ATTO Technology, Inc.

Product Release Notes

Celerity 8Gb Fibre Channel Multipath Director Release V1.91MP - Linux

1. General Release Information

These product release notes define the new features, changes, known issues and release details that apply to the Celerity 8Gb Fibre Channel adapter product v1.91MP that was released on 12/14/2015. This information pertains to the Linux OS. ***Note*:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.

2. Changes

- ***Version 1.91 (Released 12/14/2015)***
  - **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
  - **New Features/Enhancements**
    - Resolved an issue when running atmpinfo

- ***Version 1.90 (Released 8/06/2015)***
  - **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
  - **New Features/Enhancements**
    - Implemented T10-PI management improvements
    - Addressed a kernel panic that occurs during boot

- ***Version 1.85MP (Released 3/19/2015)***
  - **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
  - **New Features/Enhancements**
    - Added support for Fedora 21
    - Added support for SUSE Linux Enterprise Server 12
    - Resolved an RSCN discovery issue.
    - Now support the ability to map LUNs to LUNs and targets to targets
    - ALUA devices are now allowed to change the path mode from disabled to the default
    - Active/non-optimized paths are activated in the same manner as standby path by default.
    - Corrected identifier determination for some storage. As a result, previously saved configuration will no longer be in effect for some arrays. The configuration must be resaved after upgrading.
    - Resolved a memory leak issue.
    - Addressed an I/O failure during controller reset.
  - **Supported OS**
    - RHEL 6, 7
    - SLES 12
    - Fedora 20, 21
    - openSUSE 12.3 & 13.1
    - CentOS 6, 7

- ***Version 1.81MP (Released 1/15/2015)***
  - **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
  - **New Features/Enhancements**
    - Added support DotHill arrays
    - Added support for Quantum StorNext arrays

- ***Version 1.80MP (Released 10/30/2014)***
  - **New Features/Enhancements**
    - Added support for RHEL 7
    - Addressed a model description error
  - **Supported OS**
    - RHEL 5, 6, 7
    - SLES 11 SP2, 11 SP3
    - Fedora 19, 20
    - openSUSE 12.3 & 13.1
    - CentOS 5, 6, 7

- ***Version 1.75MP (Released 9/25/2014)***
  - **New Features/Enhancements**
    - Added new display information for atmpinfo
    - Added support for atreset
    - Added support for device display in atinfo
    - Addressed an issue where IO to a LUN could be stalled
    - Set default so that active/non-optimized paths are activated for IO in the same manner as standby paths
    - Addressed a failover issue when the preferred path is removed
    - Reduced the time it takes to discovery newly added LUNs using the rescan paths button.
    - Resolved an issues where MultiPath Director was no longer available after reboot

- ***Version 1.50MP (Released 2/06/2014)***
  - **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
  - **New Features/Enhancements**
    - Corrected an issue with path discovery for paths that are deactivated immediately after being found.
    - Addressed an issue with deactivating paths that are disabled due to I/O errors.
    - Fixed an issue where discovery or failover of a path could be delayed by a transitioning asymmetric access state for a port group that did not apply to the path.
    - Resolved an issue where simultaneously reporting device changes on multiple HBA channels could result in the multipathed devices from being activated
    - Addressed an issue where path selection could prematurely fail an I/O when the last remaining path failed simultaneously
    - Corrected an issue where path rediscovery would not activate the path after the link down timeout previously expired
    - Paths that have a scan pending are considered retrying so I/O is suspended when no paths are active.
    - Feature added to allow path activations and deactivations during the link down timeout period to coordinate with other device events to prevent invalid path states.
    - Resolved a system hang on RedHat 5.9.
    - Fixed a kernel panic on StorNext MDC during controller firmware update test.
    - Addressed an issue where LUNs are not presented properly on SUSE 11 SP3.
    - Fixed multiple problems when handling aborted commands.
    - Corrected soft lockups reported during MP scans.
    - Enhanced performance on systems with >4GB RAM.

- ***Version 1.41MP (Released 6/27/2013)***

- **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
- **New Features/Enhancements**
  - Corrected Config Tool reporting error where the same LUN shows multiple times with MultiPath Director.
- **Supported OS**
  - RHEL 5 & 6
  - SLES 11, 11 SP1, 11 SP2
  - Fedora 17, 18
  - openSUSE 12.2 & 12.3
  - CentOS 5, 6

- ***Version 1.40MP (Released 12/21/2012)***
  - **Note:** It is recommended that latest firmware available on ATTO website be utilized with this driver release.
  - **New Features/Enhancements**
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    - Resolved issue where all paths were not reported properly on HP MSA P2000.

- ***Version 1.39MP (Released 12/04/2012)***
  - **New Features/Enhancements**
    - Change made to obtain the correct target identifier for some arrays.
    - Feature added to disable multi-pathing for certain arrays.

- ***Version 1.38MP (Released 10/24/2012)***
  - **New Features/Enhancements**
    - Inquire failure will not cause path removal.
    - Resolved panic during sysreboot test.

- ***Version 1.37MP (Released 09/17/2012)***
  - **New Features/Enhancements**
    - Support for NetApp firmware version 7.83
    - Support failover mode in saved configurations.
    - Resolved issue where LUNs failover after reboot regardless of mp_disable_failback setting.
    - Added support for MP check/block states.
    - Added feature to restart LUN scan or target scan based on sense data.
    - Added ability to disable failback.

- ***Version 1.36MP (Released 08/21/2012)***
  - **New Features/Enhancements**
    - Resolved panic in RH 6.1 for specific SCSI command.

- ***Version 1.35MP (Released 08/08/2012)***
  - **New Features/Enhancements**
    - Resolved issue where paths are not updated unless data is being passed.
    - Resolved IO failure in Linux during controller failover.
    - Resolved panic when a controller is rebooted.
    - Full controller LUN trespass support.
    - Stornext volume can now be accessed if controlling MDC fails.

- ***Version 1.34MP (Released 05/04/2012)***
  - **New Features/Enhancements**
    - Addressed an incompatibility with certain Promise devices running in Point-to-Point mode.
    - Corrected an issue in which setting a saved multipathing configuration could fail when the device is not configurable.

- ***Version 1.33MP (Released 02/02/2012)***

- **New Features/Enhancements**
  - Made additional improvements to bus reset handling.

- ***Version 1.32MP (Released 07/20/2011)***
  - **New Features/Enhancements**
    - Resolved a panic which occurred when removing the ATTO driver while drives are being spun up.
    - New system logging macros are being used.
    - Contains fix for dropped PLOGIs or PRLIs.
  - **Additional OS Support**
    - RHEL 6
    - SLES 11
    - SLES 11 SP1
    - Fedora 14
    - Fedora 15
    - openSUSE 11
    - CentOS 5
    - CentOS 6

- ***Version 1.30MP (Released 03/30/2011)***
  - **New Features/Enhancements**
    - Added support for the Access LUN in IBM DSxxxx arrays.
    - Added support for EMC CLARiiON AX series storage.
    - Added support for HP MSA series storage.
    - Target based identifiers in Inquiry VPD page 0x83 are given priority over LUN based identifiers in determining how to multipath devices.
    - Devices that report an unknown device type in Inquiry data are ignored.
    - Resolved panic in RH5.4.

- ***Version 1.24MP (Released 12/07/2010)***
  - **New Features/Enhancements**
    - Feature improvement related to task management.
    - Added atmpininfo binary to tarball for MP builds.
    - Improved the adapter recovery mechanism after a reset.
    - Added support for Red Hat Enterprise Linux 6.

- ***Version 1.23MP (Released 07/30/2010)***
  - **New Features/Enhancements**
    - Support added for T10-DIF
      - The command line switch T10Dif has the default setting as 0 (disabled). To enable, change setting to one (1).
      - When enabled, the driver will detect if a disk drive is formatted for T10-DIF. Upon detection of T10-DIF, the driver will automatically generate the DIF field on the writes, and check it on the reads.
      - This feature currently does not provide a mechanism to format the drive.

- ***Version 1.21MP (Released 03/05/2010)***
  - **New Features/Enhancements**
    - Resolved IO failure during firmware up/down grade testing.

- ***Version 1.20MP (Released 03/05/2010)***
  - **New Features/Enhancements**
    - Initial release of Linux MP Director code based on OS X driver.
  - **Supported OS**
    - RedHat 4 (x86, x64)
    - RedHat 5 (x86, x64)
    - SuSE 9 (x86, x64)
    - SuSE 10 (x86, x64)
    - Fedora Core 7 (x86, x64)

- Fedora Core 8 (x86, x64)

Known Issues/Advisements

- Fibre Channel performance can be reduced significantly if the 8Gb Celerity HBA is placed in a Supermicro main board that uses the Intel 5520 (Tylersburg) chipset. The workaround is to disable Active State Power Management (ASPM) within the Linux Operating System (not the BIOS as Linux does not honor ASPM BIOS settings). Contact ATTO Tech Support for more information.
- After creating an entry in /etc/fstab for a LUN with file system check enabled, a subsequent reboot may cause the file system check to fail if the LUN is not ready. The work around is to use the "_netdev" option in the /etc/fstab entry. For example:
  - /etc/fstab entry with _netdev option:
    UUID=xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx/fs0 ext4 defaults,_netdev 02
- In Linux environments, set "intel_immou=off" in the kernel when using Multipath Director (MPD) drivers. It is also recommended that VT-d be disabled in the system BIOS (if available)

3. Affected Products

Product Name	SKU
Celerity FC 81EN	CTFC-81EN-000
Celerity FC 82EN	CTFC-82EN-000
Celerity FC 84EN	CTFC-84EN-000

4. 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. Please visit https://www.attotech.com/support/ for hours of operation.

ATTO Technical Support can be contacted via phone or email:

- Phone: 716.691.1999 ext. 242
- E-Mail: techsupport@attotech.com