



NVIDIA Switch-IB 2 Firmware v15.2008.1604 Release Notes

Table of contents

Firmware Compatible Products	3
Changes and New Features	5
Bug Fixes in this Firmware Version	6
Known Issues	7
Changes and New Features History	9
Bug Fixes History	12

Release Notes Update History

Revision	Date	Description
15.2008.1604	August 17, 2020	Initial release of this Release Notes version, This version introduces Bug Fixes .

Overview

Firmware which is added at the time of manufacturing, is used to run user programs on the device and can be thought of as the software that allows hardware to run. Embedded firmware is used to control the functions of various hardware devices and systems, much like a computer's operating system (OS) controls the function of software applications. Firmware may be written into read-only memory (ROM), erasable programmable read-only memory (EPROM) or flash memory.

Firmware Download

Please visit <https://www.nvidia.com/en-us/networking/> → Support → Support → Firmware Download

Document Revision History

A list of the changes made to this document are provided in [Changes and New Features History](#).

Firmware Compatible Products

These are the release notes for the NVIDIA® Mellanox Switch-IB™ 2 firmware. This firmware complements the Switch-IB™ 2 silicon architecture with a set of advanced features, allowing easy and remote management of the switch.

Supported Systems

This firmware supports the devices and protocols listed in the table below.

Device Part Number	PSID	Description
MSB7890	MT_2640110032	Switch-IB™ 2 based EDR InfiniBand switch; 36 QSFP28 ports; externally managed

Firmware Interoperability

This firmware version has been validated to work against platforms with the following software versions.

HCA/Switch	Firmware Version
Switch-IB™	11.2008.1604
SwitchX®-2	9.4.2000
ConnectX®-6	20.28.1002
ConnectX®-5 (Ex)	16.28.1002
ConnectX-4	12.28.1002
Connect-IB®	10.16.6000
ConnectX-3 (Pro)	2.42.5000
MFT	4.15.0

Supported Cables and Modules

For a list of the Mellanox supported cables please visit the LinkX™ Cables and Transceivers page of the Mellanox Website at:

<http://www.mellanox.com/products/interconnect/cables-configurator.php>.

Note

When using Mellanox AOC cables longer than 50m use one VL to achieve full wire speed.

Please refer to the LinkX™ Cables and Transceivers webpage (<http://www.mellanox.com/products/interconnect/cables-configurator.php>) for the full list of supported cables and transceivers.

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

PRM Revision Compatibility

This firmware version complies with the Mellanox Switches Programmer's Reference Manual (PRM), Rev 1.45 or later.

Changes and New Features

Category	Description
	15.2008.1604
Bug Fixes	See Bug Fixes

Bug Fixes in this Firmware Version

The following table provides a list of bug fixed in this release. For a list of old Bug Fixes, please see [Bug Fixes History](#).

Internal Ref.	Issue
224922 7	Description: The SN and PN fields values in Switch-IB 2 with 550W PSU show as zero in some devices.
	Keywords: 550W PSU
	Discovered in Release: 15.2008.1300
	Fixed in Release: 15.2008.1600

Known Issues

The following sections describe known issues in firmware releases and possible workarounds.

Internal Ref.	Issue
955641	Description: VL_HIGH_LIMIT is not affecting the VL arbiter as expected.
	Workaround: Arbitration table should be set using only the low priority VL arbitration table
	Keywords: VL Arbitration
1249608	Description: Configuring weight “0” for VL, results in unexpected behavior.
	Workaround: Arbitration table should be configured with weights other than “0”.
	Keywords: VL Arbitration
982005	Description: When connecting 6 & 7 meters, link may raise DDR instead of QDR against GD4000/IS5000 switches.
	Workaround: N/A
	Keywords: Link
-	Description: Congestion Control 1.3 supports congestion log only.
	Workaround: N/A
	Keywords: QoS
-	Description: VL2VL mode is not supported from an aggregation port to an egress port.
	Workaround: N/A
	Keywords: SHARP
-	Description: FDR link may rise with symbol errors on optic EDR cable longer than 30M.
	Workaround: N/A
	Keywords: Link

Internal Ref.	Issue
-	Description: Port LEDs do not flash on system boot.
	Workaround: N/A
	Keywords: LEDs
-	Description: Link width reduction is not supported in this release.
	Workaround: N/A
	Keywords: Power Management
-	Description: 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).
	Workaround: Enable QDR (in addition to FDR) when connecting to peer ports running at FDR
	Keywords: Interoperability

Changes and New Features History

Note

This section includes history of changes and new feature of 3 major releases back. For older releases history, please refer to the relevant firmware versions.

Category	Description
	15.2008.1300
General	Stability Improvements.
	15.2008.0236
General	Stability Improvements.
Cables	Added support for the Hirakawa cable.
Power Supply	Delta 550W Power Supply is now backward compatible with Delta 460W PSU.
	15.2007.0300
Performance	Added support for link-negotiated credit size.
	15.2000.3276
Power Supply	Added support for Delta 550W Power Supply.
	15.2000.2626
General	Added support for Error Injection with PTER register.
Speed Link	SDR link speed on InfiniBand systems is now available for all cables, including cables that do not advertise InfiniBand speed in their memory map.

Category	Description
15.2000.2046	
PSU's Temperature Thresholds	Now PSU's temperature thresholds (high and low) can be queried via the MTMP register.
15.2000.1600	
Bug Fixes	See Bug Fixes History .
15.2000.1142	
Bug Fixes	See Bug Fixes History .
15.2000.1000	
Chassis Management	Changed the PSU voltage read from "Vout" to "Vin".
General	System stability improvements.
15.19100.0618	
General	Added support for PortStateTable standard SMP MAD.
Chassis Management	Added support for PSU utilization and consumption of output power.
Chassis Management	Added support for PSU temperature and 12V Vout monitoring.
15.1701.0010	
General	Added support for congestion control log 1.3 as described in IBTA IB specification release 1.3, Annex A10.
General	Added additional information (PDDR pages as described in the <i>Switches PRR</i> , section 8.15.50 PDDR - Port Diagnostics Database Register) to diagnostics data VS-MAD as described in Mellanox Vendor Specific MAD Specification 1.3 section 3.33 - DiagnosticData.
Chassis Management	Added ability to read part numbers and serial numbers for fans (by using MFNR register) and the power supply (by using MSPS register).
15.1610.0210	
SHARP	Added support for SHARP reproducibility configuration.
15.1610.0206	
General	Bug fixes

Category	Description
15.1610.0200	
Chassis Management	Added ability to read part numbers and serial numbers for fans (by using MFNR register) and the power supply (by using MSPS register).
15.1610.0196	
General	Added support for congestion control log 1.3 as described in IBTA IB specification release 1.3, Annex A10.
General	Added additional information (PDDR pages as described in the <i>Switches PRM</i> , section 8.15.50 PDDR - Port Diagnostics Database Register) to diagnostics data VS-MAD as described in Mellanox Vendor Specific MAD Specification 1.4 section 3.33 – DiagnosticData.
SHARP	Added support for group join optimization using root GID as described in Mellanox Vendor Specific MAD Specification 1.4 section 4.10 – Aggregation Group Join.

Bug Fixes History

Internal Ref.	Issue
178668 6	Description: Wrong behavior of ARGroupTableCopy MAD.
	Keywords: Adaptive Routing
	Discovered in Release: 15.2000.1142
	Fixed in Release: 15.2000.1600
173019 4	Description: In rare cases, when connecting between Switch-IB/Switch-IB 2 and Quantum switch systems, traffic loss might occur.
	Keywords: Traffic, Switch-IB/Switch-IB 2, Quantum
	Discovered in Release: 15.2000.1000
	Fixed in Release: 15.2000.1142
133746 9	Description: In rare cases, when a receiver's electrical eye is narrow, link might raise with BER higher (worse) than 10-12.
	Keywords: Link
	Discovered in Release: 15.1500.0034
	Fixed in Release: 15.1630.0206
109200 5	Description: Enable SDR speed regardless of cable supported speeds
	Keywords: Link
	Discovered in Release: 15.1400.0102
	Fixed in Release: 15.1500.0106
108952 8	Description: SHARP not functional in case of groups larger than 14 members
	Keywords: SHARP
	Discovered in Release: 15.1430.0160
	Fixed in Release: 15.1500.0106
964972	Description: In info block 29 (Thermal algorithm values): DELTA TEMP REPORTING > '4' will be considered '1'. DELTA TEMP REPORTING = 1,2,3

Internal Ref.	Issue
	returns no issues.
	Keywords: Thermal Management
	Discovered in Release: 15.1310.0138
	Fixed in Release: 15.1310.0150
-	Description: VL arbitration does not distribute traffic as expected in case of multiple VLs
	Keywords: General
	Discovered in Release: 15.1200.0102
	Fixed in Release: 15.1300.0100

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