



Mellanox SwitchX[®] Firmware (fw-SX) Release Notes

Rev 9.1.6562

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1 Overview

These are the release notes for the SwitchX[®] firmware fw-SX, Rev 9.1.6562. This firmware (FW) complements the SwitchX[®] silicon architecture with a set of advanced features, allowing easy and remote management of the switch.



Firmware Rev 9.1.6562 is compatible with MFT tools v2.7.1 and above. Using older versions of MFT tools will cause failure during image creation.

1.1 Supported Systems in Rev 9.1.6562

This firmware supports the devices and protocols listed in Table 1. For the most updated list of switches supported, visit the firmware download pages via <http://www.mellanox.com>.

Table 1 - Supported PSIDs

Device Part Number	PSID	Device Name	Supported Protocols
M4001Q	DEL09E0210003	SwitchX [®] based DDR/QDR InfiniBand Switch	InfiniBand
M4001T	DEL0A50000026	SwitchX [®] based FDR10 InfiniBand Switch	InfiniBand
M4001F	DEL09E0210021	SwitchX [®] based FDR InfiniBand Switch	InfiniBand

1.2 Supported Cables and Modules

Please refer to the Mellanox Products Approved Cable Lists document (Doc Nr. 3796) for the list of supported cables.

http://www.mellanox.com/related-docs/user_manuals/Mellanox_approved_cables.pdf

1.3 Revision Compatibility

Firmware fw-SX Rev 9.1.6562 complies with the following programmer's reference manual:

- *SwitchX Programmer's Reference Manual (PRM), Rev 0.90 or later.*

2 Changes and Major New Features

2.1 Changes in Rev 9.1.6562 From Rev 9.1.3196

- Reduced PLL Jitter in order to improve link quality for FDR and FDR10 switches
- Added InfiniBand port mirroring
- Enabled Gradient Decent in order to improve link quality

2.2 Changes in Rev 9.1.3196 From Rev 9.1.1352

- Added optimize SL2VL support
- Link negotiation protocols improvements

2.3 New Features in Rev 9.1.1352

- Added PKEY enforcement on external ports
- InfiniBand switch supported speed:
 - FDR v1.3
 - FDR10 - Mellanox Technologies propriety
 - QDR/DDR/SDR v1.2.1
- 36 FDR (56Gb/s) ports in a 1U switch
- FDR10 supports 20% more bandwidth over QDR using the same cables/connectors

3 Known Issues

The following table describes known issues in this firmware release and possible workarounds.

Table 2 - Known Issues

Index	Issue	Description	Current Implemented Workaround in FW	Scheduled Release (fix)
1.	Link width	Link width 1x is not supported	N/A	N/A
2.	Link up negotiation	Link up negotiation may take up to 70 seconds	N/A	N/A
3.	Combined routing	Combined routing is not supported in the current release	Use Pure Direct Routing instead	Future release
4.	Traps	Trap257 and Trap258 are not supported	N/A	Future release
5.	SampleCounter mechanism	The SampleCounter mechanism is not supported	N/A	N/A
6.	FDR devices	QDR capabilities must be enabled when working in FDR mode	N/A	N/A
7.	Software reset	Applying software reset to the switch may cause the internal links to stay down	Reset the switch from either the Chassis Management console or GUI	Future release

4 Bug Fixes History

Table 3 lists the bugs fixed in this release.

Table 3 - Fixed Bugs List

#	Issue	Description	Discovered in Release	Fixed in Release
1.	Cables	When repeatedly plugging out and plugging in cables, the cable might not be recognized, causing the links to remain down.	9.1.1352	9.1.3196
2.	FDR10 cable	FDR10 cable P/N MFS4R12CB-XX is supported in ports 9-36 only.	9.1.1352	9.1.3196
3.	PortInfo MAD	When sending PortInfo MAD to an Active port using the POLLING command, the link might rise as SDR	9.1.1352	9.1.3196
4.	DDR link	The link is raised as SDR	9.1.1352	9.1.3196
5.	FDR vs DDR device	InfiniBand link vs FDR device rises as DDR	9.1.1352	9.1.3196