debug tools were removed                                                                                                                                                                                                                                  | Windows          |
|        | flint             | Added support for new flash types: N25Q0XX (Micron) and W25Xxx (Winbond)                                                                                                                                                                                                                                            | Linux/Windows    |
|        | mlxdump           | Added support for the mlxdump utility (at beta level)                                                                                                                                                                                                                                                               | Linux/Windows    |
|        | mlxmcg            | Renamed mcg to mlxmcg                                                                                                                                                                                                                                                                                               | Linux/Windows    |
|        | spark             | spark was removed from MFT version 3.0.0                                                                                                                                                                                                                                                                            | Linux/Windows    |
|        | Supported Devices | The following adapter cards and switch systems are no longer supported in MFT version 3.0.0: <ul style="list-style-type: none"> <li>InfiniHost 4X</li> <li>InfiniHost III Ex</li> <li>InfiniHost III Lx 4X</li> <li>InfiniScale</li> <li>InfiniScale III</li> </ul>                                                 | Linux/Windows    |
| 2.7.2b | All               | Added support for WinPE 4.0 OS                                                                                                                                                                                                                                                                                      | Windows          |

| Ver.   | Component / Tool                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Operating System |
|--------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2.7.2  | General                                                          | It is no longer required to run mst start/stop when using WinMFT tools. The service is automatically loaded/unloaded when an MFT tool is running.<br>The mst service installation was removed from the setup                                                                                                                                                                                                                                                                                        | Windows          |
|        |                                                                  | Added support for SwitchX® silicon devices.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Windows          |
|        | flint                                                            | Added support for Atmel AT25DFxx flash family.                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Windows          |
|        |                                                                  | Added support for burning firmware via Command Line Interface (CLI) on SwitchX® devices                                                                                                                                                                                                                                                                                                                                                                                                             | Windows          |
|        | mget_temp                                                        | mget_temp displays a more accurate temperature reading for ConnectX®-2 and ConnectX®-3 devices by using the adapter's specific thermal calibration data                                                                                                                                                                                                                                                                                                                                             | Windows          |
| 2.7.1a | Added the mcg tool (Beta level)                                  | The mcg tool displays the current multicast groups and flow steering rules configured in the device.<br><b>Target users:</b> Developers of Flow Steering aware applications.<br>This tool dumps the internal steering table which is used by the device to steer Ethernet packets and Multicast IB packets to the correct destination QPs.<br>Each line in the table shows a single filter and a list of destination QPs. Packets that match the filter are steered to the list of destination QPs. | Linux            |
|        | Removed support for In-band access on OFED 1.4 Infiniband driver | In-band access is supported using OFED 1.5.X and higher                                                                                                                                                                                                                                                                                                                                                                                                                                             | Linux            |

| Ver.   | Component / Tool        | Description                                                                                                                                                                                                                                                                          | Operating System |
|--------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2.7.1  | General                 | Added mlxconfig tool. This tool sets firmware configurations for Mellanox adapters. These configurations are non-volatile they apply over device reboots. For further details, please run “mlxconfig -h”. The tool is at beta level.                                                 | Linux            |
|        |                         | Added support for Mellanox ConnectX®-3 silicon device.                                                                                                                                                                                                                               | Windows          |
|        |                         | Added the I2CBridge (Dimax's Driver for USB to I2C Adapter) as part of the WinMFT installation package. However, the I2CBridge is not installed by default.                                                                                                                          | Windows          |
|        | MFT installation change | Removed the isw tool.<br>The isw tool functionality was replaced by the "mlx2c" tool. For example, to scan the devices on the i2c bus, run:<br>> mlx2c -d <dev> scan<br>instead of<br>> isw -d <dev>                                                                                 | Windows          |
|        | mget_temp               | mget_temp displays a more accurate temperature for ConnectX-2 devices by using chip specific thermal calibration data.                                                                                                                                                               | Linux            |
|        | flint                   | Added support for Atmel AT25DFxx flash family.                                                                                                                                                                                                                                       | Linux            |
|        |                         | Cleared error messages displayed when trying to burn firmware image of a different device. For example when burning ConnectX-2 firmware image on ConnectX-3 device.                                                                                                                  | Linux            |
|        |                         | Added support for flash type SST25VF016B                                                                                                                                                                                                                                             | Windows          |
|        |                         | Added support for flash type M25PX16                                                                                                                                                                                                                                                 | Windows          |
|        |                         | <ul style="list-style-type: none"> <li>The ROM section in the image now contains multiple boot images. Therefore flint was modified to display information for all of the images in the ROM section.</li> <li>Added support to display/burn UEFI ROM/</li> </ul>                     | Windows          |
|        |                         | Added an option to set the VSD and GUIDs in a binary image file. This is useful for production to prepare images for pre-assembly flash burning. These new commands are supported by Mellanox 4th generation devices.                                                                | Windows          |
|        |                         | Added an option to set the VSD and GUIDs on an already burnt device. These commands (“sg” and “sv”) re-burn the existing image with the given GUIDs or VSD. When the 'sg' command is applied on a device with blank (0xff) GUIDs, it updates the GUIDs without re-burning the image. | Windows          |
|        | mst                     | Added support for using ibnetdiscover in the 'mst ib add' command                                                                                                                                                                                                                    | Windows          |
|        | mlxburn                 | Added support for VPD read/write                                                                                                                                                                                                                                                     | Windows          |
| 2.7.0a | Bug Fixes               | See <a href="#">Section 5, “History of Bug Fixes,” on page 28</a>                                                                                                                                                                                                                    | Linux            |

| Ver.  | Component / Tool | Description                                                                                                                                                                                                                                                                                                                                           | Operating System |
|-------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2.7.0 | General          | Added support for Mellanox ConnectX®-3 and SwitchX™ silicon devices.                                                                                                                                                                                                                                                                                  | Linux            |
|       |                  | Added Secure host feature which enables ConnectX family devices to block access to its internal hardware registers. The hardware access in this mode is allowed only if a correct 64 bits key is provided (see flint changes). MFT tools cannot run on a device with hardware access disabled. This feature is enabled only with supporting firmware. | Linux            |
|       |                  | Removed support for Itanium (ia64)                                                                                                                                                                                                                                                                                                                    | Linux            |
|       | flint            | Added the following commands: <ul style="list-style-type: none"> <li>• enable/disable access to the hardware</li> <li>• set/change the key used to enable access to the hardware</li> </ul>                                                                                                                                                           | Linux            |
|       |                  | The ROM section in the image now contains multiple boot images. Therefore the flint was modified to display information for all of the images in the ROM section.                                                                                                                                                                                     | Linux            |
|       |                  | Added support to display/burn UEFI ROM                                                                                                                                                                                                                                                                                                                | Linux            |
|       |                  | Added support for burning firmware via Command Line interface on SwitchX devices.                                                                                                                                                                                                                                                                     | Linux            |
|       | Mlxburn          | Added option to add or replace a single keyword in the VPD writable section (-vpd_set_keyword flag).                                                                                                                                                                                                                                                  | Linux            |
|       |                  | Added the option to set a binary VPD field data.                                                                                                                                                                                                                                                                                                      | Linux            |
|       | MFT installation | Added the option --without-kernel which allows user to install MFT without the mst kernel.                                                                                                                                                                                                                                                            | Linux            |

| Ver.  | Component / Tool        | Description                                                                                                                                                                                                                                                                                                               | Operating System |
|-------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2.6.2 | MFT installation change | RPM based installation: <ul style="list-style-type: none"> <li>Applications are installed using a pre-compiled binary RPM</li> <li>Kernel modules are distributed as a source RPM and compiled by the installation script</li> <li>Fast installation process</li> </ul>                                                   | Linux            |
|       |                         | Removed prerequisite libraries: expat and zlib-devel.                                                                                                                                                                                                                                                                     | Linux            |
|       |                         | The package tools, libraries and headers are now installed under: { prefix }/bin or { prefix }/lib and { prefix }/include dirs. Directory /usr/mst is not created.<br>For example, the “mread”, “mwrite” and “mcra” tools that were previously installed by default under /usr/mst/bin, now are installed under /usr/bin. | Linux            |
|       |                         |                                                                                                                                                                                                                                                                                                                           | Linux            |
|       |                         | Removed the InfiniScale® and InfiniBridge® tools                                                                                                                                                                                                                                                                          | Linux            |
|       |                         | Removed the Infinivision tool set                                                                                                                                                                                                                                                                                         | Linux            |
|       |                         | Removed the isw tool.<br>The isw tool functionality was replaced by the "mlx2c" tool.<br>For example, to scan the devices on the i2c bus, run:<br><pre>&gt; mlx2c -d &lt;dev&gt; scan</pre> instead of<br><pre>&gt; isw -d &lt;dev&gt;</pre>                                                                              | Linux            |
|       | flint                   | Added support for flash type SST25VF016B                                                                                                                                                                                                                                                                                  | Linux            |
|       |                         | Added support for flash type M25PX16                                                                                                                                                                                                                                                                                      | Linux            |
|       |                         | Added an option to set the VSD and GUIDs in a binary image file. This is useful for production to prepare images for pre-assembly flash burning.<br>These new commands are supported by Mellanox 4th generation devices.                                                                                                  | Linux            |
|       |                         | Added an option to set the VSD and GUIDs on an already burnt device. These commands (“sg” and “sv”) re-burn the existing image with the given GUIDs or VSD. When the 'sg' command is applied on a device with blank (0xff) GUIDs, it updates the GUIDs without re-burning the image.                                      | Linux            |
|       | mst                     | Added support for using ibutils2/ibdiagnet and ibnetdiscover in the 'mst ib add' command                                                                                                                                                                                                                                  | Linux            |
|       |                         | Removed the _uar, _msix and _ddr devices from the mst device list                                                                                                                                                                                                                                                         | Linux            |
|       | Debug tools             | Added support for routing I2C bus to the IS4 device on IS50XX systems                                                                                                                                                                                                                                                     | Linux            |
| 2.6.1 | Bug Fixes               | See <a href="#">Section 5, “History of Bug Fixes,” on page 28</a>                                                                                                                                                                                                                                                         | Linux            |

| Ver.  | Component / Tool        | Description                                                                                                                                                                                                                                                                                                                                                                                                                           | Operating System |
|-------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2.6.0 | MFT installation change | Added the options: --without-image-generation, --disable-dc, and --without-kernel which allow for a partial installation in order to avoid problems with SW dependencies.                                                                                                                                                                                                                                                             | Linux            |
|       |                         | Now allows a non-root user to prepare MFT RPMs                                                                                                                                                                                                                                                                                                                                                                                        | Linux            |
|       | All                     | Added Mellanox ConnectX®-2 and BridgeX® support.                                                                                                                                                                                                                                                                                                                                                                                      | Linux/Windows    |
|       | flint                   | Added a CRC check for the full image                                                                                                                                                                                                                                                                                                                                                                                                  | Linux            |
|       |                         | Support for query/burn of clp-gpxe ROM                                                                                                                                                                                                                                                                                                                                                                                                | Linux            |
|       |                         | Prevents burning a ConnectX-2 image onto a ConnectX device and vice versa                                                                                                                                                                                                                                                                                                                                                             | Linux            |
|       |                         | Added a logging option to flint                                                                                                                                                                                                                                                                                                                                                                                                       | Linux            |
|       |                         | For the ConnectX device family only:<br>Added commands for an independent burn/read/remove of an Expansion ROM image.<br><br><i>For firmware versions earlier than 2.7.000:</i> It is possible to read the ROM image, or to replace an already existing ROM image (by the burn command). However, burning a new ROM image in case a previous image did not exist is not possible, nor is it possible to remove an existing ROM image. | Linux            |
|       | mlxburn                 | Added the -fw_dir option which looks for a suitable FW file in the given directory                                                                                                                                                                                                                                                                                                                                                    | Linux            |
|       |                         | Support for generating a non-fail-safe image for ConnectX/ConnectX-2, InfiniScale IV, and BridgeX devices                                                                                                                                                                                                                                                                                                                             | Linux            |
|       | Debug tools             | Updated the mlx2c utility                                                                                                                                                                                                                                                                                                                                                                                                             | Linux            |
|       |                         | Added the mget_temp utility which reads the temperature of the ConnectX/ConnectX-2, InfiniScale IV, and BridgeX devices                                                                                                                                                                                                                                                                                                               | Linux            |

## 5 History of Bug Fixes

Table 12 lists the history of bugs fixed

**Table 12 - History of Fixed Bugs List**

| Component / Tool                                | Issue                                                                                                                                                                                                                                              | Discovered in Rev. | Fixed in Rev. |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|
| Burning tools (mlxfwmanager, flint and mlxburn) | 434106If a burning process is killed forcefully (such as: by kill -9 in Linux), subsequent runs of burning tools will not function as they require hardware resources cleanup.                                                                     | 3.7.1              | 3.8.0         |
| mst                                             | 228953“mst status -v” does not show MLNX_OFED device name (mlx4/mlx5) in XEN server machines. Hence, the MFT tools cannot be run on these devices. Also, mlxtrace/ fwtrace on Connect-IB in MEM mode cannot work, since it is using these devices. | 3.1.0              | 3.8.0         |
| mlxfwmanager                                    | 417033mlx_mfa_gen fails to calculate CRC when MFA's directory name includes spaces                                                                                                                                                                 | 3.7.0              | 3.8.0         |
| mlxfwmanager_pci                                | Mlxfwmanager_pci fails to detect devices in virtual machines of RedHat KVM. <Where the pci address of the device has dev.func !=00.0>                                                                                                              | 3.5.0              | 3.8.0         |
| All                                             | 417181Stopping/restarting mst service while one tool is running may cause some issues with the device or driver or the tool itself                                                                                                                 | 3.7.0              | 3.8.0         |
| mft_uninstall.sh                                | 418261mft_uninstall failed in some Ubuntu machines                                                                                                                                                                                                 | 3.7.1              | 3.8.0         |
| mlxfwreset                                      | 419183mlxfwreset failed due to a parsing issue on some machines where the Express capability register address contains hex digit (such as: b0)                                                                                                     | 3.7.0              | 3.8.0         |
| mlxfwmanager                                    | 418256On some Connect-IB® board types driver failed to load after loading new firmware using mlxfwreset                                                                                                                                            | 3.7.0              | 3.8.0         |
| Installation                                    | Kernel installation failed in fbk13 Operating System                                                                                                                                                                                               | 3.7.0              | 3.7.1         |
| Install script and mlxburn                      | 427821MFT installation failed in PPC64LE when TCL is not installed there                                                                                                                                                                           | 3.7.0              | 3.7.1         |
| Burning tools                                   | Burning tools may cause machine reboots in some ConnectX cards                                                                                                                                                                                     | 3.7.0              | 3.7.1         |
| Mlxfwmanager                                    | Updating a non-failsafe image is not supported                                                                                                                                                                                                     | 3.6.0              | 3.7.0         |
| Mlxfwmanager                                    | Killing an WinMFT process may interrupt subsequent runs of WinMFT tools.                                                                                                                                                                           | 3.6.0              | 3.7.0         |
| Mlxfwmanager                                    | Mlxfwmanager_pci does not work in VMware                                                                                                                                                                                                           | 3.6.0              | 3.7.0         |
| All                                             | MFT supports only one connected MTUSB-1 device at a time.                                                                                                                                                                                          | 2.7.2b             | 3.7.0         |
| mlxuptime                                       | The displayed configured frequency may present wrong results.                                                                                                                                                                                      | 3.5.0              | 3.7.0         |

**Table 12 - History of Fixed Bugs List**

| Component / Tool         | Issue                                                                                                                                                                                 | Discovered in Rev. | Fixed in Rev. |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|
| mst                      | mst remote feature does not work when the client machine is windows and the server machine is Linux                                                                                   | 3.6.0              | 3.7.0         |
| mst                      | Devices in livefish mode in FreeBSD does not appear in mst status                                                                                                                     | 3.6.0              | 3.7.0         |
| mlxburn                  | Cannot read vpd when accessing via PCI device in the format:<br>domain:bus:dev.fn                                                                                                     | 3.1.0              | 3.7.0         |
| flint                    | First flint run may fail after Ctrl+C                                                                                                                                                 | 3.5.0              | 3.6.0         |
| flint                    | Flint Connect-IB® burn corrupts the flash when burning a verbatim full flash dump as the firmware image.                                                                              | 3.1.0              | 3.6.0         |
| flint                    | Flint Connect-IB® burning using the “-vsd” flag is not functional                                                                                                                     | 3.5.0              | 3.6.0         |
| flint                    | Occasionally, CTRL+C causes flint to hang in WinPE OS                                                                                                                                 | 2.7.2b             | 3.6.0         |
| flint                    | Unexpected behavior when running swreset on flint                                                                                                                                     | 2.7.2b             | 3.6.0         |
| flint                    | CTRL+C does not clear semaphores                                                                                                                                                      | 2.7.2b             | 3.6.0         |
| flint                    | Connect-IB® burning: Flint supports VSD of up to 128 chars.                                                                                                                           | 3.5.0              | 3.6.0         |
| flint                    | wbne command causes endiannes swap                                                                                                                                                    | 3.5.0              | 3.6.0         |
| flint                    | On Windows Power Shell Ctrl+C does not function properly                                                                                                                              | 3.5.0              | 3.6.0         |
| flint                    | On FreeBSD, burning new firmware on a device with corrupt empty firmware does not work.                                                                                               | 3.5.0              | 3.6.0         |
| mst                      | Occasionally, if a node has a LID set to 0, the ”mst ib add --use-ibdr” command will not add that nodes to the mst device list                                                        | 3.1.0              | 3.6.0         |
| mst                      | On Windows, mst may not show any devices                                                                                                                                              | 3.5.0              | 3.6.0         |
| mlxmcg<br>(formerly mcg) | mlxmcg fails on PPC                                                                                                                                                                   | 3.5.0              | 3.6.0         |
| itrace                   | On Windows Ctrl+C does not exit gracefully                                                                                                                                            | 3.5.0              | 3.6.0         |
| All                      | On Windows Power Shell MFT might not work on mst devices that contain a comma                                                                                                         | 3.5.0              | 3.6.0         |
| All                      | On Windows x64, some tools are 32 bit binaries.                                                                                                                                       | 3.5.0              | 3.6.0         |
| mst                      | The mst cr device is not functional on VMware ESXi. When running it, the following message is received:<br>“You cannot access the HW configurations by mt4099_pci_cr0 device in ESXi” | 2.7.1              | 3.5.1         |

**Table 12 - History of Fixed Bugs List**

| Component / Tool | Issue                                                                                                                                                                                                                                                     | Discovered in Rev. | Fixed in Rev. |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|
| flint            | Running the “sg” (set guides) command on a striped image file containing a large expansion rom image may fail                                                                                                                                             | 2.7.1              | 3.5.1         |
| mst              | mst status does not show the mtusb-1 when adding in-band devices                                                                                                                                                                                          | 3.0.0              | 3.5.0         |
| mst              | mst shows all devices when connected to Flex10 remotely                                                                                                                                                                                                   | 3.0.0              | 3.5.0         |
| mst              | mst does not display a message when there is no HCA device connected to the machine                                                                                                                                                                       | 3.0.0              | 3.5.0         |
| mst              | 229211”mst ib add --use-ibdr” may not add all nodes in a cluster when the ports are inactive                                                                                                                                                              | 3.1.0              | 3.5.0         |
| mst              | mtusb is not supported in Windows 2012                                                                                                                                                                                                                    | 3.0.0              | 3.5.0         |
| itrace           | 272122Running the itrace tool when the driver is not loaded or when the driver failed to load may cause the server to crash.                                                                                                                              | 3.1.0              | 3.5.0         |
| flint            | 15526Setting the GUIDs on an image file which was generated using the “-exp_rom” and “-striped_image” flags fails when the expansion rom size is larger than 400KB. Current rom sizes are much smaller, thus it is not expected to cause an actual issue. | 2.6.2              | 3.5.0         |
| mlxtrace         | 212679mlxtrace not functional when using the PCI format device against Connect-IB™                                                                                                                                                                        | 3.1.0              | 3.5.0         |
| wqdump           | 202857CTRL-C stops wqdump but does not clear (release) semaphores                                                                                                                                                                                         | 2.6.2              | 3.5.0         |
|                  | 15392Running wqdump with ‘-ignore’ ignores only the QPC gateway lock but does not ignore the OB gateway                                                                                                                                                   | 2.6.2              | 3.5.0         |
| mlxburn          | 111212Setting an empty keyword is not reported as an error, but will prevent further using of the vpd_set_keyword flag<br>Setting a keyword value longer than 255 characters is not reported as an error, but may corrupt the vpd                         | 3.0.0              | 3.1.0         |
|                  | 187430 The flag “-fw_dir” is not supported when burning ConnectX®-3 Pro adapter card                                                                                                                                                                      | 3.0.0              | 3.1.0         |
| flint            | 188943When a read/write operation over mtusb/remote device fails while running flint, flint may crash, hence not handling the error well.                                                                                                                 | 3.0.0              | 3.1.0         |
|                  | 190153When trying to burn a FW+ROM that contains a unified product version to a device where the firmware has no product version, the flint tool allows keeping the device ROM instead of burning the new FW+ROM as is.                                   | 3.0.0              | 3.1.0         |

**Table 12 - History of Fixed Bugs List**

| Component / Tool      | Issue                                                                                                                                                                                                                                                 | Discovered in Rev. | Fixed in Rev. |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|
| itrace                | 202856 Access the trace messages area in host memory may fail when using Mellanox HCA cards without on-board memory (MemFree) running on Red Hat Fedora and OEL OSs.<br>Consequently, the application may crash or no trace messages will be printed. | 3.0.0              | 3.1.0         |
| mlxdump               | 190998 Activating counter gateways in ConnectX®-3 via an inband device causes firmware to hang (dead lock)                                                                                                                                            | 3.0.0              | 3.1.0         |
| Installation          | 191134/191131/189851 Installing MFT with a different prefix than /usr, causes mlxmcg, fwtrace and mstdump to not work.<br>On Fedora OS, in addition to the above tools, mst and mlx-burn do not work either.                                          | 3.0.0              | 3.1.0         |
| mget_temp             | 187135 Running mget_temp against ConnectX®-3 Pro even after initializing the diode results in high temperature (e.g. 120)                                                                                                                             | 3.0.0              | 3.1.0         |
|                       | 188802 On certain boards where the external oscillator is connected only to one port, the other port's thermal sensor will not function.                                                                                                              | 3.0.0              | 3.1.0         |
|                       | 137857 On SwitchX-A0, the YU-sensor reports the wrong temperature                                                                                                                                                                                     | 3.0.0              | 3.1.0         |
| mlxmcg (formerly mcg) | 189851 Installing MFT with a different prefix than /usr, causes mlxmcg to not work.                                                                                                                                                                   | 3.0.0              | 3.1.0         |
| fwtrace               | 99897 Occasionally, the fwtrace executable may stop working and display the following output:<br>Cannot open self /usr/bin/fwtrace or archive /usr/bin/fwtrace.pkg                                                                                    | 3.0.0              | 3.1.0         |
| wqdump                | 128149 wqdump uses certain hardware gateways which are used by the firmware. Thus when it accesses the device via the firmware and owns the hardware gateways, it causes issues for the firmware and does not work.                                   | 3.0.0              | 3.1.0         |
| Install script        | MFT cannot be installed in a path different than the default /usr                                                                                                                                                                                     | 2.7.1a             | 3.0.0         |
|                       | The installation script fails if OFED v1.4 or older is installed in the machine as it tries to search for non-existing RPMs                                                                                                                           | 2.7.1a             | 3.0.0         |
| flint                 | After firmware upgrade or downgrade, the externally managed SwitchX-A1 should be rebooted through power-cycle and not via flint "swreset" command                                                                                                     | 2.7.1a             | 3.0.0         |
| mlxburn               | The flag "-fw_dir" is not supported when burning ConnectX-3 A1 adapter card                                                                                                                                                                           | 2.7.1a             | 3.0.0         |
| mst                   | The uninstall operation leaves device files under /dev/mst                                                                                                                                                                                            | 2.7.1a             | 3.0.0         |

**Table 12 - History of Fixed Bugs List**

| Component / Tool         | Issue                                                                                                                                          | Discovered in Rev. | Fixed in Rev. |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|
| mlxmcg<br>(formerly mcg) | The tool shows the rules of port 1 in port2 line and vice versa                                                                                | 2.7.1a             | 3.0.0         |
| mstdump                  | Running mstdump on a ConnectX®-3 device may cause the firmware to hang.                                                                        | 2.7.0              | 2.7.1a        |
| flint                    | Accessing the SwitchX flash by MFT has a bug, while reading on PPC64 platform, therefore the SwitchX cannot be updated via the PPC64 machine   | 2.7.0a             | 2.7.1         |
|                          |                                                                                                                                                | 2.7.0a             | 2.7.1         |
| mlxburn                  | The flag “-fw_dir” is not supported when burning SwitchX devices                                                                               | 2.7.0a             | 2.7.1         |
| mstdump                  | Running mstdump on a SwitchX device may cause it to malfunction.                                                                               | 2.7.0a             | 2.7.1         |
| flint                    | Burning the firmware into ConnectX®-3 A1 adapter using the MST CR device resulted in failure.                                                  | 2.6.2              | 2.7.0a        |
| mst                      | In-band access is not supported in Windows MFT                                                                                                 | 2.6.0              | 2.7.1         |
| All                      | No MTUSB-1 support for 64-bit architecture in Windows MFT                                                                                      | 2.6.0              | 2.7.1         |
| mst ib add               | “mst ib add” fails to add in-band devices when the IB driver is newer than MLNX_OFED_LINUX-1.5.3-0                                             | 2.7.0              | 2.7.0a        |
| Mlx2c                    | mlx2c scan fails the first time when using mtusb.                                                                                              | 2.6.2              | 2.7.0         |
| flint                    | The sg (set guides) command on a VPI device may burn MACs/GUIDs with value 0xff                                                                | 2.6.2              | 2.7.0         |
|                          | If the “-striped_image” flag is used in a burn command, image burn will fail or burn a corrupt image.                                          | 2.6.2              | 2.7.0         |
| mst                      | Occasionally, 'mst restart' locked the flash semaphore                                                                                         | 2.6.1              | 2.6.2         |
|                          | 'mst ib add' added non-Mellanox device to the in-band device list                                                                              | 2.6.1              | 2.6.2         |
| flint                    | Typo in flint help description of Expansion ROM read. The flint help display lists the Expansion ROM read command as “rrrom” instead of “rrom” | 2.6.0              | 2.6.1         |
| mst                      | In-band access does not work with OFED 1.5                                                                                                     | 2.6.0              | 2.6.1         |