



## FastFrame™ 10GbE NIC Release v3.10 – Mac OS®

### 1. General Release Information

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These product release notes define the new features, changes, known issues and release details that apply to the FastFrame Network Interface Card products v3.10 that was released on 11/15/2016. This information pertains to OS X® 10.9 and later as well as macOS Sierra.

### 2. Changes

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- **Version 3.10 (Released 11/15/2016)**
  - **New Features**
    - Added '-t <number>' option to system NVRAM parameters to change the number of targets.
    - Adjusted default TCP Segmentation Offloads size to 64k
    - Implemented support for Large Receive Offload (LRO) to improve stability and performance with multiple streams
    - Resolved congestion issues resulting in improved transmit throughput and quality
  
- **Version 3.07 (Released 09/06/2016)**
  - **New Features**
    - Added support for macOS Sierra
    - Added rotational logging to limit the size of the event log.
    - Corrected a rare issue that could cause a transmit timeout to occur.
  
- **Version 3.05 (Released 09/30/15)**
  - **New Features**
    - Added support for Mac OS 10.11
  
- **Version 3.00 (Released 06/17/15)**
  - **New Features**
    - General performance improvements.
    - NS and NT adapters no longer support DCB by default. DCB can be enabled using the atcnavr CLI tool, but enabling DCB disables support for link-level PAUSE.
    - When DCB is disabled on NS and NT adapters, link-level PAUSE is optionally supported.
    - Corrected an issue with chip reset functionality.
    - Expanded support for statistics reported by the atnetstat CLI tool.
    - Added support for disabling Receive Side Coalescing using the atcnavr CLI tool.
    - Added support for fine grained control of interrupt coalescing settings using the atcnavr CLI tool .
    - Added support for changing TSO segment length using the atcnavr CLI tool.
    - Added support for disabling TSO using the atcnavr CLI tool.
    - Added support for adjusting ring buffer lengths using the atcnavr CLI tool.
    - Added support for adjusting transmit queue length using the atcnavr CLI tool.
    - The atnetstat CLI tool is now included in the installer.
    - Adjusted packet memory allocation to improve performance.
    - Adjusted transmit functionality to reduce CPU utilization.
    - Fixed processing of the max transfer size values set by the Config Tool.

- Fixed flow control and link speed settings viewed using the atcnavr CLI tool to accurately reflect the settings the system is using.
  - SCSI status of task set full and busy are retried infinitely to circumvent OS X handling that can lead to I/O errors.
  - The event logging service has been improved to use less system resources.
  
- **Version 2.36 (Released 04/07/15)**
  - **New Features**
    - Improved performance by adjusting default transmit parameters and packet memory
    - Resolved an issue that could prevent the use of jumbo frames
  
- **Version 2.25 (Released 12/04/14)**
  - **New Features**
    - Added support for the atnetstat command line interface tool.
    - Corrected an issue with DCB receive packet handling.
    - Corrected an issue with transmit handling.
  
- **Version 2.22 (Released 6/30/14)**
  - **The following applies to driver v2.22**
  - **New Features**
    - Receive Side Coalescing (RSC) support
    - Installer option for applying system-wide network tuning settings
  
- **Version 2.21 (Released 10/15/2013)**
  - The following apply to driver v2.21
  - **New Features**
    - Mac OS X Mavericks (10.9) Support.
    - Corrected an issue when uninstalling the driver.
  
- **Version 2.20 (Released 08/15/2013)**
  - **New Features**
    - Optimized dynamic interrupt coalescing functionality.
    - Corrected an issue when disabling an Ethernet interface during periods of high network activity.
    - Corrected an issue when transmitting data residing in non-aligned memory.
    - Resolved a potential issue that could cause the driver to attempt to deactivate transmit rings that are already inactive.
    - Enhanced the chip reset procedure.
    - Improved handling of direct attach copper cables (NS and CS adapters only).
    - Improved logging and handling of DCBX errors (CS adapters only).
    - Improved handling of unexpected logout or login failures (CS adapters only).
    - Enhanced FCoE performance (CS adapters only).
    - Resolved an issue when using DCB with more than 2 traffic classes (CS adapters only).
    - Improved handling of DCBX settings (CS adapters only).
    - Updated '--m' option to work in OS X 10.7 and later (CS adapters only).
  
- **Version 2.12 (Released 10/11/2012)**
  - **New Features**
    - Updated the memory allocation for x64 platforms for compatibility with OS X 10.8.2 and later.
    - Corrected an issue with memory allocation that could cause the driver to not load.
  
- **Version 2.11 (Released 7/25/2012)**
  - **New Features**
    - Mac OS X Mountain Lion (10.8) Support.
    - Added support to display interrupt information in atinfo.
    - Added support for atrest.

- **Supported OS**
    - Mac OS X 10.8
- **Version 2.10 (Released 6/21/2012)**
  - **New Features**
    - Resolved a possible crash or hang during Thunderbolt hot plugging.
    - Corrected link speed selection for NT adapters.
    - Network connectivity is maintained when waking from sleep.
    - Enhanced initialization to better deal with fragmented system memory.
- **Version 2.00 (Released 4/23/2012)**
  - **New Features**
    - Initial release of Mac OS X drivers for the FastFrame 10GBASE-T Network Interface Card.
    - Added support for the temperature sensor for NT adapters.
    - Several enhancements to report errors and operate correctly in degraded mode.
    - Added support for two new checksum offloads included in OS X Lion, allowing IPv6 checksum calculation to take place in hardware for TCP and UDP. The checksum calculation covers the IPv6 pseudo header, TCP/UDP header and TCP/UDP data on both transmit and receive.
    - Added support for the NT11, and NT12 adapters. Changed link speed selection to account for additional link speeds supported by the Twinville chip.
    - VLAN discovery frames are no longer sent if the feature is disabled.
    - Erroneous data is now properly discarded in the event of a cable pull while reading from a Fibre Channel drive.
    - Features specific to CS adapters are confirmed to be disabled for NS and NT adapters during driver initialization.
    - When the frame size of a link aggregate is changed in System Preferences, connectivity is no longer lost.
    - Receipt of broadcast packets is confirmed to be enabled upon waking from sleep.
    - Fixed the mapping of User Priority to Traffic Class so Priority Flow Control (PFC) works correctly, preventing dropped FCoE packets.
    - Corrected several crashes and hangs that could occur during Thunderbolt hot plugging.
- **Version 1.10 (Released 9/1/2011)**
  - **New Features**
    - Initial release of Mac OS X drivers for the FastFrame 10GbE Converged Network Adapters
  - **Supported OS**
    - Mac OS X 10.6
    - Mac OS X 10.7
- **Version 1.00 (Released 7/20/2011)**
  - **New Features**
    - Initial release of Mac drivers for the FastFrame 10GbE Network Interface Card
  - **Supported OS**
    - Mac OS X 10.6
    - Mac OS X 10.7

### Known Issues/Advisements

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- Intermittent performance drops may occur in isolated, high-bandwidth use cases where general IP network traffic is being heavily utilized. Please contact ATTO Support in these situations.

### 3. Affected Products

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Product Name	SKU
FastFrame NT11	FFRM-NT11-000
FastFrame NT12	FFRM-NT12-000
FastFrame NS11	FFRM-NS11-000

FastFrame NS12	FFRM-NS12-000
FastFrame NS14	FFRM-NS14-000

#### 4. Contacting ATTO Support

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ATTO Technology, Inc. is renowned for its technical support services. ATTO's goal is to provide you the quickest response possible for your technical support needs, and is available Monday-Friday, 8:00 AM to 8:00 PM EST (except holidays and plant closings).

ATTO Technical Support can be contacted via phone or email:

- Phone: 716.691.1999 ext. 242
- E-Mail: [techsupport@attotech.com](mailto:techsupport@attotech.com)