NVIDIA Quantum-2 Firmware Release Notes v31.2014.2448 LTS (2024 LTS U5)

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Table of Contents

1 Overview 4
1.1 Firmware Download 4
1.2 Document Revision History 4
2 Firmware Compatible Products 5
2.1 Supported Switch Systems 5
2.2 Firmware Interoperability 5
2.3 Supported Cables 5
2.3.1 Switch and HCAs InfiniBand Cable Connectivity Matrix 5
2.3.2 Switch-to-Switch Connectivity 6
2.3.3 HCA-to-Switch Connectivity 6
2.3.4 Supported Link Speed 6
2.3.5 Validated and Supported NDR Cables 7
2.3.6 Validated and Supported HDR Cables 12
2.3.7 Firmware Upgrade 16
2.4 PRM Revision Compatibility 16
3 Changes and New Features 17
4 Bug Fixes in this Firmware Version 18
5 Known Issues 19
6 Changes and New Features History 20
7 Bug Fixes History 25
8 Legal Notices and 3rd Party Licenses 38

This is a long-term support (LTS) release. LTS is the practice of maintaining a software product for an extended period of time (up to three years) to help increase product stability. LTS releases include bug fixes and security patches.

Release Notes Update History

Version	Date	Description
31.2014.2448	June 2026	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™-2 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, EDR, HDR, NDR

2.1 Supported Switch Systems

This firmware supports the devices listed in the table below:

Model Number	NVIDIA SKU	Description
QM9790	920-9B210-00FN-0D2 920-9B210-00FN-0D0	NVIDIA Quantum 2 based NDR InfiniBand Switch, 64 NDR ports, 32 OSFP ports, 2 Power Supplies (AC), Standard depth

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-2	31.2014.2448
NVIDIA Quantum	27.2014.2428
ConnectX-7	28.43.3608
ConnectX-6	20.43.3608
Minimal MFT version	4.30.1-12

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® 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
NDR	400Gb/s InfiniBand	4 lanes of 100Gb/s
NDR200	200Gb/s InfiniBand	2 lanes of 100Gb/s
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

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

2.3.2 Switch-to-Switch Connectivity

NVIDIA Quantum-2 switches come with OSFP cages. NVIDIA Quantum and Switch-IB 2 switches come with QSFP cages. The connectivity matrix below are separated into multiple tables due to the above physical differences between the switches.

Switch	Switch	Cable			
		NDR Transceiver	NDR DAC/ ACC	HDR DAC/ AOC	EDR DAC/ AOC
NVIDIA Quantum-2	NVIDIA Quantum-2	2 × NDR	2 × NDR	N/A	N/A
NVIDIA Quantum-2	NVIDIA Quantum	N/A	N/A	2 × HDR	2 × EDR
NVIDIA Quantum-2	Switch-IB 2	N/A	N/A	N/A	2 × EDR

2.3.3 HCA-to-Switch Connectivity

Adapter	Switch		Cable		
			HDR AOC	HDR DAC	HDR100 DAC/ AOC (Copper Cables Only)
ConnectX-6 200Gb/s	NVIDIA Quantum-2	NDR Switch	2 × HDR	2 × HDR	4 × HDR100
ConnectX-6 100Gb/s	NVIDIA Quantum-2		N/A	2 × EDR	4 × HDR100
ConnectX-4/ ConnectX-5	NVIDIA Quantum-2		N/A	2 × EDR	N/A

2.3.4 Supported Link Speed

The table below lists the current supported link speed.

Speed	Cable	Cable Length [meters]	Limitations
NDR	Optical	Up to 30	NDR optical cables support only NDR speed.

Speed	Cable	Cable Length [meters]	Limitations
	Copper	Up to 2	
HDR	Optical	Up to 30	HDR optical cables support only HDR speed.
	Copper	Up to 2	

2.3.5 Validated and Supported NDR Cables

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
NDR	980-9I601-00N003	MCA4J80-N003-FTF	NVIDIA active copper cable, IB twin port NDR, up to 800Gb/s, OSFP, 3m, flat to finned	MP
NDR	980-9I949-00N005	MCA7J60-N005	NVIDIA active copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xOSFP, 5m	P-Rel
NDR	980-9I50E-00N005	MCA7J70-N005	NVIDIA active copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xOSFP, 5m	P-Rel
NDR	980-9IA0F-00N001	MCP4Y10-N001	NVIDIA passive Copper cable, IB twin port NDR, up to 800Gb/s, OSFP, 1m	MP
NDR	980-9IA0K-00N00A	MCP4Y10-N00A	NVIDIA passive Copper cable, IB twin port NDR, up to 800Gb/s, OSFP, 0.5m	MP
NDR	980-9I432-00N001	MCP7Y00-N001	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xOSFP,1m	P-Rel
NDR	980-9I924-00N002	MCP7Y00-N002	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xOSFP, 2m	P-Rel
NDR	980-9I92N-00N003	MCP7Y00-N003	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xOSFP, 3m	P-Rel
NDR	980-9I926-00N01A	MCP7Y00-N01A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xOSFP,1.5m	P-Rel
NDR	980-9I92O-00N02A	MCP7Y00-N02A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xOSFP, 2.5m	P-Rel
NDR	980-9I928-00N001	MCP7Y10-N001	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112,1m	P-Rel
NDR	980-9I929-00N002	MCP7Y10-N002	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112,2m	P-Rel
NDR	980-9I80P-00N003	MCP7Y10-N003	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112,3m	P-Rel
NDR	980-9I80A-00N01A	MCP7Y10-N01A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112,1.5m	P-Rel
NDR	980-9I80Q-00N02A	MCP7Y10-N02A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112,2.5m	P-Rel
NDR	980-9I80B-00N001	MCP7Y40-N001	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 1m	P-Rel
NDR	980-9I80C-00N002	MCP7Y40-N002	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 2m	P-Rel

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
NDR	980-9I75R-00N003	MCP7Y40-N003	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 3m	P-Rel
NDR	980-9I75D-00N01A	MCP7Y40-N01A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 1.5m	P-Rel
NDR	980-9I75S-00N02A	MCP7Y40-N02A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 2.5m	P-Rel
NDR	980-9I75E-00N001	MCP7Y50-N001	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xOSFP, 1m	P-Rel
NDR	980-9I46G-00N002	MCP7Y50-N002	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xOSFP, 2m	P-Rel
NDR	980-9I46I-00N01A	MCP7Y50-N01A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xOSFP, 1.5m	P-Rel
NDR	980-9I73V-000005	MFP7E10-N005	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 5m	MP
NDR	980-9I57W-000007	MFP7E10-N007	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 7m	MP
NDR	980-9I57X-00N010	MFP7E10-N010	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 10m	MP
NDR	980-9I57Y-000015	MFP7E10-N015	NVIDIA passive fiber cable, MMF , MPO12 APC to MPO12 APC, 15m	MP
NDR	980-9I57Z-000020	MFP7E10-N020	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 20m	MP
NDR	980-9I573-00N025	MFP7E10-N025	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 25m	MP
NDR	980-9I570-00N030	MFP7E10-N030	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 30m	MP
NDR	980-9I570-00N035	MFP7E10-N035	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 35m	MP
NDR	980-9I570-00N040	MFP7E10-N040	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 40m	MP
NDR	980-9I57Y-00N050	MFP7E10-N050	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 50m	MP
NDR	980-9I571-00N003	MFP7E20-N003	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 3m	MP
NDR	980-9I572-00N005	MFP7E20-N005	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 5m	MP
NDR	980-9I573-00N007	MFP7E20-N007	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 7m	MP
NDR	980-9I554-00N010	MFP7E20-N010	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 10m	MP
NDR	980-9I555-00N015	MFP7E20-N015	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 15m	MP
NDR	980-9I556-00N020	MFP7E20-N020	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 20m	MP

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
NDR	980-9I557-00N030	MFP7E20-N030	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 30m	MP
NDR	980-9I55Z-00N050	MFP7E20-N050	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 50m	MP
NDR	980-9I58C-00N007	MFP7E30-N007	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 7m	MP
NDR	980-9I58D-00N010	MFP7E30-N010	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 10m	MP
NDR	980-9I58E-00N015	MFP7E30-N015	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 15m	MP
NDR	980-9I58F-00N020	MFP7E30-N020	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 20m	MP
NDR	980-9I58G-00N030	MFP7E30-N030	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 30m	MP
NDR	980-9I580-00N030	MFP7E30-N040	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 40m	MP
NDR	980-9I58H-00N050	MFP7E30-N050	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 50m	MP
NDR	980-9I581-00N050	MFP7E30-N060	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 60m	MP
NDR	980-9I582-00N050	MFP7E30-N070	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 70m	MP
NDR	980-9I58I-00N100	MFP7E30-N100	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 100m	MP
NDR	980-9I58L-00N005	MFP7E40-N005	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 5m	MP
NDR	980-9I693-00NS00	MMA1Z00-NS400	NVIDIA single port transceiver, 400Gbps,NDR, QSFP112, MPO12 APC, 850nm MMF, up to 50m, flat top	P-Rel
NDR	980-9I510-00NS00	MMA4Z00-NS	NVIDIA twin port transceiver, 800Gbps,2xNDR, OSFP, 2xMPO12 APC, 850nm MMF, up to 50m, finned	MP
NDR	980-9I60Z-00N003	MCA4J80-N003	NVIDIA ACTIVE COPPER CABLE, IB TWIN PORT NDR UP TO 800GBS, OSFP, 3M	MP
NDR	980-9I600-00N003	MCA4J80-N003-FLT	NVIDIA ACTIVE COPPER CABLE, IB TWIN PORT NDR UP TO 800GBS, OSFP, 3M, FLAT TOP	MP
NDR	980-9I601-00N004	MCA4J80-N004	NVIDIA ACTIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800 GB/S, OSFP, 4M	MP
NDR	980-9I602-00N005	MCA4J80-N005	NVIDIA ACTIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800 GB/S, OSFP, 5M	MP
NDR	980-9I948-00N004	MCA7J60-N004	NVIDIA ACTIVE COPPER SPLITTER CABLE, IB NDR 800GBS TO 2X400GBS, OSFP TO 2XOSFP, 4M	P-Rel
NDR	980-9I81B-00N004	MCA7J65-N004	NVIDIA ACTIVE COPPER SPLITTER CABLE, IB TWIN PORT NDR 800GB/S TO 2X400GB/S, OSFP TO 2XQSFP112, 4M	Prototype
NDR	980-9I81C-00N005	MCA7J65-N005	NVIDIA ACTIVE COPPER SPLITTER CABLE, IB TWIN PORT NDR 800GB/S TO 2X400GB/S, OSFP TO 2XQSFP112, 5M	Prototype

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
NDR	980-9I50D-00N004	MCA7J70-N004	NVIDIA ACTIVE COPPER SPLITTER CABLE, IB TWIN PORT NDR 800GBS TO 4X200GBS, OSFP TO 4XOSFP, 4M	P-Rel
NDR	980-9I76G-00N004	MCA7J75-N004	NVIDIA AVTIVE COPPER SPLITTER CABLE, IB TWIN PORT NDR 800GB/S TO 4X200GB/S, OSFP TO 4XQSFP112, 4M	Prototype
NDR	980-9I76H-00N005	MCA7J75-N005	NVIDIA AVTIVE COPPER SPLITTER CABLE, IB TWIN PORT NDR 800GB/S TO 4X200GB/S, OSFP TO 4XQSFP112, 5M	Prototype
NDR	980-9IA0G-00N001	MCP4Y10-N001-FLT	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 1M, FLAT TOP	MP
NDR	980-9IA0H-00N001	MCP4Y10-N001-FTF	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 1M, FLAT TO FINNED	MP
NDR	980-9IA0I-00N002	MCP4Y10-N002	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 2M	MP
NDR	980-9IA0J-00N002	MCP4Y10-N002-FLT	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 2M, FLAT TOP	MP
NDR	980-9IA0L-00N00A	MCP4Y10-N00A-FLT	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 0.5M, FLAT TOP	MP
NDR	980-9IA0Q-00N01A	MCP4Y10-N01A	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 1.5M	MP
NDR	980-9IA0R-00N01A	MCP4Y10-N01A-FLT	NVIDIA PASSIVE COPPER CABLE, IB TWIN PORT NDR, UP TO 800GB/S, OSFP, 1.5M, FLAT TOP	MP
NDR	980-9I46T-00N003	MCP7Y50-N003	NVIDIA PASSIVE COPPER SPLITTER CABLE, IB NDR 800GB/S TO 4X200GB/S, OSFP TO 4XOSFP, 3M	P-Rel
HDR	980-9I46K-00H001	MCP7Y60-H001	MELLANOX PASSIVE COPPER SPLITTER CABLE, 400(2X200)GBPS TO 2X200GBPS, OSFP TO 2XQSFP56, 1M, FIN TO FLAT	MP
HDR	980-9I46L-00H002	MCP7Y60-H002	MELLANOX PASSIVE COPPER SPLITTER CABLE, 400(2X200)GBPS TO 2X200GBPS, OSFP TO 2XQSFP56, 2M, FIN TO FLAT	MP
HDR	980-9I93M-00H01A	MCP7Y60-H01A	MELLANOX PASSIVE COPPER SPLITTER CABLE, 400(2X200)GBPS TO 2X200GBPS, OSFP TO 2XQSFP56, 1.5M, FIN TO FLAT	MP
HDR	980-9I93N-00H001	MCP7Y70-H001	MELLANOX PASSIVE COPPER SPLITTER CABLE, 400(2X200)GBPS TO 4X100GBPS, OSFP TO 4XQSFP56, 1M, FIN TO FLAT	MP
HDR	980-9I93O-00H002	MCP7Y70-H002	MELLANOX PASSIVE COPPER SPLITTER CABLE, 400(2X200)GBPS TO 4X100GBPS, OSFP TO 4XQSFP56, 2M, FIN TO FLAT	MP
HDR	980-9I47P-00H01A	MCP7Y70-H01A	MELLANOX PASSIVE COPPER SPLITTER CABLE, 400(2X200) GBPS TO 4X100GBPS, OSFP TO 4XQSFP56, 1.5M, FIN TO FLAT	MP
HDR	980-9I41X-00H003	MFA7U10-H003	MELLANOX ACTIVE FIBER SPLITTER CABLE, IB HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 3M	P-Rel
HDR	980-9I41Y-00H003	MFA7U10-H003-FLT	MELLANOX AOC SPLITTER,IB TWIN PORT HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 3MM FLAT TOP	P-Rel
HDR	980-9I11Z-00H005	MFA7U10-H005	MELLANOX ACTIVE FIBER SPLITTER CABLE, IB HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 5M	P-Rel
HDR	980-9I110-00H005	MFA7U10-H005-FLT	MELLANOX AOC SPLITTER, IB TWIN PORT HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 5M, FLAT TOP	P-Rel
HDR	980-9I111-00H010	MFA7U10-H010	MELLANOX ACTIVE FIBER SPLITTER CABLE, IB HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 10M	P-Rel

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
HDR	980-9I112-00H010	MFA7U10-H010-FLT	MELLANOX AOC SPLITTER, IB TWIN PORT HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 10M, FLAT TOP	P-Rel
HDR	980-9I113-00H015	MFA7U10-H015	MELLANOX ACTIVE FIBER SPLITTER CABLE, IB HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 15M	P-Rel
HDR	980-9I114-00H015	MFA7U10-H015-FLT	MELLANOX AOC SPLITTER, IB TWIN PORT HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 15M, FLAT TOP	P-Rel
HDR	980-9I115-00H020	MFA7U10-H020	MELLANOX ACTIVE FIBER SPLITTER CABLE, IB HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 20M	P-Rel
HDR	980-9I116-00H020	MFA7U10-H020-FLT	MELLANOX AOC SPLITTER, IB TWIN PORT HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 20M, FLAT TOP	P-Rel
HDR	980-9I117-00H030	MFA7U10-H030	MELLANOX ACTIVE FIBER SPLITTER CABLE, IB HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 30M	P-Rel
HDR	980-9I118-00H030	MFA7U10-H030-FLT	MELLANOX AOC SPLITTER, IB TWIN PORT HDR, 400GB/S TO 2X200GB/S, OSFP TO 2XQSFP56, 30M, FLAT TOP	P-Rel
NDR	980-9I73U-000003	MFP7E10-N003	NVIDIA PASSIVE FIBER CABLE, MMF, MPO12 APC TO MPO12 APC, 3M	MP
NDR	980-9I559-00N002	MFP7E30-N002	NVIDIA PASSIVE FIBER CABLE, SMF MPO12 APC TO MPO12 APC, 2M	MP
NDR	980-9I55A-00N003	MFP7E30-N003	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO MPO12 APC, 3M	MP
NDR	980-9I55B-00N005	MFP7E30-N005	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO MPO12 APC, 5M	MP
NDR	980-9I58J-00N150	MFP7E30-N150	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO MPO12 APC, 150M	MP
NDR	980-9I58K-00N003	MFP7E40-N003	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 3M	MP
NDR	980-9I58M-00N007	MFP7E40-N007	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 7M	MP
NDR	980-9I58N-00N010	MFP7E40-N010	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 10M	MP
NDR	980-9I56O-00N015	MFP7E40-N015	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 15M	MP
NDR	980-9I56P-00N020	MFP7E40-N020	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 20M	MP
NDR	980-9I56Q-00N030	MFP7E40-N030	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 30M	MP
NDR	980-9I56R-000050	MFP7E40-N050	NVIDIA PASSIVE FIBER CABLE, SMF, MPO12 APC TO 2XMPO12 APC, 50M	MP
NDR	980-9I51A-00NS00	MMA4Z00-NS-FLT	NVIDIA TWIN PORT TRANSCEIVER, 800GBPS,2XNDR, OSFP, 2XMPO12 APC, 850NM MMF, UP TO 50M, FLAT TOP	MP
NDR	980-9I51S-00NS00	MMA4Z00-NS400	NVIDIA SINGLE PORT TRANSCEIVER, 400GBPS,NDR, OSFP, MPO12 APC, 850NM MMF, UP TO 50M, FLAT TOP	MP
NDR	980-9I30G-00NM00	MMS4X00-NM	NVIDIA TWIN PORT TRANSCEIVER, 800GBPS,2XNDR, OSFP, 2XMPO, 1310NM SMF, UP TO 500M, FINNED	MP

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
NDR	980-9I301-00NM00	MMS4X00-NM-FLT	NVIDIA TWIN PORT TRANSCEIVER, 800GBPS,2XNDR, OSFP, 2XMPO 12 APC, 1310NM SMF, UP TO 500M, FLAT TOP	P-Rel
NDR	980-9I30H-00NM00	MMS4X00-NS	NVIDIA TWIN PORT TRANSCEIVER, 800GBPS,2XNDR, OSFP, 2XMPO12 APC, 1310NM SMF, UP TO 100M, FINNED	MP
NDR	980-9I30I-00NM00	MMS4X00-NS-FLT	NVIDIA TWIN PORT TRANSCEIVER, 800GBPS,2XNDR, OSFP, 2XMPO, 1310NM SMF, UP TO 100M, FLAT TOP	MP
NDR	980-9I31N-00NM00	MMS4X00-NS400	NVIDIA SINGLE PORT TRANSCEIVER, 400GBPS,NDR, OSFP, MPO12 APC, 1310NM SMF, UP TO 100M, FLAT TOP	MP
NDR	980-9I30L-00N000	MMS4X50-NM	NVIDIA HYDRA TWIN PORT TRANSCEIVER, 800GBPS,2XFR4, 2XNDR, OSFP, 2XMINI-LC, 1310NM SMF, UP TO 2K, FINNED	P-Rel
NDR	980-9I46U-00N02A	MCP7Y50-N02A	NVIDIA passive copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xOSFP, 2.5m	P-Rel

2.3.6 Validated and Supported HDR Cables

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
HDR	980-9I86N-00H003*	MCA1J00-H003E*	NVIDIA Active Copper cable, IB HDR, up to 200Gb/s, QSFP56, 3m, yellow pulltab	EOL [MP]
HDR	980-9I86O-00H004*	MCA1J00-H004E*	NVIDIA Active Copper cable, IB HDR, up to 200Gb/s, QSFP56, 4m, yellow pulltab	EOL [MP]
HDR	980-9I977-00H003*	MCA7J50-H003R*	NVIDIA Active copper hybrid cable, IB HDR 200Gb/s to 2xHDR100 100Gb/s, QSFP56 to 2xQSFP56, 3m, colored	EOL [MP]
HDR	980-9I978-00H004*	MCA7J50-H004R*	NVIDIA Active copper hybrid cable, IB HDR 200Gb/s to 2xHDR100 100Gb/s, QSFP56 to 2xQSFP56, 4m, colored	EOL [MP]
HDR	980-9I979-00H005	MCA7J50-H005R	NVIDIA Active copper hybrid cable, IB HDR 200Gb/s to 2xHDR100 100Gb/s, QSFP56 to 2xQSFP56, 5m, colored	EOL [Prototype]
HDR	980-9I548-00H001	MCP1650-H001E30	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 1m	HVM
HDR	980-9I549-00H002	MCP1650-H002E26	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 2m	HVM
HDR	980-9I54A-00H00A	MCP1650-H00AE30	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 0.5m	HVM
HDR	980-9I54B-00H01A	MCP1650-H01AE30	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 1.5 m	HVM
HDR	980-9I39E-00H001	MCP7H50-H001R30	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1m	HVM
HDR	980-9I99F-00H002	MCP7H50-H002R26	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 2m	HVM
HDR	980-9I98G-00H01A	MCP7H50-H01AR30	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1.5m	HVM

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
HDR	980-9I46K-00H001	MCP7Y60-H001	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 1m, fin to flat	MP
HDR	980-9I46L-00H002	MCP7Y60-H002	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 2m, fin to flat	MP
HDR	980-9I93M-00H01A	MCP7Y60-H01A	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 1.5m, fin to flat	MP
HDR	980-9I93N-00H001	MCP7Y70-H001	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 4x100Gbps, OSFP to 4xQSFP56, 1m, fin to flat	MP
HDR	980-9I93O-00H002	MCP7Y70-H002	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 4x100Gbps, OSFP to 4xQSFP56, 2m, fin to flat	MP
HDR	980-9I47P-00H01A	MCP7Y70-H01A	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 4x100Gbps, OSFP to 4xQSFP56, 1.5m, fin to flat	MP
HDR	980-9I41X-00H003	MFA7U10-H003	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 3m	P-Rel
HDR	980-9I11Z-00H005	MFA7U10-H005	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 5m	P-Rel
HDR	980-9I111-00H010	MFA7U10-H010	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 10m	P-Rel
HDR	980-9I113-00H015	MFA7U10-H015	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 15m	P-Rel
HDR	980-9I115-00H020	MFA7U10-H020	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 20m	P-Rel
HDR	980-9I117-00H030	MFA7U10-H030	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 30m	P-Rel
HDR	980-9I11V-00H050	MFA7U10-H050	NVIDIA AOC splitter, IB twin port HDR, 400Gb/s to 2x200Gb/s, OSFP to 2xQSFP56, 50m	Prototype
HDR	980-9I124-00H003	MFS1S00-H003E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 3m	EOL [HVM]
HDR	980-9I123-00H003	MFS1S00-H003-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 3m	EOL [P-Rel]
HDR	980-9I457-00H003	MFS1S00-H003V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 3m	MP
HDR	980-9I45A-00H005	MFS1S00-H005E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 5m	EOL [HVM]
HDR	980-9I449-00H005	MFS1S00-H005-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 5m	EOL [P-Rel]
HDR	980-9I45D-00H005	MFS1S00-H005V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 5m	MP
HDR	980-9I45G-00H010	MFS1S00-H010E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 10m	EOL [HVM]

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
HDR	980-9I45H-00H010	MFS1S00-H010E_FF	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 10m	EOL [HVM]
HDR	980-9I44F-00H010	MFS1S00-H010-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 10m	EOL [P-Rel]
HDR	980-9I45J-00H010	MFS1S00-H010V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 10m	MP
HDR	980-9I45M-00H015	MFS1S00-H015E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 15m	EOL [HVM]
HDR	980-9I44L-00H015	MFS1S00-H015-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 15m	EOL [P-Rel]
HDR	980-9I45O-00H015	MFS1S00-H015V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 15m	MP
HDR	980-9I45R-00H020	MFS1S00-H020E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 20m	EOL [HVM]
HDR	980-9I44Q-00H020	MFS1S00-H020-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 20m	EOL [P-Rel]
HDR	980-9I45T-00H020	MFS1S00-H020V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 20m	MP
HDR	980-9I45Y-00H030	MFS1S00-H030E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 30m	EOL [HVM]
HDR	980-9I45X-00H030	MFS1S00-H030-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 30m	EOL [P-Rel]
HDR	980-9I440-00H030	MFS1S00-H030V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 30m	MP
HDR	980-9I455-00H050	MFS1S00-H050E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 50m	EOL [HVM]
HDR	980-9I447-00H050	MFS1S00-H050V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 50m	MP
HDR	980-9I44G-00H100	MFS1S00-H100E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 100m	EOL [HVM]
HDR	980-9I44H-00H100	MFS1S00-H100V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 100m	MP
HDR	980-9I44I-00H130	MFS1S00-H130E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 130m	EOL [HVM]
HDR	980-9I44K-00H130	MFS1S00-H130V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 130m	MP
HDR	980-9I45L-00H150	MFS1S00-H150E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 150m	EOL [HVM]
HDR	980-9I44N-00H150	MFS1S00-H150V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 150m	MP
HDR	980-9I452-00H003	MFS1S50-H003E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 3m	EOL [HVM]

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
HDR	980-9I445-00H003	MFS1S50-H003V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 3m	HVM
HDR	980-9I956-00H005	MFS1S50-H005E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 5m	EOL [HVM]
HDR	980-9I969-00H005	MFS1S50-H005V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 5m	HVM
HDR	980-9I95A-00H010	MFS1S50-H010E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 10m	EOL [HVM]
HDR	980-9I96D-00H010	MFS1S50-H010V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 10m	HVM
HDR	980-9I95E-00H015	MFS1S50-H015E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 15m	EOL [HVM]
HDR	980-9I96H-00H015	MFS1S50-H015V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 15m	HVM
HDR	980-9I95I-00H020	MFS1S50-H020E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 20m	EOL [HVM]
HDR	980-9I96L-00H020	MFS1S50-H020V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 20m	HVM
HDR	980-9I95M-00H030	MFS1S50-H030E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 30m	EOL [HVM]
HDR	980-9I96P-00H030	MFS1S50-H030V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 30m	HVM
HDR	980-9I95S-00H040	MFS1S50-H040V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 40m	Prototype
HDR	980-9I95T-00H050	MFS1S50-H050V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 50m	Prototype
HDR	980-9I95Z-00H003	MFS1S90-H003E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 3m	EOL [HVM]
HDR	980-9I960-00H005	MFS1S90-H005E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 5m	EOL [HVM]
HDR	980-9I961-00H010	MFS1S90-H010E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 10m	LTB [HVM]
HDR	980-9I962-00H015	MFS1S90-H015E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 15m	EOL [HVM]
HDR	980-9I423-00H020	MFS1S90-H020E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 20m	LTB [HVM]

Data Rate	NVIDIA P/N	Legacy OPN	Description	Lifecycle Phase
HDR	980-9I424-00H030	MFS1S90-H030E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 30m	EOL [HVM]
HDR	980-9I17S-00HS00	MMA1T00-HS	NVIDIA transceiver, HDR, QSFP56, MPO, 850nm, SR4, up to 100m	HVM
HDR	980-9I055-00H000*	MMS1W50-HM*	NVIDIA transceiver, IB HDR, up to 200Gb/s, QSFP56, LC-LC, 1310nm, FR4	MP

2.3.7 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

Keyword	Description
31.2014.2448	
General	See Bug Fixes.

4 Bug Fixes in this Firmware Version

This firmware version includes the following bug fixes. For a list of bug fixed from previous versions, see Bug Fixes History.

Internal Ref.	Issues
4493905	**Description:** In rare cases, cleaning all SHARP resources may fail following event of port dropped during a job.
	Keywords: SHARP
	Discovered in Version: 31.2014.2428
	Fixed in Version: 31.2014.2448

5 Known Issues

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

Internal Ref	Issue
3198634	**Description:** When using HDR speeds on NDR systems with NDR optic cables, the link does not raise.
	Workaround: N/A
	Keywords: HDR Speed, Optic Cables
	Discovered in Version: 31.2012.1024
2922333	**Description:** In some cases, MMS4X00-NL 1.2 may have low BER.
	Workaround: N/A
	Keywords: Signal Integrity
	Discovered in Version: 31.2010.2110
2838195	**Description:** Using NDR speed with Optical Transceivers causes bandwidth to be 350Gb/s instead of 400Gb/s in small packets.
	Workaround: N/A
	Keywords: Optical Transceivers
	Discovered in Version: 31.2010.1310
2834238	**Description:** When using Optical Transceiver, toggling a port in a cage may toggle the adjacent port in the cage.
	Workaround: N/A
	Keywords: Optical Transceivers, Port Toggle
	Discovered in Version: 31.2010.1310
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
	Discovered in Version: 31.2010.1310
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
	Discovered in Version: 31.2010.1310
2057793	**Description:** Congestion profiles in VS-MAD `PortProfileSetting` support only fixed mode. Percentage mode is not supported.
	Workaround: N/A
	Keywords: InfiniBand Congestion Control
	Discovered in Version: 31.2010.1310

6 Changes and New Features History

This section includes history of changes and new feature of three major releases back. For older versions' history, please refer to their dedicated release notes.

Keyword	Description
31.2014.2428	
General	See Bug Fixes.

Keyword	Description
31.2014.2170	
General	Stability improvements.
31.2014.2126	
Firmware Dump Collection	The unmanaged switch will automatically store a firmware dump to the flash during a fatal event or if communication with the SM is lost for an extended period. The switch supports firmware dump collection through an in-band interface using MFT tools (resourcedump).

Keyword	Description
31.2014.2084	
Histograms	Added support for PortRcvData histogram. Two new VS MADS were added to control enabling and get ports histogram Data (PerformanceHistogramPortsControl, PerformanceHistogramPortsData).
Congestion Control	Added capability to the Congestion Control feature to mark packets only at the source of congestion (introduced a new attribute in VS MAD CongestionSwitchGeneralSetting).
Bug Fixes	See Bug Fixes.

Keyword	Description
31.2014.1090	
Split, NDR200, Backplane	Enabled dynamic splitting of backplane ports using the mlxconfig command. Extended support for split configurations to all modules (previously limited to 32 modules). Added support for non-sequential module configurations.
Fast Recovery from Unhealthy Links	Exposed link-down reasons through the Fast Recovery event notification channel.
Telemetry	Added indication of egress queue depth for enhanced congestion visibility.
Counters	Added new VS MAD PortGeneralCounters, exposing ICRC and Parity error counters. Exposed the ICRC and Parity counters also via PPCNT 0x25 Group "InfiniBand Packets Counters".

Keyword	Description
31.2014.1090	
Bug Fixes	See Bug Fixes.

Keyword	Description
31.2012.4036	
Counters	Added support for Vendor Specific General Service Class MAD: Extended PortVLXmitTimeCong counters (64 bit counters).
General	Bug Fixes.
31.2012.3040	
General	Bug Fixes.
31.2012.3008	
General	Bug Fixes.
31.2012.2108	
General	Bug Fixes.
31.2012.2014	
Device HW	Added Beta-level support for MMS4X50-NM module.
SHARP	Added support for gateway Dump. The new Dump file contains SHARP gateway content.
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.

Keyword	Description
31.2012.1068	
Device HW	Added limited support for MMS4X50-NM module. ⚠ When working with two 4xports, toggling one port following the other port might lead to link flap issue. To recover, toggle the port again.
General	See Bug fixes.

Keyword	Description
31.2012.1024	
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.

Keyword	Description
31.2010.6102	
General	See Bug fixes.

Keyword	Description
31.2010.6064	
Counters: Unhealthy Link	Added BER Monitor counters for unhealthy link.
SHARP-Based Reliable Multicast Packets	Added support for SHARP-based reliable multicast packets.
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.

Keyword	Description
31.2010.5108	
IB Router	Added support for NDR InfiniBand Router which enables isolation and connectivity between up to eight different InfiniBand subnets. The IB Router enables features such as Adaptive Routing (AR), Hash Based Forwarding (HBF), and Self-Healing Interconnect Enhancement for InteLigent Datacenters (SHIELD).
General	See Bug fixes.

Keyword	Description
31.2010.5002	
SHARP SAT Reliable Multicast	Added engineering-sample-level support for RMC request (SHARP SAT opcode 0xA) and RMC response (SHARP SAT opcode 0xB).

Keyword	Description
31.2010.5002	
General	See Bug fixes.

Keyword	Description
31.2010.4102	
General	Stability improvements.
General	See Bug fixes.

Keyword	Description
31.2010.4010	
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).
Congestion Control Updates	Added support for 1kb granularity for the port congestion profiles.
SL-to-VL Mapping	Added switch support for port mask optimization of SL-to-VL Mapping Table configuration.
General	See Bug fixes.

Keyword	Description
31.2010.3118	
Hash-Based Routing	Enabled the reordering of sensitive traffic to load balance on multiple ports by using Hash-Based Routing.
General	See Bug fixes.

Keyword	Description
31.2010.3004	
Counters	Added support for PortXmitWaitVLExtended counters.
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
General	See Bug fixes.

Keyword	Description
31.2010.2300	
SHARPv3	Added GA-level support for aggregation jobs to run over parallel links.
General	Bug fixes.

Keyword	Description
31.2010.2246	
SHARPv3	Added beta-level support for aggregation jobs to run over parallel links.
General	Bug fixes.

Keyword	Description
31.2010.2110	
SHARPv3	Added GA-level support for SHARPv3 on Quantum-2 systems.
General	Bug fixes.

Keyword	Description
31.2010.2036	
Systems	Added power and system monitoring optimizations.
SHARP V3	Added beta-level support for SHARP V3 on Quantum-2 systems.
Hash Based Forwarding	Added alpha-level support for Hash Based Forwarding Routing Capability.
Security	Added security enhancements to QM9790 system.

Keyword	Description
31.2010.1310	
Systems	Added GA-level support for NVIDIA Quantum-2-based switch QM9790.
Congestion Control	Added ES-level support for congestion control class key.
Vendor Key	Added ES-level support for vendor class key.
Hierarchy Information	Added support for Hierarchy Information mad.
Remote Debug Token	Added support for Remote Debug Token.
NVIDIA® Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)™	Added GA-level support for SHARPv2 for NVIDIA Quantum-2 systems.
Counters	Added support for PortVLXmitFlowCtlUpdateErrors counters.
Security	Added support for Secure Firmware and Secure Firmware Boot on NVIDIA Quantum-2 systems.

7 Bug Fixes History

This section includes the bug fix history for the last three major releases. For the history of older releases, please refer to the relevant versions.

Internal Ref.	Issues
4493905	**Description:** In rare cases, repressing SHARP traps may fail.
	Keywords: SHARP, Traps
	Discovered in Version: 31.2014.2170
	Fixed in Version: 31.2014.2428
4411363	**Description:** When SM was running on the switch host, VS-MAD Classes 0x0b and 0x0c responses did not return to the SM, causing the SM to continue sending MADs. This could result in switch congestion, leading to dropped MADs.
	Keywords: VS MADs, SM
	Discovered in Version: 31.2014.2170
	Fixed in Version: 31.2014.2428
4424267	**Description:** In rare cases, cleaning all SHARP resources may fail following event of port dropped during a job.
	Keywords: SHARP
	Discovered in Version: 31.2014.2170
	Fixed in Version: 31.2014.2428

Internal Ref.	Issues
4194755	**Description:** When setting N2N neighbor information parameters for network ports, NodeKey misconfiguration may occur.
	Keywords: Class Key
	Discovered in Version: 31.2014.2084
	Fixed in Version: 31.2014.2170

Internal Ref.	Issues
4129741	**Description:** In rare cases, when a SHARP job is stopped while ANDR operations were in use, the next job may fail and require switch reboot.
	Keywords: SHARP
	Discovered in Version: 31.2014.1000
	Fixed in Version: 31.2014.2084
4146212	**Description:** Inaccurate credits configurations in switch data path which, in rare cases, can lead to unexpected behavior or performance degradation.
	Keywords: Credits, Data Path, Fatal Cause
	Discovered in Version: 31.2012.2014
	Fixed in Version: 31.2014.2084

Internal Ref.	Issues
4037679	**Description:** In some cases where incorrect MAD handling causes the switch to become unresponsive to the SM, a switch reset is required.
	Keywords: MADs
	Discovered in Version: 31.2014.1000
	Fixed in Version: 31.2014.2084
3782281 3778631	**Description:** When performing a partial split (where only one port in a cage is split) on an optical module, port may not link up.
	Keywords: Optical Module, Split
	Discovered in Version: 31.2012.4006
	Fixed in Version: 31.2014.2084
3605188	**Description:** Occasionally, when using an FR4-coherent optical module while running a split-unsplit flow, the port may not raise a link.
	Keywords: FR4-Coherent Optical Module
	Discovered in Version: 31.2012.1024
	Fixed in Version: 31.2014.2084
3967793	**Description:** When cable is unplugged in unmanaged switches, port width remains 2X, even when using a 4X cable.
	Keywords: Cables Width
	Discovered in Version: 31.2012.1024
	Fixed in Version: 31.2014.2084
4035403	**Description:** In cases of repeating flapping links, the pFRN recovery mechanism might not be triggered.
	Keywords: SHIELDv2, pFRN
	Discovered in Version: 31.2012.2234
	Fixed in Version: 31.2014.2084

Internal Ref.	Issues
3685913	**Description:** Link down counter was not consistently incrementing while optical modules were removed or plugged out.
	Keywords: Counters, Timing
	Discovered in Version: 31.2012.2014
	Fixed in Version: 31.2014.1090
3888873	**Description:** Head-of-line blocking between QP1 and QP0 MADs from the switch to the firmware packet buffer occurs when the firmware is busy handling a MAD, causing another MAD with the same QP to wait in the queue ahead of MADs from different QPs.
	Keywords: MADs
	Discovered in Version: 31.2012.2200
	Fixed in Version: 31.2014.1090

Internal Ref.	Issues
3977077	**Description:** A flap on one port of an NDR transceiver may cause the twin port on the same transceiver to also flap.
	Keywords: Twin Port
	Discovered in Version: 31.2012.4036
	Fixed in Version: 31.2014.1090
3924542	**Description:** On rare occasions, SHARP job failure with trap 135 may be experienced as a result of previous jobs that have failed or stopped.
	Keywords: SHARPv3
	Discovered in Version: 31.2012.2234
	Fixed in Version: 31.2014.1090
3887857	**Description:** In cases where MirroringAgent MAD was sent without configuring fast recovery mirroring using MirroringGlobalTrigger MAD, the agent that was configured will send fast recovery mirroring notifications.
	Keywords: Mirroring
	Discovered in Version: 31.2012.4036
	Fixed in Version: 31.2014.1090
3813780	**Description:** Following a module reset, link up may take up to 70 seconds.
	Keywords: Module Rest, Link Up
	Discovered in Version: 31.2012.4006
	Fixed in Version: 31.2014.1090

Internal Ref.	Issues
3864399	**Description:** Sending pFRN packets to ports that were connected to themselves (loop), caused the switch hanged due to semaphore lock mismatch.
	Keywords: pFRN
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.4036
3860421	**Description:** Incorrect buffer configuration for trap and mirror packets may cause the switch data path to become stuck, potentially resulting in buffer overrun and internal credit leakage.
	Keywords: Data Path, Buffer
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.4036
3700332	**Description:** Updated the ratio between the amount of data sent (TX) to FCCL packets to be determined by the credit size; credit packet will be sent after roughly 4096B of sent data.
	Keywords: FCCL, Credit Packet
	Discovered in Version: 31.2012.2014
	Fixed in Version: 31.2012.4006

Internal Ref.	Issues
3657798	**Description:** During the transition from 2x split to 4x split port configuration, the procedure for clearing routing logic for management ports was incorrect.
	Keywords: Management Ports, Split
	Discovered in Version: 31.2012.3008
	Fixed in Version: 31.2012.4006
3753126	**Description:** Interference on the AC line may cause a wrong reset sequence, which leads to a system error and causes all ports to be in link-down mode. Only a power cycle restores the switch to a normal operation mode. For CPLD Upgrade please contact NVIDIA technical support team. Fixes available in Main CPLD revision 0300 and Port CPLD revision 0700 or higher.
	Keywords: CPLD
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.4006
3715407	**Description:** Because of a race condition in cable information interfaces, the lock bit remains stuck in the high position. Consequently, a timeout flow has been implemented to address this scenario.
	Keywords: Cables, Timeout
	Discovered in Version: 31.2012.2014
	Fixed in Version: 31.2012.4006
3740969	**Description:** PSU fan error is experienced. To address this issue, the PSU fans high RPM warning threshold has been increased to 32500.
	Keywords: PSU Fan
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.4006
3773771	**Description:** HBF (Hash Based Forwarding) configurations were applied on the incorrect port.
	Keywords: Hash Based Forwarding
	Discovered in Version: 31.2012.3008
	Fixed in Version: 31.2012.4006
3707400	**Description:** In cases where buffer is overutilized, failure to allocate a buffer for the SHARP TX retry buffer may lead to buffer oversubscription.
	Keywords: SHARP, Buffer
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.4006
3724050	**Description:** The PRBS register could not be properly disabled. To solve this, the Ethernet FSM closes upon receiving an Enable event without a lock only when the FSM is already in the Close state.
	Keywords: Ethernet FSM, PRBS
	Discovered in Version: 31.2012.2014
	Fixed in Version: 31.2012.4006

Internal Ref.	Issues
3824931 3843040	**Description:** Illegal packets of a permissive LID (0xFFFF) and VL other than 15 were incorrectly configured to destined for port 0 and be proceeded by the switch firmware, which lead to overloading of the switch firmware.
	Keywords: Checks
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.4006

Internal Ref.	Issues
3742609	**Description:** Fix split mode LEDs wrong endian mapping issue.
	Keywords: LED
	Discovered in Version: 31.2012.1068
	Fixed in Version: 31.2012.3040
3725809	**Description:** Increased PSU fans high RPM warning threshold.
	Keywords: Fan, Warning
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3040

Internal Ref.	Issues
3677817	**Description:** Fixed a race condition in the cable info interfaces that caused the switch be non-responsive.
	Keywords: Cable info interfaces
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3008
3705783	**Description:** Fixed the timer for sending Trap-135 to 1 second (in case a host stopped sending packets in the middle of a SAT).
	Keywords: Timer
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3008
3669982	**Description:** Fixed an issue that caused the SHARP job to fail due to an error event that triggered the firmware dumps.
	Keywords: SHARP, firmware dumps
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3008
3626729 3677386	**Description:** Fixed credit management of shared buffer scheme that effected the overall bandwidth performance of the switch.
	Keywords: Buffer Scheme
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3008

Internal Ref.	Issues
3600467	**Description:** Fixed the statics issue where the I^2C to modules is locked and might cause switch to get stuck by resetting the switch.
	Keywords: I^2C
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3008
3719983	**Description:** Fixed the packets sent to port0 which might drop due to heavy load, causing MADs timeouts in SM.
	Keywords: Packets
	Discovered in Version: 31.2012.2108
	Fixed in Version: 31.2012.3008

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: 31.2012.1068
	Fixed in Version: 31.2012.2014

Internal Ref.	Issues
3592659 3585886	**Description:** Switch may freeze while sending MVCR.
	Keywords: MVCR
	Discovered in Version: 31.2012.1024
	Fixed in Version: 31.2012.1068
3589044 3587703 3573164	**Description:** Rare issue that triggers the I^2C to module connection to lock and causes the switch to freeze.
	Keywords: I^2C
	Discovered in Version: 31.2012.1024
	Fixed in Version: 31.2012.1068
3548254	**Description:** FR4 MMS4X50-NM cable link-up failure after a disconnect or AC cycle.
	Keywords: Cables, Link Up
	Discovered in Version: 31.2012.1024
	Fixed in Version: 31.2012.1068
3570478	**Description:** Fixed SNR value calculation for correct readings from the MMA4Z00 optical cable module.
	Keywords: SNR
	Discovered in Version: 31.2012.1024

Internal Ref.	Issues
	Fixed in Version: 31.2012.1068
3311198 3586423	**Description:** Disabled "low priority credits" feature on the switch side that caused the credits mechanism to overload the links with credit packets, reducing the available bandwidth for transmitting data packets on the link.
	Keywords: Bandwidth
	Discovered in Version: 31.2012.1024
	Fixed in Version: 31.2012.1068

Internal Ref.	Issues
3554182	**Description:** Link does not raise with 2nd source MMS4X00-NS transceivers.
	Keywords: Cables, Link Up
	Discovered in Version: 31.2010.6064
	Fixed in Version: 31.2012.1024
3538638	**Description:** The message of code 57 in the PDDR Troubleshooting information page was incorrect.
	Keywords: Link Diagnostics
	Discovered in Version: 31.2010.6064
	Fixed in Version: 31.2012.1024
3407038	**Description:** An unresponsive PSU client can cause the SDA I^2C line to hang.
	Keywords: I^2C
	Discovered in Version: 31.2010.6064
	Fixed in Version: 31.2012.1024
3477039	**Description:** Wrong RTT value is exposed under PRTL PRM.
	Keywords: Registers, RTT Value
	Discovered in Version: 31.2010.6064
	Fixed in Version: 31.2012.1024
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: 31.2010.6064
	Fixed in Version: 31.2012.1024
3499997	**Description:** In some cases, the combination of SHARP SAT traffic and SHARP MADs can cause the switch to get stuck.
	Keywords: SHARP
	Discovered in Version: 31.2010.4210
	Fixed in Version: 31.2012.1024
3451519	**Description:** When using ibdiagnet, an incorrect module alarm type was reported.

Internal Ref.	Issues
	Keywords: ibdiagnet, Module Temperature Alarm Type
	Discovered in Version: 31.2010.5108
	Fixed in Version: 31.2012.1024

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: 31.2010.3118
	Fixed in Version: 31.2010.6102
3389432	**Description:** The flint burning firmware process might take longer than expected, possibly leading to timeouts in SM and logical links drops by the SM, which, in turn, may lead to failure of the flint burn command.
	Keywords: SM, Timeout, Flint, Failure
	Discovered in Version: 31.2010.6064
	Fixed in Version: 31.2010.6102
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: 31.2010.3118
	Fixed in Version: 31.2010.6064
3393378	**Description:** In some cases, pFRN configuration over multi-SWID caused out-of-bound access to an array and overran FLID configuration.
	Keywords: pFRN
	Fixed in Version: 31.2010.6064
3342918	**Description:** On rare occasions, the port might get stuck (in all speeds) during the link up flow when using optical modules.
	Keywords: Port Link Up, Port Toggling, Optical Modules
	Fixed in Version: 31.2010.6064
3395821	**Description:** Bandwidth is lower than expected on MMS4X00-NL-QP1 cable.
	Keywords: MMS4X00-NL-QP1, Bandwidth
	Fixed in Version: 31.2010.6064
2824249	**Description:** After a firmware update failure, the bad image was not erased.
	Keywords: Installation, Firmware
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.6064

Internal Ref.	Issues
3362685	**Description:** In QM9700 systems, when a transceiver module is plugged in when only one of the optic cables is connected (while the second cable is disconnected), the port LED may be incorrectly displayed on the disconnected side.
	Keywords: Port LED, Optic Cables
	Discovered in Version: 31.2010.4102
	Fixed in Version: 31.2010.5108
3377608	**Description:** When operating in dynamic trees allocation mode, MAD error responses might be received in libsharp.
	Keywords: sharp_am, libsharp
	Fixed in Version: 31.2010.5108
3362200	**Description:** In rare cases that involve stress of traffic, unexpected hardware fast path behavior may occur, possibly leading to the switch firmware hanging when toggling the ports.
	Keywords: Turbo Path
	Discovered in Version: 31.2010.5002
	Fixed in Version: 31.2010.5108
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: 31.2010.3118
	Fixed in Version: 31.2010.5042
3335002	**Description:** pFRN mirror v1 header pad count showed an invalid padding size.
	Keywords: PFRN
	Discovered in Version: 31.2010.4010
	Fixed in Version: 31.2010.5042
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
3267152	**Description:** On NDR devices, when collecting BER data, the peer falls, causing the switch to hang.
	Keywords: BER COLLECT
	Discovered in Version: 31.2010.4102
	Fixed in Version: 31.2010.5002
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: 31.2010.4102

Internal Ref.	Issues
	Fixed in Version: 31.2010.5002
2974424	**Description:** Currently, on cables that perform polarity inversion there is no link up.
	Keywords: Cables, Polarity Inversion
	Discovered in Version: 31.2010.3118
	Fixed in Version: 31.2010.5002
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
	Discovered in Version: 31.2010.4010
	Fixed in Version: 31.2010.4102
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: 31.2010.4010
	Fixed in Version: 31.2010.4102
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: 31.2010.4010
	Fixed in Version: 31.2010.4102
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: 31.2010.4010
	Fixed in Version: 31.2010.4102
3143685	**Description:** The switch does not return SN or PN when trying to call via mlxlink or ibdiagnet.
	Keywords: SN, PN, mlxlink, ibdiagnet
	Discovered in Version: 31.2010.2300
	Fixed in Version: 31.2010.4010
3174239	**Description:** On rare occasions, traps were not properly repressed, which caused redundant traps to be sent multiple times.
	Keywords: Traps
	Discovered in Version: 31.2010.3118
	Fixed in Version: 31.2010.4010
3002314	**Description:** On rare occasion, when port is configured to mloop toggle may cause link to not rise.

Internal Ref.	Issues
	Keywords: Optic in Mloop
	Discovered in Version: 31.2010.2110
	Fixed in Version: 31.2010.3118
3127727	**Description:** On rare occasion, when egress port is split to two, the egress port may get stuck due to wrong Fast Path configuration.
	Keywords: Switch Hang, Fast Path, Split
	Discovered in Version: 31.2010.3004
	Fixed in Version: 31.2010.3118
3082569	**Description:** In some traffic patterns involving small packets, the PortRcvErrors counter may mistakenly count events of local physical errors due to an internal flow in the hardware that involves link packets.
	Keywords: Counters
	Discovered in Version: 31.2010.2246
	Fixed in Version: 31.2010.3004
3085427	**Description:** On rare occasions, SHARP semaphore may remain locked on a port following an event of a port link down or an application crash.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.3004
3011581	**Description:** On rare occasions, job failures with SharpError trap may be experienced as a result of previous jobs that have failed.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.3004
3000602	**Description:** After disconnecting MMS4X00-NL* cable and connecting Ultron cable to the same port, ports fails to link up.
	Keywords: Cables
	Discovered in Version: 31.2010.2110
	Fixed in Version: 31.2010.2300
3060122	**Description:** In the event of link fault of a link between root switch and non-root switch during the run of a job, the next job run on the non-root switch may fail.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.2300
2923464	**Description:** When using MMS4X00-NL Optical module, on rare occasions port that is in NDR speed may get stuck and stay in Polling state.
	Keywords: NDR, Optical Module
	Discovered in Version: 31.2010.1404
	Fixed in Version: 31.2010.2246

Internal Ref.	Issues
2859363	**Description:** When using NVIDIA Quantum-2 systems in Auto-Neg mode, NDR speed in one lane (1x) is not supported.
	Keywords: Auto-Negotiation
	Discovered in Version: 31.2010.1310
	Fixed in Version: 31.2010.2246
3033131	**Description:** The number of flows changed from 2 to 1, as intended.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2110
	Fixed in Version: 31.2010.2246
2972388	**Description:** Running of concurrent jobs may lead to states where jobs unexpectedly terminate or get stuck.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.2110
2982113	**Description:** On rare occasions, job resource cleanup may fail.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.2110
2971339	**Description:** During high load scenarios, performance degradation may be experienced.
	Keywords: SHARPv3
	Discovered in Version: 31.2010.2036
	Fixed in Version: 31.2010.2110
2849215	**Description:** On NVIDIA Quantum-2 switches, when working with MFA7U10-H0xx cables, if one of the ports in a cage is disabled at the time of initialization by user configuration, reenabling the port will require toggling the link (i.e. enable → disable → enable).
	Keywords: NVIDIA Quantum-2, Cables
	Discovered in Version: 31.2010.1310
	Fixed in Version: 31.2010.2036
2890632	**Description:** On NVIDIA Quantum-2 systems, changing the Optical module rate was not allowed.
	Keywords: Optical Modules
	Discovered in Version: 31.2010.1310
	Fixed in Version: 31.2010.2036
2885798	**Description:** In NVIDIA Quantum-2 systems, effective errors may occur with short Copper cable MCP4Y10-N00B.
	Workaround: N/A
	Discovered in Version: 31.2010.1310

Internal Ref.	Issues
	Fixed in Version: 31.2010.2036
2910161	**Description:** In auto-negotiation flow, using copper cables when toggling both port's sides may cause the port to get stuck on rare occasions.
	Keywords: Auto-Negotiation, Copper Cables
	Discovered in Version: 31.2010.1310
	Fixed in Version: 31.2010.2036

8 Legal Notices and 3rd Party Licenses

Product	Version	Legal Notices and 3rd Party Licenses
MFT	4.30.1-12	• 3rd Party Notice—Linux • License—Linux

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