NVIDIA Quantum Firmware Release Notes v27.2012.2200 LTS

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Release Notes Update History

Revision	Date	Description
1.0	January 30, 2024	Initial release of this release notes version.

1 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.

1.1 Firmware Download

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

1.2 Document Revision History

A list of the changes made to this document are provided in Changes and New Features and Changes and New Features History.

2 Firmware Compatible Products

These are the release notes for the NVIDIA Quantum™ firmware. This firmware complements the NVIDIA Quantum switch with a set of advanced features, allowing easy and remote management of the switch.

This firmware supports the following protocols:

- InfiniBand—SDR, QDR, FDR EDR, HDR

2.1 Supported Switch Systems

This firmware supports the devices listed in the table below:

Model Number	Description
MQM8790	NVIDIA Quantum 40-port Non-blocking Externally Managed HDR 200Gb/s InfiniBand Smart Switch

2.2 Firmware Interoperability

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

HCA/Switch	Firmware Version
NVIDIA Quantum	27.2012.2200
Switch-IB 2	15.2010.5002
ConnectX®-7	28.37.1014
ConnectX-6	20.37.1014
ConnectX-5	16.35.2000
ConnectX-4	12.28.2006
Connect-IB®	10.16.1200
Minimal MFT version	4.24.0-72

> ⚠ The minimal required ConnectX-6 firmware version is 20.25.1532.

2.3 Supported Cables

> ⚠ NVIDIA does not support InfiniBand cables or modules not qualified or approved by NVIDIA.

2.3.1 Switch and HCAs InfiniBand Cable Connectivity Matrix

NVIDIA Quantum™ based switches and NVIDIA® ConnectX®-6 HCAs support HDR (PAM4, 50Gb/s per lane) and EDR (NRZ, 25Gb/s per lane) technologies. As the ConnectX adapter cards are identified by their maximum supported throughput (e.g. ConnectX-6 VPI 100Gb/s card can support either 2-lanes of 50Gb/s or 4-lanes of 25Gb/s), the exact connectivity will be determined by the cable that is being used.

As a reference:

Speed Mode	Speed Supported	Number of Lanes Used
HDR	200Gb/s InfiniBand	4 lanes of 50Gb/s
HDR100	100Gb/s InfiniBand	2 lanes of 50Gb/s
EDR	100Gb/s InfiniBand	4 lanes of 25Gb/s
FDR	56Gb/s	4 lanes of 14Gb/s

The following tables present the connectivity matrix, between NVIDIA Quantum based switches, ConnectX-6 HCA, and the cables.

2.3.2 Switch-to-Switch Connectivity

Switch	Switch	Cable					
		H cable DAC	H cable AOC	HDR DAC	HDR AOC	EDR DAC/ AOC	FDR DAC/ AOC
NVIDIA Quantum™	NVIDIA Quantum	No such cable	HDR100	HDR	HDR	EDR	N/A
NVIDIA Quantum	NVIDIA® Switch-IB®/ Switch-IB 2	N/A	N/A	EDR	N/A	EDR	N/A
NVIDIA Quantum	NVIDIA® SWITCHX®-2	N/A	N/A	N/A	N/A	N/A	FDR

2.3.3 HCA-to-Switch Connectivity Matrix

Adapter	Switch		Cable						
			Y cable DAC/AOC	HDR DAC	HDR AOC	HDR100 DAC/AOC (Copper Cables Only)	EDR DAC	EDR AOC	FDR DAC/AOC
ConnectX-6 200Gb/s	NVIDIA Quantum-2	NDR Switch	N/A	2 × HDR	2 × HDR	4 × HDR100	N/A	N/A	N/A
ConnectX-6 100Gb/s	NVIDIA Quantum-2		N/A	2 × EDR	N/A	4 × HDR100	N/A	N/A	N/A
ConnectX-4/ ConnectX-5	NVIDIA Quantum-2		N/A	2 × EDR	N/A	N/A	N/A	N/A	N/A
ConnectX-6 200Gb/s	NVIDIA Quantum	HDR Switch	HDR100	HDR	HDR	N/A	EDR	EDR	N/A
ConnectX-6 100Gb/s	NVIDIA Quantum		HDR100	EDR	EDR	N/A	EDR	EDR	N/A
ConnectX-4/ ConnectX-5	NVIDIA Quantum		N/A	EDR	N/A	N/A	EDR	EDR	FDR
ConnectX-3/ ConnectX-3 Pro	NVIDIA Quantum		N/A	N/A	N/A	N/A	N/A	FDR[a]	FDR[a]
ConnectX-6	Switch-IB/ Switch-IB 2	EDR Switch	N/A	EDR	N/A	N/A	EDR	EDR	N/A
ConnectX-6	SWITCHX-2	FDR Switch	N/A	N/A	N/A	N/A	N/A	N/A	FDR

a. Connectivity between NVIDIA Quantum and ConnectX-3 and ConnectX-3 Pro is not supported when using ports #27-34.

2.3.4 Supported Link Speed

The table below lists the current supported link speed.

Speed	Cable	Cable Length [meters]	Limitations
SDR	Optical	Up to 100	
	Copper	Up to 2	
FDR	Optical	3/10/15/100	Using FDR speed #27–#34, may cause link on the ports to go down.

Speed	Cable	Cable Length [meters]	Limitations
	Copper	Up to 3	
EDR	Optical	Up to 100	
	Copper	Up to 3	
HDR	Optical	Up to 100	HDR optical cables support only EDR & HDR speed. Thus, when mask is configured to HDR, the link is not raised when connecting to EDR devices.
	Copper	Up to 2	

2.3.5 Validated and Supported HDR Cables

Speed	Cable OPN #	Description
HDR	MMS1W50-HM	NVIDIA transceiver, IB HDR, up to 200Gb/s, QSFP56, MPO, 1310nm, FR4.

Speed	Cable OPN #	Description
HDR	MCP1650-H001E30	NVIDIA Passive Copper cable, IB HDR, up to 200Gb/s, QSFP28, PVC, 1m, white pultab, 30AWG
HDR	MCP1650-H002E26	NVIDIA Passive Copper cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, 2M, black pultab, 26AWG
HDR	MCP1650-H00AE30	NVIDIA Passive Copper cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, 0.5M, black pultab, 30AWG
HDR	MCP7H50-H001R30	NVIDIA Passive Copper Hybrid cable, IB HDR 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, colored pulltabs, 1m, 30AWG
HDR	MCP7H50-H01AR30	NVIDIA Passive Copper Hybrid cable, IB HDR 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, colored, 1.5m, 30AWG
HDR	MCP7H50-H002R26	NVIDIA Passive Copper Hybrid cable, IB HDR 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, colored, 2m, 26AWG
HDR	MFS1S00-H003E	NVIDIA Active Fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 3m
HDR	MFS1S00-H005E	NVIDIA Active Fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 5m
HDR	MFS1S00-H010E	NVIDIA Active Fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 10m
HDR	MFS1S00-H100E	NVIDIA Active Fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 100m
HDR	MFS1S50-H0xxE	NVIDIA Active Fiber Splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, up to 30m
HDR	MFS1S90-H003E	NVIDIA Active Fiber Splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56, LSZH, 3m

Speed	Cable OPN #	Description
HDR	MCA7J50-H003R*	NVIDIA Active Copper Hybrid cable, IB HDR 200Gb/s to 2xHDR100 100Gb/s, QSFP56 to 2xQSFP56, 3m, colored
HDR	MCA7J50-H004R*	NVIDIA Active Copper Hybrid cable, IB HDR 200Gb/s to 2xHDR100 100Gb/s, QSFP56 to 2xQSFP56, 4m, colored
HDR	MCA1J00-H003E*	NVIDIA Active Copper cable, IB HDR, up to 200Gb/s, QSFP56, 3m, yellow pulltab
HDR	MCA1J00-H004E*	NVIDIA Active Copper cable, IB HDR, up to 200Gb/s, QSFP56, 4m, yellow pulltab
HDR	MMA1T00-HS	NVIDIA transceiver, HDR, QSFP56, MPO, 850nm, SR4, up to 100m
HDR	MFS1S00-H130E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 130m
HDR	MFS1S00-H003-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 3m
HDR	MFS1S00-H005-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 5m
HDR	MFS1S00-H010-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 10m
HDR	MFS1S00-H015-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 15m
HDR	MFS1S00-H020-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 20m
HDR	MFS1S00-H030-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 30m
HDR	MCP7Y60-H001	NVIDIA passive copper splitter cable, IB twin port HDR 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 1m
HDR	MCP7Y60-H002	NVIDIA passive copper splitter cable, IB twin port HDR 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 2m
HDR	MCP7Y60-H01A	NVIDIA passive copper splitter cable, IB twin port HDR 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 1.5m
HDR	MCP7Y70-H001	NVIDIA passive copper splitter cable, IB twin port HDR 400Gb/s to 4x100Gb/s, OSFP to 4xQSFP56, 1m
HDR	MCP7Y70-H002	NVIDIA passive copper splitter cable, IB twin port HDR 400Gb/s to 4x100Gb/s, OSFP to 4xQSFP56, 2m
HDR	MCP7Y70-H01A	NVIDIA passive copper splitter cable, IB twin port HDR 400Gb/s to 4x100Gb/s, OSFP to 4xQSFP56, 1.5m
HDR	MFA7U10-H003	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 3m
HDR	MFA7U10-H005	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 5m
HDR	MFA7U10-H010	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 10m
HDR	MFA7U10-H015	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 15m
HDR	MFA7U10-H020	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 20m

Speed	Cable OPN #	Description
HDR	MFA7U10-H030	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 30m
HDR	MFA7U10-H050	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 50m
HDR	MFS1S00-H003V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 3m
HDR	MFS1S00-H005V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 5m
HDR	MFS1S00-H010V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 10m
HDR	MFS1S00-H015V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 15m
HDR	MFS1S00-H020V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 20m
HDR	MFS1S00-H030V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 30m
HDR	MFS1S00-H050V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 50m
HDR	MFS1S00-H100V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 100m
HDR	MFS1S00-H130V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 130m
HDR	MFS1S00-H150E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 150m
HDR	MFS1S00-H150V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, 150m
HDR	MFS1S00-H200E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 200m

⚠   HDR links raise with RS_FEC.

⚠   *These cables were approved for switch-to-switch connectivity. For switch-to-host connectivity there may be some issues. See Known Issue 2073222/1959529 (see Known Issues)

2.3.6 Validated and Supported EDR Cables

Speed	Cable OPN	Description
EDR	MCP1600-E001	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m 30AWG
EDR	MCP1600-E001E30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 1m, Black, 30AWG
EDR	MCP1600-E002	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2m 28AWG
EDR	MCP1600-E002E30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 2m, Black, 30AWG
EDR	MCP1600-E003	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m 26AWG

Speed	Cable OPN	Description
EDR	MCP1600-E003E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 3m, Black, 26AWG
EDR	MCP1600-E004E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 4m, Black, 26AWG
EDR	MCP1600-E005E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 5m, Black, 26AWG
EDR	MCP1600-E00A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 0.5m 30AWG
EDR	MCP1600-E00AE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 0.5m, Black, 30AWG
EDR	MCP1600-E00BE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 0.75m, Black, 30AWG
EDR	MCP1600-E01A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1.5m 30AWG
EDR	MCP1600-E01AE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 1.5m, Black, 30AWG
EDR	MCP1600-E01BE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 1.25m, Black, 30AWG
EDR	MCP1600-E02A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2.5m 26AWG
EDR	MCP1600-E02AE26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 2.5m, Black, 26AWG
EDR	MFA1A00-E001	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m
EDR	MFA1A00-E003	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m
EDR	MFA1A00-E005	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 5m
EDR	MFA1A00-E010	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 10m
EDR	MFA1A00-E015	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 15m
EDR	MFA1A00-E020	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 20m
EDR	MFA1A00-E030	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 30m
EDR	MFA1A00-E050	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 50m
EDR	MFA1A00-E100	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 100m
EDR	MMA1B00-E100	NVIDIA transceiver, IB EDR, up to 100Gb/s, QSFP28, MPO, 850nm, SR4, up to 100m
EDR	MFA1A00-E003-TG	NVIDIA customized active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m
EDR	MFA1A00-E005-TG	NVIDIA customized active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 5m
EDR	MFA1A00-E010-TG	NVIDIA customized active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 10m
EDR	MFA1A00-E015-TG	NVIDIA customized active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 15m
EDR	MFA1A00-E020-TG	NVIDIA customized active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 20m

Speed	Cable OPN	Description
EDR	MFA1A00-E030-TG	NVIDIA customized active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 30m
EDR	MMA1L10-CR	NVIDIA Optical Transceiver, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, LR4 up to 10km
EDR	MMA1L30-CM	NVIDIA Optical Module, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, CWDM4, up to 2km *Supported in cable hardware generations 1 and 2.
EDR	MMS1C10-CM	NVIDIA Active Optical Module, 100Gb/s, QSFP, MPO, 1310nm, PSM4, up to 500m

2.3.7 Validated and Supported FDR Cables

Speed	Cable OPN #	Description
FDR	MC220731V-003	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 3m
FDR	MC220731V-005	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 5m
FDR	MC220731V-010	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 10m
FDR	MC220731V-015	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 15m
FDR	MC220731V-020	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 20m
FDR	MC220731V-025	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 25m
FDR	MC220731V-030	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 30m
FDR	MC220731V-040	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 40m
FDR	MC220731V-050	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 50m
FDR	MC220731V-075	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 75m
FDR	MC220731V-100	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 100m
FDR	MC2207130-0xx	NVIDIA passive copper cable, 4X QSFP, 56Gb/s, 30AWG, up to 3m
FDR	MC2207126-00x	NVIDIA passive copper cable, 4X QSFP, 56Gb/s, 26AWG, up to 6m
FDR	MC2207128-00x	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, up to 3m

2.3.8 Firmware Upgrade

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

network.nvidia.com/products/adapter-software/firmware-tools/

2.4 PRM Revision Compatibility

This firmware version complies with the NVIDIA Switches Programmer's Reference Manual (PRM), Rev 1.40 or later.

3 Changes and New Features

This firmware version includes the following new features. For a list of new features from previous versions, please see Changes and New Features History.

Keyword	Description
General	See Bug Fixes.

4 Bug Fixes in this Firmware Version

The following table provides a list of bugs fixed in this version. For a list of bug fixed from previous versions, see Bug Fixes History.

Internal Ref.	Issues
3740594	**Description:** Fixed occasional system freeze and fast blinking LEDs symptom when executing a DeviceSoftReset MAD hardware reset.
	Keywords: MAD hardware reset
	Discovered in Version: 27.2012.2014
	Fixed in Version: 27.2012.2200

5 Known Issues

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

Internal Ref.	Issue
3441123	**Description:** On rare occasions, when a SHARP QP exceeded the allowed amount of retries, the switch may hang due to an incorrect flow execution.
	Workaround: N/A
	Keywords: SHARP
	Discovered in Version: 27.2012.1010
3329109	**Description:** MFS1S50-H003E cable supports only HDR rate when used as a split cable.
	Workaround: N/A
	Keywords: HDR, split cable, MFS1S50-H003E
	Discovered in Version: 27.2010.6064
3327881	**Description:** On Quantum unmanaged platforms, when using FDR speed with 1m Copper cable MCP1600-E001, on rare occasions, high effective errors may observed.
	Workaround: N/A
	Keywords: BER
	Discovered in Version: 27.2010.5042
3047036	**Description:** On rare occasions, there can be long link up time on active copper cables MCA1J00-H003E.
	Workaround: N/A
	Keywords: Cables, MCA1J00-H003E
	Discovered in Version: 27.2010.4010
2278846	**Description:** On rare occasions, when using Quantum systems with Optical cables MFS1S00-H003E and MFS1S00-H030E, the link up time may take up to 100 seconds.
	Workaround: N/A
	Keywords: Optical Cables
	Discovered in Version: 27.2010.2036
2355994	**Description:** In AOCs MFS1S00-H0xx-LL and splitter cables MFS1S50-H0xxE-LL, effective BER of 1e-12 in EDR speed may be observed.
	Workaround: N/A
	Keywords: Cables, BER
	Discovered in Version: 27.2008.2102
2127531	**Description:** When using H-cable MFS1S90 with HDR speed in split mode, the link, on rare occasion, goes down.
	Workaround: N/A
	Keywords: Cables, Link
	Discovered in Version: 27.2008.1300
2917504	**Description:** On 2KM HDR transceiver, MMS1W50-HM, QM87xx-HS2R (1U switch with C2P air flow) support power consumption of up to 6W per port.

Internal Ref.	Issue
	Workaround: N/A
	Keywords: QM87xx, Cables
2223568	**Description:** When using active copper cables, link down counter may be observed on occasion.
	Workaround: N/A
	Keywords: Active Copper Cables
	Discovered in Version: 27.2008.0232
2109975	**Description:** Occasionally, EDR linkup time might take up to 1 minute when using Amphenol 100G (EDR) optical cables.
	Workaround: N/A
	Keywords: Cables, EDR
	Discovered in Version: 27.2008.0232
2239632	**Description:** EDR linkup time might take up to 50sec when using HDR optical cable.
	Workaround: N/A
	Keywords: Cables, EDR
	Discovered in Version: 27.2008.0232
2145881	**Description:** Occasionally, when using Active Fiber Splitter cables (OPNs: MFS1S90-Hxxx), unclean RAW BER (10e-6) might be seen.
	Workaround: N/A
	Keywords: Cables, BER
	Discovered in Version: 27.2008.0232
2145881	**Description:** FDR link is unstable when using an FDR cable in ports: #27-#34.
	Workaround: N/A
	Keywords: FDR, cables
	Discovered in Version: 27.2008.0232
2057793	**Description:** Congestion profiles in VS-MAD `PortProfileSetting` support only fixed mode. Percentage mode is not supported.
	Workaround: N/A
	Keywords: DCQCN Congestion Control
	Discovered in Version: 27.2007.0300
1959529	**Description:** When HDR Active Copper cables are used between Quantum switches, or between Quantum switch and ConnectX-6 HCA, the counter indicating 'Link Down' may have a value other than zero, after the first time the cable is connected. As this may happened only at the first time, it is recommend to clear the counters after the cluster is brought up.
	Workaround: N/A
	Keywords: Cables
	Discovered in Version: 27.2000.3276

Internal Ref.	Issue
1856717	**Description:** High BER may occur when connecting cables of type 0.5/1m DAC to an HDR speed.
	Workaround: N/A
	Keywords: Cables
	Discovered in Version: 27.2000.1886
-	**Description:** The supported length of HDR copper cables is currently up to 2M.
	Workaround: N/A
	Keywords: HDR cables
-	**Description:** Although the effective BER (after FEC) is expected to meet our design targets (e.g. 10e-14 or lower), occasionally it may be higher.
	Workaround: N/A
	Keywords: Cables
-	**Description:** The following features are currently not supported on Quantum-based systems: • IB Router • Congestion Control • Voltage reading via MVCR
	Workaround: N/A
	Keywords: Quantum
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
-	**Description:** Module info page in Diagnostics Data VS-MAD is not supported
	Workaround: N/A
	Keywords: Diagnostics Data VS-MAD

6 Changes and New Features History

For older versions history, please refer to their dedicated Release Notes.

Category	Description
27.2012.2014	
Counters	Added PPCNT new group 0x26 and a new page 241 for Diagnostic Data VS MAD.
Counters	Added support for two performance class MADs : 1. PortXmitConCtrl 2. PortVLXmitTimeCong
Resiliency	Added a mechanism to release the packet interface when a long command packet handling timeout is detected to reduce firmware freeze.
Telemetry	Added support for Fast Recovery notifications of the OS entity in the network.
General	See Bug Fixes.
27.2012.1048	
General	Stability improvements.
Version 27.2012.1010	
Fast Recovery from Unhealthy Links	Added support of the fast recovery from unhealthy links including BER monitor and credit watchdog.
Fast Recovery Notifications Towards UFM	Added support for notifications of Fast Recovery towards UFM entity (collector) in the network.
General	See Bug Fixes.
Version 27.2010.6102	
General	See Bug Fixes.
Version 27.2010.6064	
Counters: Unhealthy Link	Added BER Monitor counters for unhealthy link.
Additional Status in Each MAD	Added support of *AdditionalStatus* in MAD packets.
Mirroring Congested Packets Towards UFM	Added support for mirroring of congested packets towards UFM entity (collector) in the network.
General	See Bug Fixes.
Version 27.2010.5108	
General	Stability improvements.
Version 27.2010.5002	
General	Stability improvements.
Version 27.2010.4102	
General	Stability improvements.

Version 27.2010.4010	
pFRN Collector	Added support for mirroring of PFRN packets towards UFM entity (collector) in the subnet.
PKEY Filter for Multicast	Added support for MulticastPKeyTrapSuppression (PKEY mismatch filtering).
SL to VL Mapping	Added switch support for port mask optimization of SL to VL Mapping Table configuration.
Version 27.2010.3118	
Temperature Drift Tolerance	Improved HDR InfiniBand temperature drift tolerance on Quantum systems. Improved the algorithm for periodic link maintenance which is performed by NVIDIA IC during normal link operation in order to compensate for changes in link environment that might influence the analog behavior of the SerDes blocks in order to prevent a degradation in link performance.
Version 27.2010.3004	
pFRN	Added support for pFRN (Proactive Fault Routing Notification) which allows for dynamic link failure detection and route correction for topologies based on Adaptive Routing.
Counters	Added support for PortXmitWaitVLExtended counters.
Fans	Enlarged fans' PRM registers to support up to 16 fans.
General	See Bug Fixes.
Version 27.2010.2246	
General	Stability improvements.
Version 27.2010.2110	
General	Stability improvements.
Version 27.2010.2036	
General	Stability improvements.
Version 27.2010.1404	
General	Stability improvements.

Version 27.2010.1310	
Congestion Control	Added ES-level support for congestion control class key.
Vendor Key	Added ES-level support for vendor class key.
Version 27.2010.1202	
Counters	Added support for PortVLXmitFlowCtlUpdateErrors counters.
Version 27.2008.3328	
Cables	Added GA-level support for AOC splitter cables MFS1S50-H0xxE-LL. *Note that the cables above are HDR-only and are supported up to 30 meters.
LinkX Cable Upgrade	Added GA-level support, on supported cables, for direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
PKEY	Added support for PKEY traps.
Bug Fixes	Bug Fixes.
Version 27.2008.2500	
Cables	Added support for cable MMS1W50-HM NVIDIA transceiver, IB HDR, up to 200Gb/s, QSFP56, MPO, 1310nm, FR4 on MQM8700-HS2R and MQM8790-HS2R systems.
Cables	Added GA-level support for Active Optical Cables MFS1S00-H0xx-LL. *Note that the cables above are HDR-only and are supported up to 30 meters.
Version 27.2008.2402	
Bug Fixes	See Bug Fixes.
Version 27.2008.2300	
Bug Fixes	See Bug Fixes.
Version 27.2008.2202	
LinkX Cable Upgrade	Added beta-level support on supported cables for direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
Version 27.2008.2102	
BER	100Gb/s speed BER improvements. con

Cables	Added support for the following Active Fiber HDR cables: MFS1S00-H130E and MFS1S00-H150E. For further information see section Validated and Supported HDR Cables.
Counters	Added support for "Maximum PLR Counts per second (cps)" counter.
IBdiagnet	Updated the PPNCT group/DiagnosticData to use SymbolBER counters instead of Effective BER counters.
Telemetry	Added support for performance analysis using histogram-based traffic models to obtain the queue length distribution.
Version 27.2008.1904	
SHARP	Added support for SHARP SAT performance counters.
Adaptive Routing	Added support for a new Adaptive Router counter (PortARTrials) as part of the PortRNCounters group. PortARTrials is used to indicate the number of times the AR decision mechanism is used per port
Version 27.2008.1604	
SHARP	Added support for MAD security policy for SHARP.
Cables	Enabled PLR with Low-Latency (LL)-FEC mode in optical cables up to 30m.
Version 27.2008.1300	
EDR Link in ConnectX-6 100Gb/s cards	EDR link speed is now supported when using ConnectX-6 100Gb/s HCA and connecting with HDR optical cables.
Version 27.2008.0232	
Link Speed	Added support for FDR link speed when connecting a ConnectX-3 HCA with an HDR Quantum switch.
SHARP	SHARP stability improvements.
SHARP	Added support for legacy SHARP port and performance counters.
Cables	Enabled KP4RS FEC on Active Fiber cables (OPN: MFS1S00-V0xxE).
Cables	Disabled PLR on Active Fiber cables.
Bug Fixes	See Bug Fixes.
Version 27.2007.1124	
Bug Fixes	See Bug Fixes.
Version 27.2007.0618	
Bug Fixes	See Bug Fixes.
Version 27.2007.0300	
Performance	Added support for link-negotiated credit size.
General	Added support for DCQCN Congestion Control.
Version 27.2000.3276	
NVIDIA Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)™	SHARP (SAT) is at GA level. ***SAT:** Streaming Aggregation Tree

Version 27.2000.2708	
SHARP	SHARP now supports running 2 flows in parallel.
Version 27.2000.2626	
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.
NVIDIA Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)	SHARP (LLT) is at GA level, whereas SHARP (SAT) is at Beta level. ***LLT:** Local Latency Tree ***SAT:** Streaming Aggregation Tree
General	Added support for Error Injection with PTER register.
General	See Bug Fixes.
Version 27.2000.2306	
General	See Bug Fixes.
Version 27.2000.2182	
General	See Bug Fixes.
Version 27.2000.2046	
NVIDIA Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)	[Beta] NVIDIA Scalable Hierarchical Aggregation and Reduction Protocol (SHARP) technology improves the performance of MPI operations by offloading collective operations from the CPU to the switch network, and by eliminating the need to send data multiple times between endpoints.
Link Speed	Added QDR/FDR support in Quantum switch systems when using optical cables of up to 30m. **Note:** QDR speed is only supported when using the FDR cables. See Validated and Supported FDR Cables
Cables	Removed PLR from active cables longer than 30m.
Version 27.2000.1886	
Physical Layer Retransmission (PLR)	Added support to the Physical Layer Retransmission (PLR) functionality for HDR speed.
Link Speed	Link-up time improvements. The link up time is up to 60 sec
Version 27.2000.1600	
General	See Bug Fixes.
Version 27.2000.1400	
Link Speed	HDR speed rate is at GA level.
Cables	Added support for Break-Out Cable auto-sensing.
Version 27.2000.1142	
Link Speed	HDR link stability enhancements. **Note:** HDR is at beta level.
Version 27.2000.1012	
Link Speed	HDR speed rate is currently at beta level.

Version 27.2000.1004	
Link Speed	Stability improvements for HDR link.
Subnet Manager (Adaptive Routing)	Added support for Adaptive Routing. Adaptive routing (AR) allows optimizing data traffic flow. The InfiniBand protocol uses multiple paths between any two points. Thus, when unexpected traffic patterns cause some paths to be overloaded, AR can automatically move traffic to less congested paths according to the current temporal state of the network.
Adaptive Routing	Added support for Private Linear Forwarding Tables (PLFT). This capability helps SM to optimize traffic.

7 Bug Fixes History

Internal Ref.	Issues
3536538	**Description:** For mirror agent configured with dynamic port analyzer, configuring linear forwarding table may cause mirror agent enablement and unexpected mirrored packets.
	Keywords: Recovery
	Discovered in Version: 27.2012.1010
	Fixed in Version: 27.2012.2014
3477039	**Description:** Wrong RTT value is exposed under PRTL PRM.
	Keywords: Registers, RTT Value
	Discovered in Version: 27.2010.6064
	Fixed in Version: 27.2012.1010
3481394	**Description:** When trying to choose the threshold for the Fast Recovery feature (BER Config), it is possible that threshold 0 will be loaded.
	Keywords: Fast Recovery, BER Configuration
	Discovered in Version: 27.2010.6064
	Fixed in Version: 27.2012.1010
3451519	**Description:** When using ibdiagnet, an incorrect module alarm type was reported.
	Keywords: ibdiagnet, Module Temperature Alarm Type
	Discovered in Version: 27.2010.5108
	Fixed in Version: 27.2012.1010
3448282	**Description:** At times, the link gets stuck due to unresponsive peer having very high BER.
	Keywords: BER
	Discovered in Version: 27.2010.2110
	Fixed in Version: 27.2012.1010
3447029	**Description:** On some occasions, if a peer's port resets or is physically toggled, the port may be reported as unhealthy due to BER threshold crossing.
	Keywords: Port, Reboot, BER
	Discovered in Version: 27.2010.6102
	Fixed in Version: 27.2012.1010

Internal Ref.	Issues
3326692	**Description:** Wrap-around of the time_since_last_clear counter caused incorrect reporting of counters on the port.
	Keywords: Counters
	Discovered in Version: 27.2010.3118
	Fixed in Version: 27.2010.6102

Internal Ref.	Issues
3436317	**Description:** On rare occasions, when a SHARP QP exceeds the allowed amount of retries, the switch may hang due to an incorrect flow execution.
	Keywords: SHARP
	Discovered in Version: 27.2010.2300
	Fixed in Version: 27.2010.6102
3283303/3298590	**Description:** In the rare event of an error burst, the link maintenance stopped working.
	Keywords: Link Maintenance
	Discovered in Version: 27.2010.3118
	Fixed in Version: 27.2010.6064
3339363	**Description:** pFRN notification state machine got halted in busy-wait on all riscs due to inability to free TX credits.
	Keywords: pFRN
	Discovered in Version: 27.2010.3118
	Fixed in Version: 27.2010.6064
3301825	**Description:** The firmware does not return values for the counters "PortSwLifetimeLimitDiscards" and "PortSwHOQLifetimeLimitDiscards". Support has now been added for the counters.
	Keywords: Counters
	Discovered in Version: 27.2010.3118
	Fixed in Version: 27.2010.5042
3335002	**Description:** pFRN mirror v1 header pad count showed an invalid padding size.
	Keywords: PFRN
	Discovered in Version: 27.2010.4010
	Fixed in Version: 27.2010.5042
3261861	**Description:** Connecting an HDR device to an NDR device with Optical cables longer than 30m causes degradation in the bandwidth.
	Keywords: HDR-to-NDR
	Discovered in Version: 27.2010.4102
	Fixed in Version: 27.2010.5002
3269531	**Description:** After multiple MSPS (Management System Power Supply register) calls, the switch gets stuck.
	Keywords: MSPS
	Discovered in Version: 27.2010.3118
	Fixed in Version: 27.2010.5002
3199650	**Description:** A physical link failure between switches while a SHARP job is running and utilizing the link can cause one of the switches to become invalid for further SHARP jobs. This can result in either a "No resource" response for new SHARP job requests or in jobs getting stuck. The bug fix requires SHARP version 3.2.
	Keywords: SHARP

Internal Ref.	Issues
	Discovered in Version: 27.2010.4010
	Fixed in Version: 27.2010.4102
3245821	**Description:** In case of an AR group table set request, the ARN mask is flushed for group that has an active pFRN timer.
	Keywords: PFRN
	Discovered in Version: 27.2010.4010
	Fixed in Version: 27.2010.4102
3253717	**Description:** mask_force_clear_timeout timer in pFRN feature was not functional (the mask was not cleared when the timer expired).
	Keywords: PFRN
	Discovered in Version: 27.2010.4010
	Fixed in Version: 27.2010.4102
3242209	**Description:** Set PFRN mad did not return error on wrong inputs in mask_clear_timer and mask_force_clear_timer fields.
	Keywords: PFRN
	Discovered in Version: 27.2010.4010
	Fixed in Version: 27.2010.4102
3174239	**Description:** On rare occasions, traps were not properly repressed, which caused redundant traps to be sent multiple times.
	Keywords: Traps
	Discovered in Version: 27.2010.3118
	Fixed in Version: 27.2010.4010
2998597	**Description:** Bandwidth degradation may be visible in large scale random traffic patterns (e.g., all2all and Adaptive Routing) due to wrong fast path configurations.
	Keywords: Performance
	Discovered in Version: 31.2008.2500
	Fixed in Version: 31.2010.3004
3040232	**Description:** PLFT mapping for SMA port (port 0) was configured in a way that caused PLFT of FDB 0 to be used instead of PLFT of FDB 1.
	Keywords: PLFT, SMA
	Discovered in Version: 27.2010.2110
	Fixed in Version: 27.2010.2246
2646440	**Description:** I^2C bus got stuck in start state.
	Keywords: I^2C
	Discovered in Release: 27.2008.2102
	Fixed in Release: 27.2010.2036
2709851	**Description:** In some cases, traps that were sent when there is a change in link state may not be sent to SM due to wrong logic of the link state machine in the firmware.

Internal Ref.	Issues
	Keywords: SM Traps
	Discovered in Version: 27.2008.2500
	Fixed in Release: 27.2010.1128
2635607	**Description:** SM timeouts on PortInfo MAD SET may occur when Operational VLs are decreased (for example, when running different SM with different op_vl configuration) due to wrong logic in firmware of buffers allocation per VL. The fix is to first handle the VLs needed to be decreased in size and then enlarge the ones needed to increase in size.
	Keywords: SM, Operational VL, Timeout
	Fixed in Release: 27.2008.3328
2578261	**Description:** In rare cases, on FR4 CMIS MMS1W50-HM, unplugging and plugging the module during link up flow may cause the link to get stuck on "Polling ."
	Keywords: Cables, FR4
	Discovered in Version: 27.2008.2402
	Fixed in Release: 27.2008.3328
2700834	**Description:** A division by zero issue in uC code caused infinite loop to uC database alignment which prevents memory corruption that was a result of illegal access of neighboring lanes.
	Keywords: Memory
	Fixed in Release: 27.2008.3328
2627108	**Description:** Setting SHARP QuotaConfig with tree_if higher than 95 result with buffer overrun, and may lead to zombie jobs on the switch.
	Keywords: SHARP
	Discovered in Version: 27.2008.2500
	Fixed in Release: 27.2008.3328
2483974	**Description:** Configuring split port using mlxconfig using MFT 4.15 resulted in configuring the incorrect ports on the unmanaged switch. On version 27.2008.3100, the issue was fixed. Make sure to use MFT 4.15 and above.
	Keywords: MFT, Port Split
	Fixed in Release: 27.2008.3328
2646158	**Description:** In some cases, traps that are sent when there is a change in link state may not be sent to SM due to a race between trap generation and trap repress. The solution ensures that the latest information will always be sent to SM.
	Keywords: SM Traps
	Discovered in Version: 27.2008.2500
	Fixed in Release: 27.2008.3328
2668318	**Description:** In SHARP, in case of reusing a QP for son after Set Parent flow uses it as father, the father bit indication might remain set in QP and Resource Cleanup flow may fail. The solution resets the QPC entry in QPAlloc flow.
	Keywords: SHARP
	Discovered in Version: 27.2008.2500
	Fixed in Release: 27.2008.3328

Internal Ref.	Issues
2697623	**Description:** In SHARP, in case of Set Parent flow, misconfiguration in the TX domain causes credits to return to the wrong hardware unit.
	Keywords: SHARP
	Discovered in Version: 27.2008.2500
	Fixed in Release: 27.2008.3328
2712117	**Description:** In SHARP, switch may hang on locked semaphore due to misconfiguration in streaming aggregation TreeConfig MAD while ports are toggling.
	Keywords: SHARP
	Discovered in Version: 27.2008.2500
	Fixed in Release: 27.2008.3328
2571800	**Description:** New SHARP jobs may hang after abrupt termination of SHARP jobs.
	Keywords: SHARP
	Discovered in Version: 27.2008.2402
	Fixed in Release: 27.2008.2500
2579752	**Description:** Modules failed over 400KHz. The default I^2C frequency has now been set to 100KHz for all modules.
	Keywords: Modules, I^2C
	Discovered in Version: 27.2008.2102
	Fixed in Release: 27.2008.2402
2439961	**Description:** The IsPLRMaxRetransmissionRateSupported and IsEffectiveCounterSupported counters were incorrectly added to the Virtual Port in the IB switch.
	Keywords: Counters
	Discovered in Version: 27.2008.2300
	Fixed in Release: 27.2008.2402
2445274	**Description:** Packet bandwidth does not spread according to the VL Arbitration configuration in split ports.
	Keywords: VL Arbitration, Split Ports
	Discovered in Version: 27.2008.2102
	Fixed in Version: 27.2008.2402
2441016	**Description:** On rare cases, SHARP jobs may fail, followed by multiple "SHARP error" traps. In cases this occurs, following jobs on the same tree may fail as well.
	Keywords: SHARP
	Fixed in Version: 27.2008.2402
2323467	**Description:** 32-bits counters per SL or VL were wrongly overflowed at 16-bits instead of 32-bits.
	Keywords: Counters
	Discovered in Version: 27.2008.1904
	Fixed in Release: 27.2008.2300

Internal Ref.	Issues
2373063	**Description:** Packet bandwidth does not spread according to the VL Arbitration configuration on 4x port.
	Keywords: VL Arbitration
	Fixed in Release: 27.2008.2202
2384211	**Description:** PKEY may return with a value of zero when sending aggregation class MADs to an aggregation node.
	Keywords: PKEY
	Discovered in Version: 27.2008.2102
	Fixed in Release: 27.2008.2202
2395304	**Description:** When running non-SHARP traffic, packet drop may occur when SHARP is enabled.
	Keywords: SHARP
	Fixed in Release: 27.2008.2202
2196422	**Description:** On rare occasions, due to a suboptimal configuration of the NVIDIA Rx clock tracking, a link with challenging signal integrity resulted in link failures.
	Keywords: Rx clock tracking
	Discovered in Version: 27.2008.0232
	Fixed in Release: 27.2008.1904
1848091	**Description:** Although the effective BER (after FEC) is expected to meet our design targets (e.g. 10e-14 or lower), occasionally it may be higher.
	Keywords: Cables
	Discovered in Version: 27.2000.2708
	Fixed in Release: 27.2008.0232
2073222	**Description:** In rare cases, HDR active copper cable link up time might be higher than expected (up to 2 minutes).
	Keywords: Cables
	Discovered in Version: 27.2000.3276
	Fixed in Release: 27.2008.0232
2169355	**Description:** TCA port (ports 41/81) counter returns non-zero value since the TCA counters were not supported.
	Keywords: SHARP, TCA, Port Counters
	Discovered in Version: 27.2007.0618
	Fixed in Release: 27.2008.0232
2136877	**Description:** Port Counters with "all_ports" attribute returns wrong values since the TCA counters were not supported.
	Keywords: TCA, Port Counters
	Discovered in Version: 27.2007.0618
	Fixed in Release: 27.2008.0232

Internal Ref.	Issues
2133393	**Description:** On rare occasions when link is flapping or toggle by the user, the switch may hang.
	Keywords: Link Flapping
	Discovered in Version: 27.2007.0618
	Fixed in Release: 27.2008.0232
2122186	**Description:** Traffic loss may be experienced during a spine failover, when two SHARP (SAT) flows are enabled.
	Keywords: InfiniBand; SHARP (SAT)
	Discovered in Version: 27.2007.0618
	Fixed in Release: 27.2008.0232
2063786	**Description:** Running 2 flows in parallel is currently not functional in SHARP (SAT).
	Keywords: SHARP (SAT), 2 flows
	Discovered in Version: 27.2000.3276
	Fixed in Release: 27.2007.0618
1972573	**Description:** Reading the Serial Number by the MSPS register is not functional on the new Delta PSU model.
	Keywords: Delta PSU model, MSPS register
	Discovered in Version: 27.2000.2708
	Fixed in Release: 27.2007.0618
1970878	**Description:** When using NVIDIA AOC cables longer than 50m use one VL to achieve full wire speed.
	Keywords: Cables
	Fixed in Release: 27.2007.0618
2022524	**Description:** As the switch does not send auto-negotiation indication, after resetting/power cycling a ConnectX-6 HCA, some HCAs get stuck in "polling" state.
	Keywords: Auto-negotiation, HCA, switch
	Discovered in Version: 27.2000.2708
	Fixed in Release: 27.2007.0300
1996051	**Description:** After performing a software reset on the switch while using an Active Copper Cable or Optics Cable, the link gets high BER and is not available for traffic forwarding.
	Keywords: Cables, BER
	Discovered in Version: 27.2000.2708
	Fixed in Release: 27.2007.0300
2036930	**Description:** Degradation in throughput might be experienced when using HDR100 cables with a length of 30m and above.
	Keywords: Cables, Bandwidth
	Discovered in Version: 27.2000.2708
	Fixed in Release: 27.2000.3276

Internal Ref.	Issues
1946287	**Description:** Fixed an issue that resulted in SHARP jobs getting stuck after stopping a job during SAT operation.
	Keywords: SHARP
	Discovered in Version: 27.2000.2306
	Fixed in Release: 27.2000.2626
1778566	**Description:** Fixed an issue that caused the Rx buffers allocation after running OpenSM to be based on the default VLCap configuration instead of the Operational Vl configuration.
	Keywords: Rx buffers allocation, OpenSM
	Discovered in Version: 27.2000.2306
	Fixed in Release: 27.2000.2626
1930686	**Description:** Fixed an issue that caused a multicast packet to be forwarded to a wrong port when the switch was configured to use the Split mode.
	Keywords: Switch multicast forwarding
	Discovered in Version: 27.2000.2182
	Fixed in Release: 27.2000.2626
1761271	**Description:** CWDM4 AOM cable is currently not supported on Quantum switch systems.
	Keywords: Modules/Cables
	Discovered in Version: 27.2000.1400
	Fixed in Release: 27.2000.2626
1713747	**Description:** When using splitter HDR optical cables, toggling the upper port causes the lower port to be toggled as well.
	Keywords: Cables, port toggling
	Discovered in Version: 27.2000.2046
	Fixed in Release: 27.2000.2626
1834740	**Description:** Fixed an issue that resulted in high BER when using optical module with module firmware older than 37.50.316.
	Keywords: Optical cables, BER, cables firmware
	Discovered in Version: 27.2000.2182
	Fixed in Release: 27.2000.2306
1899441	**Description:** Fixed an issue that caused the packets to be transmitted from a wrong output port due to a wrong configuration of the packet classification decision in the switch forwarding database cache key, that caused both AR eligible packets and AR ineligible packets to hit the same cache entry.
	Keywords: Switch forwarding, Adaptive Routing
	Discovered in Version: 27.2000.2046
	Fixed in Release: 27.2000.2182
1885460	**Description:** On rare occasions, and under high SHARP load, switch SHARP operation might get stuck.
	Keywords: SHARP

Internal Ref.	Issues
	Discovered in Version: 27.2000.2046
	Fixed in Release: 27.2000.2182
1859715	**Description:** The bandwidth on MFS1S00-H050E cables is 99G/s and on MFS1S00-H100E cables is 67Gb/s when connecting at HDR speed to an HDR switch.
	Keywords: Cables
	Discovered in Version: 27.2000.1886
	Fixed in Release: 27.2000.2046
1797452	**Description:** A port may hang while Link-Maintenance runs on it and the second port's link is toggled.
	Keywords: Link-Maintenance, port toggling
	Discovered in Version: 27.2000.1600
	Fixed in Release: 27.2000.1886
1698990	**Description:** HDR link up time when using optical cables may take 6 minutes or more (up to 20 minutes).
	Keywords: HDR, optical cables, link up times
	Discovered in Version: 27.2000.1100
	Fixed in Release: 27.2000.1886
1718734/ 1723236/ 1718645/ 1710631	**Description:** On rare occasions, HDR link may not raise properly when using optical cables.
	Keywords: HDR link
	Discovered in Version: 27.2000.1012
	Fixed in Release: 27.2000.1600
1774870	**Description:** Link flapping and packet loss during High/Low temperature changes.
	Keywords: Link
	Discovered in Version: 27.2000.1400
	Fixed in Release: 27.2000.1600
1778837	**Description:** When using a copper splitter cable up to 2m length in HDR100 mode, traffic may drop.
	Keywords: Cable, HDR100
	Discovered in Version: 27.2000.1400
	Fixed in Release: 27.2000.1600
1534459	**Description:** When working with 8 VLs, TP does not function due to buffers' configuration.
	Keywords: VLs, latency, performance
	Discovered in Version: 27.2000.1100
	Fixed in Release: 27.2000.1400
1605587	**Description:** Fixed an issue that cause the green port LED to blink in the same frequency regardless of the link speed rate set.
	Keywords: Port LED

Internal Ref.	Issues
	Discovered in Version: 27.1910.0618
	Fixed in Release: 27.2000.1142
1598550	**Description:** Fixed an issue that prevented the port from being split when the request (command) was sent from the NV config tool.
	Keywords: Split Port
	Discovered in Version: 27.1910.0618
	Fixed in Release: 27.1910.0620

of the respective companies with which they are associated.