BridgeX® Firmware fw-BridgeX

Release Notes

Rev 8.6.2070

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1 Introduction

These are the release notes for the BridgeX® gateway firmware, fw-BridgeX Rev 8.6.2070. This firmware supports the following protocols:

- Ethernet over InfiniBand (EoIB)
- Fibre Channel over Ethernet (FCoE)
- Fibre Channel over InfiniBand (FCoIB)
- Ethernet to Ethernet (PHyX®)

After burning the new firmware, reboot your system to activate the new firmware. Failing to do so will result in an error when running the RUN_FW command.

1.1 Tested Cables and Modules

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

1.2 Firmware fw-BridgeX Compatibility

Firmware fw-BridgeX Rev 8.6.2070 is compatible with:

- *BridgeX Programmer's Reference Manual (PRM),* Rev 1.33 or later
- *Mellanox BridgeX Management (BXM)* software version 2.1.3500

2 Changes and New Features

2.1 Changes in Rev 8.6.2070 From Rev 8.6.0000

- Bug Fixes - see Section 3, “Bug Fixes History,” on page 8

2.2 Changes in Rev 8.6.0000 From Rev 8.5.0000

- Changed frame padding threshold
- Added support for "UC Flooding"
- Added INI parameter for disabling green led blinking
- Added an INI parameter to ignore remote faults on XFI
- Change XFI raising link flow
- Added support for manual Serdes configuration
- Bug Fixes - see Section 3, “Bug Fixes History,” on page 8

2.3 Changes in Rev 8.5.0000 From Rev 8.4.0000

- Added support for "ALL VLAN" vHub
- Increased the buffer size of VL15 to avoid packets’ drops
- Added support for filtering LLDP packets to FabricIT BXM
- Added Shared context table option - 5k vNICs
- Added DCBX support of receiving DCBX packets with a VLAN tag
- Added the ability to send FabricIT BXM Advertisement and Multicast vNIC alive messages
- Added the ability to send packets from external Ethernet ports to FabricIT BXM to enable LACP
- Modified SL2VL mapping to enables changes on the fly
- Added different tx serdes sets for different cables capability
- Added FCoE frame aging
- Added the ability to control external module tx_disable
- Added a verification test to check if the external Phy module exists only in PhyX mode
- Enabled 4th Fibre Channel port in FCoE
- Added bits for clause37 page timer
- Added offset calibration to rx training in Ethernet
- Added the ability to reset to cl37_active and idle_active in clause37 flow upon link failure
- Sent IDLEs and CL37 pages to work with Finisar and Delta modules
- Changed vl_arb_low_cap vl_arb_high_cap in port info mad
- Added the ability to compare application tlv in DCBX
- Added Fibre Channel counters: frames lost, r_rdys lost

- Added clause37 flow fix - Added phy_type indication for int port in devide internal pib, flow checked sgmii linkup, and for int side
- Added anti spoofing changes

2.4 Changes in Rev 8.4.0000 From Rev 8.3.3160

- Added DCBX support
- Added support for new LED management control in GT boards and in SGMII on internal ports.
- Added new port counters (FC fsm state change, eth_rx_giant)
- Added Query Device Temperature command interface (PHYX_GET_TEMPERATURE)
- Added support for setting internal port attributes from the BridgeX Manager using SET_PORT and QUERY_PORT mailboxes
- Added eth_mtu_current field to QUERY_PORT mailbox
- Enabled IRISC
- Added support for reading Fibre Channel speeds from SFP module (upon raising Fibre Channel link)
- Added tuning serdes parameters on different boards
- Separated the PHYX_SET_PORT_GROUP attributes between KR and force XFI per port
- Added the capability to retrieve current Fibre Channel TX_credit & RX_credit
- Added INI control for the advertize abilities of the AN page
- Added configuration number of Tx and Rx options
- Added Fibre Channel RX adaptation variable to INI
- Added INI option to properly close i2c by firmware before the software resets

2.5 Changes in Rev 8.3.3160 From Rev 8.3.3000

- Bug Fixes - see Section 3, “Bug Fixes History,” on page 8

2.6 New Features in Rev 8.3.3000

- Added VL separation support
- Added PhyX® command interface
- Added ARP proxy lookup mode
- Added anti-spoofing support for multicast Packets
- Added RSS configuration
- Made Ethernet link change events configurable
- Added Ethernet link change events support in managed PhyX® mode
- Added link policy reflection in PhyX® mode
- Added module rate select configuration in Fibre Channel port (access by i2c or GPIO).
- Added external port module state change

- Added port drop counters
- Added counters per priority port
- Added support to XFI detection in the parallel detect.
- Added reset counters policy
- Added MTU configuration
- The chips are now presented as 2 port IB with a single node_guid

3 Bug Fixes History

Table 1 - Bug Fixes History

Index	Issue	Description	Found in FW Version	Fixed in FW Version
1.	MADs	BridgeX stopped answering MADs after answering many cable info MADs	8.6.0000	8.6.2070
2.	Credits Issue	Fixed a credits issue occurred upon port disable/enable.	8.6.0000	8.6.2070
3.	Ethernet jumbo counter	Fixed a fault increment of Ethernet jumbo counter	8.6.0000	8.6.2070
4.	CRC errors	Changed Rx training to avoid CRC errors	8.6.0000	8.6.2070
5.	PG credits leakage	Fixed UP mishmash configuration on FCoE	8.5.0000	8.6.0000
6.	FC packets drop	Fixed FC flow when getting link reset	8.5.0000	8.6.0000
7.	CRC errors on FC link	Fixed FC port's closing flow to avoid CRC error	8.5.0000	8.6.0000
8.	"ALL VLAN" issue	Fixed "ALL VLAN" feature for Eth->IB multicast packets	8.5.0000	8.6.0000
9.	SL2VL MAD	Enable full range configuration of VL in the SL2VL mapping	8.5.0000	8.6.0000
10.	BridgeX® misses PCI link down	Fixed the configuration of PCI response to link down	8.5.0000	8.6.0000
11.	Wrong configuration for untagged VLAN	Fixed UP configuration for untagged VLAN frames	8.5.0000	8.6.0000
12.	PCI hang after power cycle	Fixed the I2C graceful closing when handling power cycle	8.5.0000	8.6.0000
13.	I2C hang after reset	Added an I2C graceful closing when reset is detected	8.5.0000	8.6.0000
14.	Wrong counters definition	Changed the representation of "received frames", "received OK frames" "received error" and "received octets" counters	8.5.0000	8.6.0000
15.	Fixed Fibre Channel RX	Fixed an issue with the Fibre Channel RX adaptation flow.	8.4.0000	8.5.0000
16.	Software reset flow	Fixed an issue with the software reset flow.	8.4.0000	8.5.0000
17.	TrapRepress	Fixed an issue with the TrapRepress.	8.4.0000	8.5.0000
18.	LID configuration	LID configuration caused FCoIB to fail in LIDs higher than 0x0080.	8.3.3160	8.4.0000

Table 1 - Bug Fixes History

Index	Issue	Description	Found in FW Version	Fixed in FW Version
19.	Fibre Channel link status in EXT PROPERTIES interface	The link status report showed the link as down when it was up.	8.3.3160	8.4.0000
20.	PhyX link reflection	PhyX link reflection did not work when ports were connected back to back.	8.3.3160	8.4.0000
21.	Fragmented errors	Fixed an issue with the inter-packet gap in PhyX. Added ini to control ipg 4/8.	8.3.3160	8.4.0000
22.	PCI timeout	PCI response was too long thus resulting in PCI timeout.	8.3.3160	8.4.0000
23.	Fibre Channel credits	Credit leakage issues.	8.3.3160	8.4.0000
24.	eth configuration issues	Fixed PhyX issues related to the PhyX mode.	8.3.3160	8.4.0000
25.	Auto negotiation	Occasionally in the InfiniBand auto negotiation, the DDR setup was raised in SDR.	8.3.3160	8.4.0000
26.	Cable removal	The links stopped going up after a series of cable plug-ins and unplug-ins.	8.3.3160	8.4.0000