



Connect. Accelerate. Outperform.™

Mellanox Switch-IB™ Firmware Release Notesfor

Rev 11.0200.0120

NOTE:

THIS HARDWARE, SOFTWARE OR TEST SUITE PRODUCT (“PRODUCT(S)”) AND ITS RELATED DOCUMENTATION ARE PROVIDED BY MELLANOX TECHNOLOGIES “AS-IS” WITH ALL FAULTS OF ANY KIND AND SOLELY FOR THE PURPOSE OF AIDING THE CUSTOMER IN TESTING APPLICATIONS THAT USE THE PRODUCTS IN DESIGNATED SOLUTIONS. THE CUSTOMER'S MANUFACTURING TEST ENVIRONMENT HAS NOT MET THE STANDARDS SET BY MELLANOX TECHNOLOGIES TO FULLY QUALIFY THE PRODUCT(S) AND/OR THE SYSTEM USING IT. THEREFORE, MELLANOX TECHNOLOGIES CANNOT AND DOES NOT GUARANTEE OR WARRANT THAT THE PRODUCTS WILL OPERATE WITH THE HIGHEST QUALITY. ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT ARE DISCLAIMED. IN NO EVENT SHALL MELLANOX BE LIABLE TO CUSTOMER OR ANY THIRD PARTIES FOR ANY DIRECT, INDIRECT, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING, BUT NOT LIMITED TO, PAYMENT FOR PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY FROM THE USE OF THE PRODUCT(S) AND RELATED DOCUMENTATION EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.



Mellanox Technologies
 350 Oakmead Parkway Suite 100
 Sunnyvale, CA 94085
 U.S.A.
www.mellanox.com
 Tel: (408) 970-3400
 Fax: (408) 970-3403

© Copyright 2015. Mellanox Technologies. All Rights Reserved.

Mellanox®, Mellanox logo, BridgeX®, CloudX logo, Connect-IB®, ConnectX®, CoolBox®, CORE-Direct®, GPUDirect®, InfiniHost®, InfiniScale®, Kotura®, Kotura logo, Mellanox Federal Systems®, Mellanox Open Ethernet®, Mellanox ScalableHPC®, Mellanox Connect Accelerate Outperform logo, Mellanox Virtual Modular Switch®, MetroDX®, MetroX®, MLNX-OS®, Open Ethernet logo, PhyX®, SwitchX®, TestX®, The Generation of Open Ethernet logo, UFM®, Virtual Protocol Interconnect®, Voltaire® and Voltaire logo are registered trademarks of Mellanox Technologies, Ltd.

Accelio™, CyPU™, FPGADirect™, HPC-X™, InfiniBridge™, LinkX™, Mellanox Care™, Mellanox CloudX™, Mellanox Multi-Host™, Mellanox NEO™, Mellanox PeerDirect™, Mellanox Socket Direct™, Mellanox Spectrum™, NVMeDirect™, StPU™, Spectrum logo, Switch-IB™, Unbreakable-Link™ are trademarks of Mellanox Technologies, Ltd.

All other trademarks are property of their respective owners.

Table of Contents

Table of Contents	3
List of Tables	4
Release Update History	5
Chapter 1 Overview	6
1.1 Supported Systems	6
1.2 Firmware and Software Interoperability	6
1.3 Supported Cables and Modules	6
1.4 Firmware Upgrade	7
1.5 Revision Compatibility	7
Chapter 2 Changes and New Features in Rev 11.0200.0120	8
Chapter 3 Known Issues	9
Chapter 4 Bug Fixes History	10
Chapter 5 Firmware Changes and New Feature History	11

List of Tables

Table 1 -Release Update History	5
Table 2 -Supported Systems	6
Table 3 -Qualified EDR Cables	6
Table 4 -Firmware Rev 11.0200.0120 Changes and New Features	8
Table 5 -Known Issues	9
Table 6 -Fixed Bugs List	10
Table 7 -History of Major Changes and New Features	11

Release Update History

Table 1 - Release Update History

Release	Date	Description
Rev 11.0200.0120	November 26, 2015	Updated “Changes and New Features”
	August 06, 2015	First release

1 Overview

These are the release notes for the Switch-IB™ firmware, Rev 11.0200.0120. This firmware complements the Switch-IB™ silicon architecture with a set of advanced features, allowing easy and remote management of the switch.



Firmware Rev 11.0200.0120 is compatible with MFT tools v3.8.0-56. Using older versions of MFT tools causes failure during image creation.

1.1 Supported Systems

This firmware supports the devices and protocols listed in [Table 2](#). For the most updated list of switches supported, visit the Firmware Download pages on Mellanox.com.

Table 2 - Supported Systems

Device Part Number	Description
MSB7790	Switch-IB™ based EDR InfiniBand switch; 36 QSFP28 ports; externally managed

1.2 Firmware and Software Interoperability

To raise links with platforms based on the following ICs, these minimum requirements must be met:

- ConnectX®-2 firmware version 2.9.1000
- ConnectX®-3 – firmware v2.31.6130
- ConnectX®-4 – firmware 12.0100.6440
- Connect-IB® – firmware v10.10.4020
- SwitchX® – 9.2.7300 (or MLNX-OS 3.3.5006)

1.3 Supported Cables and Modules

[Table 3](#) presents the qualified EDR cables for externally managed EDR switch systems.

Table 3 - Qualified EDR Cables

Mellanox P/N	Description	Cable Length
MCP1600-E00A	Mellanox® passive copper cable, up to 100Gb/s, QSFP28, LSZH	0.5m
MCP1600-E001	Mellanox® passive copper cable, up to 100Gb/s, QSFP28, LSZH	1m
MCP1600-E01A	Mellanox® passive copper cable, up to 100Gb/s, QSFP28, LSZH	1.5m
MCP1600-E002	Mellanox® passive copper cable, up to 100Gb/s, QSFP28, LSZH	2m
MCP1600-E02A	Mellanox® passive copper cable, up to 100Gb/s, QSFP28, LSZH	2.5m
MCP1600-E003	Mellanox® passive copper cable, up to 100Gb/s, QSFP28, LSZH	3m

Table 3 - Qualified EDR Cables

Mellanox P/N	Description	Cable Length
MFA1A00-E005	Mellanox® active fiber cable, up to 100Gb/s, QSFP28	5m
MFA1A00-E010	Mellanox® active fiber cable, up to 100Gb/s, QSFP28	10m
MFA1A00-E015	Mellanox® active fiber cable, up to 100Gb/s, QSFP28	15m
MFA1A00-E050	Mellanox® active fiber cable, up to 100Gb/s, QSFP28	50m
MFA1A00-E100	Mellanox® active fiber cable, up to 100Gb/s, QSFP28	100m

Please refer to the LinkX™ Cables and Transceivers webpage (www.mellanox.com → Products → Cables and Transceivers) for the full list of supported cables and transceivers.

1.4 Firmware Upgrade

Firmware upgrade may be performed directly from any previous version to this version. To upgrade firmware, please refer to the Mellanox Firmware Tools (MFT) package at:

http://www.mellanox.com/page/management_tools

1.5 Revision Compatibility

Firmware Rev 11.0200.0120 complies with the following programmer's reference manual:

- SwitchX® Family Programmer's Reference Manual (PRM), Rev 1.15 or later

2 Changes and New Features in Rev 11.0200.0120

Table 4 - Firmware Rev 11.0200.0120 Changes and New Features

Category	Description
Power Management	Reduced typical system power consumption to 136W
Network	Added support for Adaptive Routing
Link	Removed forward error correction (FEC) on cables shorter or equal to 2 meters and with 12G attenuation less than 14.

3 Known Issues

Table 5 describes known issues in this firmware release and possible workarounds.

Table 5 - Known Issues

Index	Category	Description	Possible Workaround
1.	General	The following features are not supported: <ul style="list-style-type: none"> • Congestion control • Port Mirroring 	N/A
2.	Configuration Management	FDR10 speed is not supported.	N/A
3.	Chassis Management	Switch LEDs do not blink during boot	N/A
4.	LEDs	Port LEDs do not flash on system boot.	N/A
5.	LEDs	Fan LEDs may behave unexpectedly in the first 5 seconds of system boot.	N/A
6.	Power Management	Link width reduction is not supported in this release.	N/A
7.	Link	EDR links activate forward error correction (FEC) on cables longer than 2m.	N/A
8.	Interoperability	If QDR is not enabled for the switch's InfiniBand Port Speed while connected to ConnectX-3/Pro or Connect-IB® FDR adapters or to SwitchX® / SwitchX-2 FDR switches, links will rise at SDR or DDR (even if FDR is enabled)	Enable QDR (in addition to FDR) when connecting to peer ports running at FDR

4 Bug Fixes History

Table 6 - Fixed Bugs List

Index	Category	Description	Discovered in Release	Fixed in Release
1.	Link	Bit error rate is not optimal on QDR links.	11.1.1002	11.0200.0118
2.	Interoperability	Only connections to Switch-IB™, ConnectX-3, ConnectX-3 Pro, Connect-IB, and SwitchX® family devices are supported.	11.1.1002	11.0100.0112
3.	Interoperability	Connecting a cable longer than 30m to ConnectX-3, ConnectX-3 Pro or Connect-IB platforms causes interoperability issues.	11.1.1002	11.0100.0112
4.	pLFT	Packets are lost on private linear forwarding table (pLFT)	11.1.1002	11.0100.0112
5.	Chassis Management	Port LEDs may continue to blink even after a bad cable is removed.	11.1.1002	11.0100.0112

5 Firmware Changes and New Feature History

Table 7 - History of Major Changes and New Features

Category	Description
Release 11.0100.0112	
General	Added virtual-lane-to-virtual-lane (VL2VL) support as part of ExtendedSwitchInfo
General	Bug fixes
Release 11.1.1002	
General	This is the first firmware GA release for Switch-IB™ based EDR InfiniBand switch
General	Reduced fan speed to 60% from 100% in SB7790 switch system