



ATTO Technology, Inc.

Product Release Notes

FastFrame 10GbE NIC & CNA Release v1.35 - Windows

1. General Release Information

These product release notes define the new features, changes, known issues and release details that apply to the FastFrame Network Interface Card and Converged Network Adapter products v1.35 that was released on 6/30/2014. This information pertains to the Windows 10, 8, 7, Server 2012, Server 2008 R2, and Server 2008.

2. Changes

- **Version 1.35 (Released 6/30/2014)**
 - The following apply to driver v1.35
 - Reliability and performance in handling of UDP packets improved
 - User Priority 3 now explicitly reserved for FCoE packets
- **Version 1.30 (Released 9/19/2012)**
 - The following apply to driver v1.30
 - **New Features**
 - Initial release of CNA Link Aggregation feature.
 - Added support for atreset.
 - Added support to display interrupt information in atinfo.
 - Improved target mode performance.
 - Added uninstall functionality to the driver installer.
 - Functionality has been added so the FastFrame package will safely install in a system which has a previous driver version already installed on the FastFrame hardware.
 - Improvements have been made to the VNIC driver unload code.
 - Resolved an issue caused by the VNIC driver handling FCoE interrupts.
 - Resolved an FCoE issue which caused ADT write-only test failures.
 - Resolved a bus reset condition that occurred during creation of a RAID 1 group in Windows.
 - Improvements have been made to DCBX handling code to ensure that certain DCBX configuration requests from the switch are interpreted correctly.
 - Enhancements have been made to the device reset behavior to complete the reset more quickly.
 - Resolved an I/O issue which caused "Insufficient Resources" errors in Windows 8.
 - Improvements have been made to provide the OS with additional information it can use to maintain the association between individual VNICs and the CNA ports to which they are attached.
 - **Supported OS**
 - Windows 8 (x86, x64)
 - Windows 7 (x86, x64)
 - Windows Server 2012 (x86, x64)
 - Windows Server 2008 (x86, x64)
 - Windows Server 2008 R2 (x86, x64)
- **Version 1.20 (Released 6/21/2012)**
 - The following apply to driver v1.20
 - **New Features**
 - Initial release of CNA Advanced Features
 1. Data Center Bridging Exchange (DCBX) Protocol
 2. MSI interrupts

3. VN2VN port connections
4. Target Mode
5. SM-HBA

- Implemented new transmit and interrupt watchdog timers
 - Corrected checksum and LSO offloads in certain specific cases.
 - Corrected a network connectivity problem upon waking from hibernation.
 - General performance enhancements
- **Version 1.01 (Released 7/28/2011)**
 - The following apply to driver v1.01
 - **New Features**
 - Resolved statistics issue with tracking dropped packets.
 - Resolved MTU size reporting issue.
 - Fixed initialization and reporting of adapter's link state.
 - Improved driver functionality when changing Network Properties options in Windows 2003 x64.
 - Fixed allocation and handling of global adapter list lock.
 - The receive-side DPC handling in the FastFrame driver was modified, resulting in a more responsive system for the user when under heavy load.
 - Added registry settings to specify the number of packets processed per OPC to provide improved functionality.
 - Improved FIP event log messages.
 - Fixed an issue where the driver would hang while parsing a malformed FIP descriptor.
- **Version 1.00 (Released 5/18/2011)**
 - The following apply to driver v1.00
 - **New Features**
 - Initial release of Windows drivers for the FastFrame 10GbE Converged Network Adapters
 - **Supported OS**
 - Windows XP (x86, x64)
 - Windows Vista (x86, x64)
 - Windows 7 (x86, x64)
 - Windows Server 2003 (x86, x64)
 - Windows Server 2008 (x86, x64)
 - Windows Server 2008 R2 (x64)

3. Known Issues/Advisements

- Link Aggregation: When more than one FastFrame Link Aggregation Group is present, disabling one (through Network Connections or the Device Manager) may cause it to become permanently disabled. To avoid this problem, instead of disabling an unneeded Group, remove it completely by removing each member adapter.
- In Windows 8, when the system is shut down and a FastFrame card is physically moved from one PCIe slot to another, the system may fail to boot. This is apparently caused by changes to power management behavior in Windows 8: by default the system hibernates when "shut down" is selected, and does not fully reinitialize on wake. The problem can be reproduced with certain other (non-ATTO) PCIe cards, with or without the FastFrame driver loaded. To fix the problem, forcibly restart the system and delete the restoration file when prompted. The system will discard the stale PCI slot information and detect and initialize the new configuration correctly.
- When two FastFrame optical ports on one card are connected to one another, the link will sometimes fail to come up on system restart. This has not been seen to affect link stability when a FastFrame optical port is connected to any other link partner, including a FastFrame optical port in a separate system, and so should have no impact on a normal end-user configuration.
- Disabling the Ethernet interface associated with a CNA port can momentarily interfere with FCoE traffic on that port, resulting in I/O errors.
- When using certain models of Direct Attach Copper (DAC) cables, the link will not come up at 10Gb/s.
- The Microsoft LLDP protocol driver, MSLLDLP, when enabled on a FastFrame CNA port, can interfere with DCBX operation resulting in faulty FCoE operation on that port. Any LLDP packets that are delivered to FastFrame by upper-layer protocols for transmission are

discarded (i.e., not transmitted). This behavior can be disabled by writing a non-zero value to the network adapter's registry setting "DisableLldpTxBlock". The default registry values written by the installer enable the behavior (block LLDP packet transmission) for CNAs, and disable it (allow LLDP packet transmission) for NIC-only cards.

- Due primarily to the overall architecture of the FastFrame CNA Windows drivers, neither the Storage Controller driver nor the Network Adapter driver can be WHQL certified at this time
- Disabling FastFrame Storage Controller ports can sometimes result in the wrong Network Adapter being disabled. To avoid this problem, simply leave all ports enabled. If it is necessary to disable one or more Storage Controller ports, first disable the ports as desired, restart the system, and then configure the associated Network Adapters.
- Correct operation of DCBX requires that the switch be configured to use Deficit Weighted Round Robin (DWRR) scheduling. Strict Priority scheduling is not supported by FastFrame.
- Ethernet performance can be low in some situations. Best performance is usually achieved by using Jumbo Packets.
- Initialization or I/O errors may occur when the FastFrame adapter is installed in the PCIe Gen 3 slots of certain motherboards that use the Intel 7ZZ chipset (e.g., Asus P87ZZ-V Pro/Thunderbolt).
- In certain applications, performance may drop sporadically during high-utilization TCP transmission.

4. Affected Products

Product Name	SKU
FastFrame CS11	FFRM-CS11-000
FastFrame CS12	FFRM-CS12-000
FastFrame CS14	FFRM-CS14-000
FastFrame NS11	FFRM-NS11-000
FastFrame NS12	FFRM-NS12-000
FastFrame NS14	FFRM-NS14-000
FastFrame NT11	FFRM-NT11-000
FastFrame NT12	FFRM-NT12-000
FastFrame DAC NS11	FFRM-NS11-DA0
FastFrame DAC NS12	FFRM-NS12-DA0

5. Contacting ATTO Support

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:

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