



# **NVIDIA Firmware Tools (MFT) Documentation v4.26**

# Table of contents

Release Notes	3
User Manual	4
Document Revision History	6
Document Conventions and Related Documents	7
Legal Notices and 3rd Party Licenses	9

## Overview

The NVIDIA® Firmware Tools (MFT) package is a set of firmware management and debug tools for NVIDIA devices. The document describes MFT features, tools content and configuration.

The documentation here relates to:

- [Release Notes](#)
- [User Manual](#)

## Intended Audience

This manual is intended for system administrators responsible for managing and debugging firmware for NVIDIA devices.

See also [Document Conventions and Related Documents](#).

## Software Download

To download product software, please refer to the [Firmware Tools \(MFT\)](#) product page.

## Document Revision History

A list of the changes made to the user manual are provided in [User Manual Revision History](#).

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# Release Notes

These are the release notes for NVIDIA® Firmware Tools (MFT). MFT 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.**

## Release Notes Update History

Revision	Date	Description
4.26	November 5, 2023	Initial release of this Release Notes version. This version introduces <a href="#">Changes and New Features</a> .

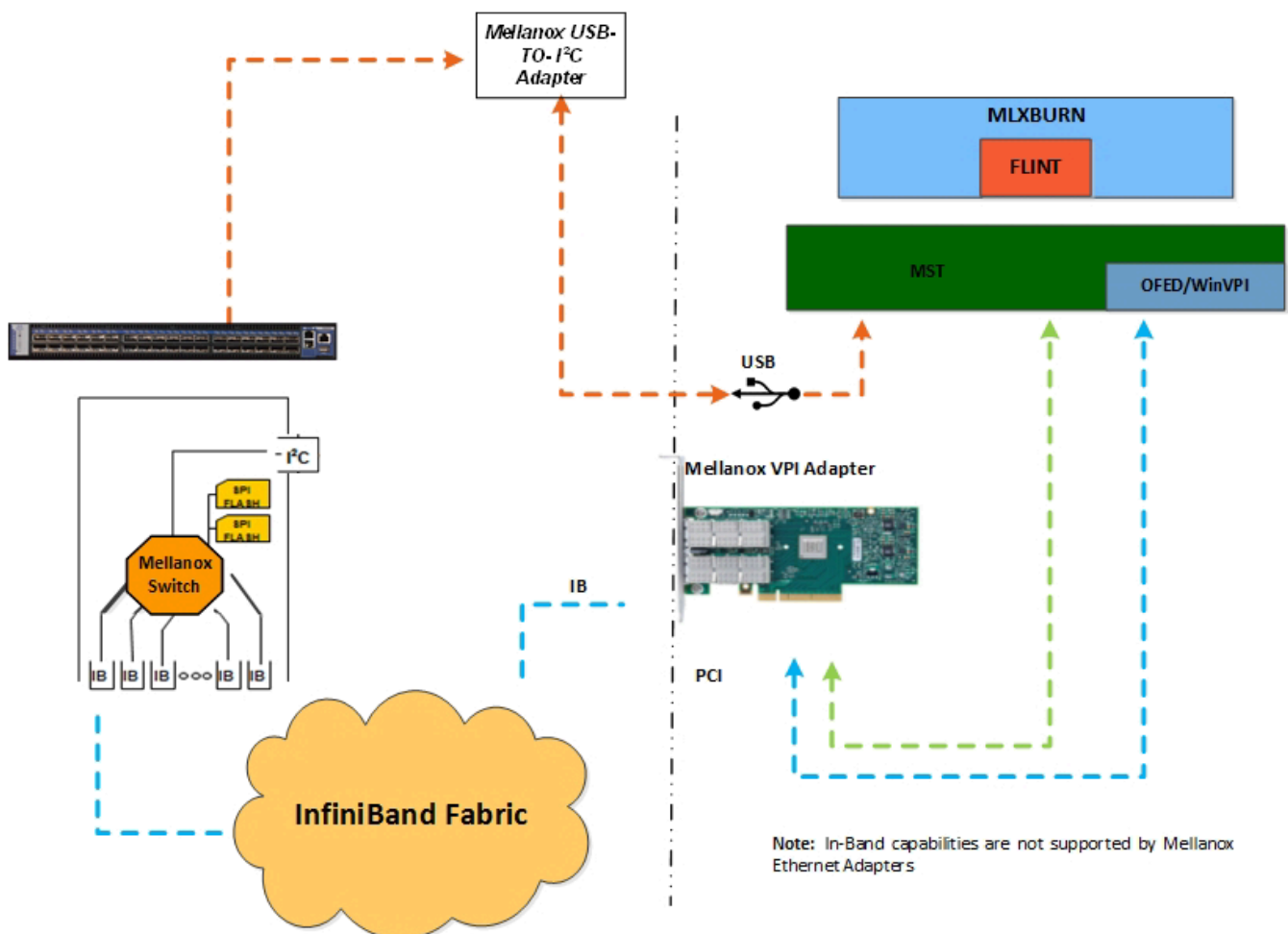
# User Manual

MFT package is a set of firmware management and debug tools for NVIDIA® devices. MFT can be used for:

- Generating a standard or customized NVIDIA firmware image
- Querying for firmware information
- Burning a firmware image to a single NVIDIA device

The list of the available tools in the package can be found in the [Release Notes](#) document.

## MFT – A Scheme of Operation



# Supported Operating Systems

Please refer to the release notes of your version for supported platforms and kernels.

## **Warning**

Unless explicitly specified, the usage of the tools is identical for all operating systems.

## MFTshell

## **Warning**

This is an early alpha release of MFTshell with limited capabilities.

The MFTshell is a frontend for a variety of MFT tools. It is designed to be a starting point for entry-level users to become familiar with the functionality of the tools. In general, commands entered in the shell, result in the execution of the corresponding tool. You can use the autocompletion feature of MFTshell by pressing the tab key. You may access helpful information by typing ".help" followed by the command on which you wish to receive helpful information.

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# Document Revision History

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# Document Conventions and Related Documents

## Abbreviations and Acronyms

Term	Description
MFT	NVIDIA® Firmware tools
MST	Software tools and it is the name of the script that starts/stops the driver used by MFT tools
mlx	Extension of the text firmware file which contains all the firmware content
ini	Extension of the firmware configuration file which is in INI format and contains card specific configurations.
bin	Extension of the binary firmware file which is a combination of INI and mlx file
MFA	Extension of the a firmware file that contains several binary files of firmware for different cards/boards
4th Generation ICs/ Group I of ICs	Contains the following devices: <ul style="list-style-type: none"><li>• ConnectX-3</li><li>• ConnectX-3 Pro</li></ul>
5th Generation ICs/ Group II of ICs	Contains the following devices and newer: <ul style="list-style-type: none"><li>• Connect-IB</li><li>• Switch-IB</li><li>• Switch-IB 2</li><li>• NVIDIA Spectrum</li><li>• NVIDIA Spectrum-2</li><li>• ConnectX-4</li></ul>



Term	Description
	<ul style="list-style-type: none"> <li>• ConnectX-4 Lx</li> <li>• ConnectX-5</li> <li>• ConnectX-5 Ex</li> <li>• ConnectX-6</li> <li>• ConnectX-6 Dx</li> <li>• NVIDIA BlueField</li> </ul>

## Reference Documents and Downloads

Reference Documents and Downloads	Location
MFT web page	<a href="https://network.nvidia.com/products/adapter-software/firmware-tools/">https://network.nvidia.com/products/adapter-software/firmware-tools/</a>
Firmware Release Notes	<a href="https://docs.nvidia.com/networking/category/adapterfw">https://docs.nvidia.com/networking/category/adapterfw</a>
MLNX_OFED	<a href="https://docs.nvidia.com/networking/category/mlnxofedib">https://docs.nvidia.com/networking/category/mlnxofedib</a>
WinOF/WinOF-2	<a href="https://docs.nvidia.com/networking/category/winof2">https://docs.nvidia.com/networking/category/winof2</a>
VMware	<a href="https://docs.nvidia.com/networking/category/vmwareesxiasyncdrivers">https://docs.nvidia.com/networking/category/vmwareesxiasyncdrivers</a>
FreeBSD	<a href="https://docs.nvidia.com/networking/category/freebsd">https://docs.nvidia.com/networking/category/freebsd</a>

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# Legal Notices and 3rd Party Licenses

The following are the drivers' software, tools and HCA firmware legal notices and 3rd party licenses.

Product	Version	Legal Notices and 3rd Party Licenses
Firmware	xx.39.2048	<ul style="list-style-type: none"><li>• <a href="#">HCA Firmware EULA</a></li><li>• <a href="#">3rd Party Notice</a></li></ul>
MLNX_OFED	23.10-1.1.9.0	<ul style="list-style-type: none"><li>• <a href="#">License</a></li><li>• <a href="#">3rd Part Notice</a></li></ul>
MFT FreeBSD	4.26.1	<ul style="list-style-type: none"><li>• <a href="#">3rd Party Notice</a></li><li>• <a href="#">License</a></li></ul>
MFT Linux		<ul style="list-style-type: none"><li>• <a href="#">3rd Party Notice</a></li><li>• <a href="#">License</a></li></ul>
MFT VMware		<ul style="list-style-type: none"><li>• <a href="#">3rd Party Notice</a></li><li>• <a href="#">License</a></li></ul>
MFT Windows		<ul style="list-style-type: none"><li>• <a href="#">3rd Party Notice</a></li><li>• <a href="#">License</a></li></ul>
msfflint		<ul style="list-style-type: none"><li>• <a href="#">3rd Party Notice</a></li><li>• <a href="#">License</a></li></ul>

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