
# *BridgeX® Firmware fw-BridgeX*

Rev 8.5.0000

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# 1 Introduction

These are the release notes for the BridgeX® gateway firmware, fw-BridgeX Rev 8.5.0000. 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.

# 2 Firmware fw-BridgeX Compatibility

Firmware fw-BridgeX Rev 8.5.0000 is compatible with:

- *BridgeX Programmer's Reference Manual (PRM)*, Rev 1.30 or later
- *Mellanox BridgeX Management (BXM)* software version 2.1.1100

# 3 Changes and New Features

## 3.1 BridgeX Firmware v8.5.0000

- 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

## 3.2 BridgeX Firmware v8.4.0000

- 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
- Seperated 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 configurating 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

## 3.3 BridgeX Firmware v8.3.3160

BridgeX firmware v8.3.3160 does not contain any new changes/features.

## 3.4 BridgeX Firmware v8.3.3000

- 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

# 4 Tested Cables and Modules in Rev 8.5.0000

The following are the cables and modules tested in this release:

***Table 1 - Tested Cables and Modules***

| Length | Connector | Ordering Part | Cable Type | Media | Max Speed |
|---|---|---|---|---|---|
| 1M | QSFP | MC2206130-001 | Passive | Copper | QDR/FDR10 |
| 5M | QSFP | MC2206128-005 | Passive | Copper | QDR/FDR10 |
| 10M | QSFP | MC2206230-010 | Active | Copper | IB QDR |
| 15M | QSFP | MFS4R12CB-015 | Active | Fiber | IB QDR |
| 30M | QSFP | MC2206310-030 | Active | Fiber | IB QDR |
| 3M | SFP+ | MC3309130-003 | Passive | Copper | 10GigE |
| Module | SFP+ | MFM1T02A-LR | Active | Optical Module | 10GigE |
| Module | SFP+ | MFM1T02A-SR | Active | Optical Module | 10GigE |

# 5 Bug Fixes

***Table 2 - Bug Fixes***

| Index | Issue | Description | Found in FW Version | Fixed in FW Version |
|---|---|---|---|---|
| 1. | Fixed Fibre Channel RX | Fixed an issue with the Fibre Channel RX adaptation flow. | 8.4.0000 | 8.5.0000 |
| 2. | Software reset flow | Fixed an issue with the software reset flow. | 8.4.0000 | 8.5.0000 |
| 3. | TrapRepress | Fixed an issue with the TrapRepress. | 8.4.0000 | 8.5.0000 |
| 4. | LID configuration | LID configuration caused FCoIB to fail in LIDs higher than 0x0080. | 8.3.3160 | 8.4.0000 |
| 5. | 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 |
| 6. | PhyX link reflection | PhyX link reflection did not work when ports were connected back to back. | 8.3.3160 | 8.4.0000 |
| 7. | 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 |
| 8. | PCI timeout | PCI response was too long thus resulting in PCI timeout. | 8.3.3160 | 8.4.0000 |
| 9. | Fibre Channel credits | Credit leakage issues. | 8.3.3160 | 8.4.0000 |
| 10. | eth configuration issues | Fixed PhyX issues related to the PhyX mode. | 8.3.3160 | 8.4.0000 |
| 11. | Auto negotiation | Occasionally in the InfiniBand auto negotiation, the DDR setup was raised in SDR. | 8.3.3160 | 8.4.0000 |
| 12. | Cable removal | The links stopted going up after a series of cable plug-ins and unplug-ins. | 8.3.3160 | 8.4.0000 |