



Release Notes

# Mellanox Firmware Tools (MFT) Release Notes for Linux

mlxburn / flint / spark / ibspark

Rev 2.0.0

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Mellanox Firmware Update Tools (MFT) for Linux Release Notes

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# 1 Overview

These are the release notes for Rev 2.0.0 of the **Mellanox Firmware Tools (MFT)** package for Linux. The release notes include:

- This “Overview” section which includes the subsections:
  - “Package Tools” on page 3
  - “Software Dependencies” on page 4
  - “Supported Platforms and Operating Systems” on page 4
- “Changes and New Features” on page 4
- “Known Issues” on page 6
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## 1.1 Package Tools

The following is a list of the available tools in the package, together with a brief description of what each tool performs. The tools apply to single Switch Systems or HCA boards, but not to clusters.

- mlxburn** This tool provides the following functions:
- Generation of a standard or customized Mellanox firmware image for burning (in binary or .mlx format)
  - Burning an image to the Flash/EEPROM attached to a Mellanox HCA or switch device
  - Querying the firmware version loaded on an HCA board
  - Displaying the VPD (Vital Product Data) of an HCA board
- flint** This tool burns a firmware *binary* image to the Flash(es) attached to an HCA board. It includes query functions to the burnt firmware image and to the binary image file.
- spark** This tool burns a firmware *binary* image to the EEPROM(s) attached to a switch device. It includes query functions to the burnt firmware image and to the binary image file. The tool accesses the EEPROM and/or switch device via an I2C-compatible interface.
- ibspark** This tool burns a firmware *binary* image to the EEPROM(s) attached to a switch device. It includes query functions to the burnt firmware image and to the binary image file. The tool accesses the switch device and the EEPROM via vendor-specific MADs over the InfiniBand fabric (In-Band tool).
- Debug Utilities** A set of debug utilities (e.g., itrace, mstdump, isw, and i2c)

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*.

## 1.2 Software Dependencies

Table 1 - MFT Software Dependencies on Linux

Software Package	Required Version
Perl	5.6 or later
Expat	1.95 or later
zlib	1.1.4 or later
Kernel sources	Machine's kernel version
OFED <sup>1</sup>	1.1 or later

1. Required for the optional installation of ibspark only. See the *Mellanox Firmware Tools User's Manual* for details.

## 1.3 Supported Platforms and Operating Systems

Table 2 lists all supported platforms and operating systems.

Table 2 - Supported Platforms and Operating Systems

Architecture	Operating System	Kernel
x86 / x86_64	SLES10.0	2.6.16.21-0.8-smp
	SuSE Linux 9.3	2.6.11.4-20a-smp
	RHEL5.0	2.6.18-8.el5
	RHEL4.0-U3	2.6.9-34.ELsmp
	RHEL4.0-U4	2.6.9-42.ELsmp
	RHEL4.0-U5	2.6.9-55.ELsmp
	FedoraC6	2.6.18-1.2798.ELsmp
IA64	RHEL4.0-U4	2.6.9-42.ELsmp
PPC64	RHEL5.0	2.6.18-8.el5

# 2 Changes and New Features

- Support for PPC64 architecture
- Added the *ibspark* tool for InfiniScale™ III (switch) In-Band firmware burning
- New features of *mlxburn*:
  - Support for ConnectX™ IB and ConnectX™ EN devices
  - Device type auto-detection (when burning a binary image)
  - firmware query option (-query flag)
  - Support for switch systems based on Mellanox Technologies' Product Development Kits (-sw\_sys flag)
  - InfiniScale™ III switch In-Band firmware burning (-inband flag)

- VPD write functionality
- New features of *flint*:
  - Support for ConnectX™ IB and ConnectX™ EN devices
  - MAC assignment for ConnectX™ EN devices (-mac flag)
  - Display of Expansion ROM version via firmware query
  - Flash access code is now implemented in a separate mflash lib
- New features of *spark*:
  - Display of firmware version via firmware query
  - GUID assignment for InfiniScale™ switch devices (using the -guid and -is1 flags)

## 3 Bug Fixes

Table 3 lists the bugs fixed in this release.

Table 3 - Fixed Bugs List

	Tool	Issue	Description
1.	mlxburn	Expansion ROM cannot be provided during binary image burning	No burning will occur upon providing an Expansion ROM with a binary image burn command (-i flag). An error message will be displayed. Previous versions burnt the binary image without the Expansion ROM and without any user warning.
2.	flint	Ignored user GUIDs if not run from TTY	User assigned GUIDs are no longer ignored when running <i>flint</i> from a script rather than a console
3.		Wrong verify final message	Fixed
4.	spark	Incorrect System Image GUID setting during firmware image burning	Fixed

## 4 Known Issues

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

Table 4 - Known Bugs and Limitations

	Tool	Issue	Description	Workaround	To be Fixed on
1.	Installation issue	No explicit dependency check	If a required software package (such as expat) is missing, the log file shows multiple compilation errors without an explicit error message indicating the missing software	Verify that the following files exist under the compiler's include directories: expat.h, perl.h, and zlib.h, then install the missing SW dependency package (see Table 1)	Next release
2.	mlxburn	Wrong exit value returned upon VPD query failure	If a VPD query fails, an error message is printed to the screen, but the exit value may indicate a good exit status (0)		Next release
3.	ibspark / mlxburn -inband	Parallel tool runs with wrong LIDs may hang the driver and the tool	Parallel tool runs which target multiple devices and mistakenly include non- <i>InfiniScale III</i> LIDs may hang the ibspark and the driver	Reboot the machine and rerun with correct LIDs	Next release
4.		Can access only the subnet connected to the first active port on the first active HCA	The tool always sends MAD packets for burning through the first active port on the first active HCA. If the target device is in a subnet connected through a different port, it cannot be reached.	Connect the subnet of the target device to the first active port on the first active HCA	Next release
5.	mst	Redundant display of HCA device status on machines with multiple HCA devices	On machines with multiple HCA devices, the "mst status" command may display a device multiple times.	Ignore the redundant listings	Next release
6.	itrace	No support for host memory access on MemFree adapter cards with Red Hat OS	For Mellanox HCA cards without on-board memory (MemFree) with a Red Hat OS running, attempts to access the trace messages area in host memory may fail. Consequently, the application may crash or no trace messages will be printed without any error message	Use the --nomap flag for MemFree cards with Red Hat OS	