ATTO Technology, Inc.

Product Release Notes

ATTO Configuration Tool v3.28 - Linux

1. General Release Information

The ATTO Configuration Tool helps you customize the settings of your ExpressSAS, Celerity and ExpressPCI host adapters to maximize the performance of your storage connection. While the factory settings on your host adapter should provide excellent performance for a wide range of applications, some specialized applications may benefit from modification of the adapter settings to tune the adapter for a specific performance range.

These product release notes define the new features, changes, known issues and release details that apply to the ATTO Configuration Tool v3.28 that was released on 12/17/09. This information pertains to the Linux OS.

2. Changes

- ***Version 3.28 (Released 12/17/2009)***
  - The following apply to changes made from v3.27 to v3.28. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - Added Data Recovery for offline capability to recover from a failed RAID group. Must be used with flash bundle 2009_12_10 or newer.
    - Two modes of data recovery, basic and extreme. Basic can be started via the GUI, and will only be enabled when a RAID group goes into the OFFLINE state.
    - Enhanced reporting to include Inactive group operations are now reported in the group table.
    - Modified the progress of group operation to show the completion percentage of inactive operations.
    - Changed when a group is deleted, the former member devices are rescanned so that an operation icon in the device table is cleared without a manual refresh.
    - When a member replacement rebuild is performed, the replaced device is rescanned.
    - Enhanced the “Scan Only” option in the context menu of the raid group.
    - The daemon’s launch procedure was fixed so that minor changes to the system (i.e. deleting a directory, the non-existence of a file, erroneous configuration data, etc…) would load properly.

- ***Version 3.27 (Released 10/26/2009)***
  - The following apply to changes made from v3.26 to v3.27. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - Added ability to connect to email servers that require a secure connection (TLS/SSL.)
    - Added product name, serial number and link speed to the message logged when a device is added.
    - Added Phy speed control for 6 Gb SAS adapters.
    - Enhanced partition by capacity.

©2010 ATTO Technology, Inc.

- ***Version 3.26 (Released 9/04/2009)***
  - The following apply to changes made from v3.25 to v3.26. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - Synchronized the nomenclature to comply with the enhancements that were incorporated in ExpressNAV.
    - Drives are displayed in order based on the slot number of the enclosure occupied.
    - Added functionality to write notification events to the System Log in service 'syslogd'

- ***Version 3.25 (Released 6/05/2009)***
  - The following apply to changes made from v3.24 to v3.25. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - [ExpressSAS R-Series] Added SNMP support for R348, R380, R30F

- ***Version 3.24 (Released 3/30/2009)***
  - The following apply to changes made from v3.23 to v3.24. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.

  - **New Features, Enhancements and Changes**
    - Added support for media scanning, party scanning and parity repairing, as well as scheduling scanning
    - Add spin-up delay and execution throttle to Celerity NVRAM panel
    - Updated help text for SMART and drive test functionality

- ***Version 3.23 (Released 2/18/2009)***
  - The following apply to changes made from v3.22 to v3.23. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - [ExpressSAS H-Series] Added support for H60F, H6F0

- ***Version 3.22 (Released 12/11/2008)***
  - The following apply to changes made from v3.21 to v3.22. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - OEM Specific

- ***Version 3.21 (Released 11/18/2008)***
  - The following apply to changes made from v3.20 to v3.21. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - [ExpressSAS H-Series] Added nvram control to disable NCQ
    - [ExpressSAS H-Series] Added support for H608, H680, H644

©2010 ATTO Technology, Inc.

- ***Version 3.20 (Released 10/2/2008)***
  - The following apply to changes made from v3.19 to v3.20. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - Added metrics and SMART support
    - Added RAID6 support
    - Switched prefetch and auto rebuild widgets on group property dialog
    - Default values for group creation are obtained from the adapter and tied to the cli commands
    - Changes to the log directory will only take effect at reboot
    - Estimated group size after migration is now correct
    - Disabled keystroke combinations that could cause errors in the CLI window
    - Disallow capacity expansion and migration if any operation is in progress or paused.

- ***Version 3.19 (Released 8/29/2008)***
  - The following apply to changes made from v3.18 to v3.19. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - Added Port Down Retry Count and Link Down Timeout options to FC NVRAM
    - Resolved an issue where devices were not being added to or removed from the device tree while the config tool is running.
    - RAID6 Expand Capacity is allowed during a PAUSED Initialization.
    - Changed drive health status without the need to reboot the machine

- ***Version 3.18 (Released 5/14/2008)***
  - The following apply to changes made from v3.17 to v3.18. It is recommended to use the latest product drivers for your specific adapter whenever updating the ATTO Configuration Tool version. The latest driver sets can be accessed via the ATTO website.
  - **New Features, Enhancements and Changes**
    - [ExpressSAS H-Series] Added support for ExpressSAS H30F and R30F models
    - [ExpressSAS R-Series] Enhanced GUI functionality:
      - The following implementations have been made to the ExpressSAS GUI to improve overall usability and provide the user with more relevant information related to their RAID group and media.
        - Enhanced RAID group properties provide more functionality and additional performance optimization parameters for the advanced user.
        - Ability to display advanced drive properties provides the user with additional information related to the attached drives.
        - Enhanced event notifications and logging provides users with additional troubleshooting information to diagnose problems.
        - Improved user help text provides additional information on product functionality.
    - [ExpressSAS H-Series] Added enhanced support for enclosure devices
      - Monitoring and notification of enclosure properties (i.e. power, fan speed, etc.)
        - Users are able to actively monitor the characteristics of any SES supported enclosure device. This includes viewing the status of the enclosure power supply, temperature and fan speed.
    - [ExpressSAS R-Series] Added enhanced support for enclosure devices
      - Monitoring and notification of enclosure properties (i.e. power, fan speed, etc.)
        - Users are able to actively monitor the characteristics of any SES supported enclosure device. This includes viewing the status of the enclosure power supply, temperature and fan speed. In addition, through the Configuration Tool, the user can configure the ExpressSAS RAID to provide email notifications when an event such as a failure occurs.

©2010 ATTO Technology, Inc.

- Support for acquiring and displaying enclosure serial number
  - If the enclosure supports this parameter, the ExpressSAS RAID adapter can display any enclosure serial number attached to the adapter.
- Ability to light faulted drive(s) in an enclosure with an embedded expander
  - To simplify usability, users can identify and flash the LED of a faulted drive to help in diagnosing and replacing failed drives.
- Identify device in an enclosure with an embedded expander from Configuration Tool
  - To simplify usability, from the Configuration Tool, users are able to identify a selected device by flashing the device LED.
- Identify all drives in a single RAID group within an enclosure with an embedded expander
  - To simplify usability, from the Configuration Tool, users are able to identify all members of a selected RAID group by flashing the LEDs of the respective media.
- Identify all drives within an enclosure with an embedded expander
  - To simplify usability, from the Configuration Tool, users are able to identify all devices within a selected enclosure by flashing the LEDs of the respective media.

- [ExpressSAS R-Series] Improved Media Error Handling
  - To account for variances in physical media, the ExpressSAS RAID products have implemented enhanced error handling methodologies that will reallocate unusable sectors during I/O without impacting performance. This minimizes potential workflow interruptions caused by imperfect media. In addition, during RAID group initialization, users will have a choice between an *Advanced Initialization* method which will thoroughly scan and clean the selected media minimizing the RAID group's susceptibility to errors. This is usually done the first time a RAID group is created and requires that no I/O be allowed during the process. Another initialization method added, *Express Initialization*, allows users to perform I/O during initialization and is generally used when the media has previously been through a full initialization cycle.
- [ExpressSAS R-Series] Improved performance through enhanced rebuild prioritization functionality.
- Address issues with device identification for devices in an enclosure.
- Improved SES event reporting. SES events are reported via the firmware and passed through the normal log processing.

NOTE: *New features specific to the ExpressSAS R-Series are only supported with v2.20 driver set and firmware updates. Features will be unsupported without the proper versions of drivers and firmware and thus be "grayed out" in the Configuration Tool v3.18.*

- ***Version 3.17 (Released 1/24/2008)***
  - The following apply to changes made from v3.16 to v3.17. These changes were made specifically for the ExpressSAS RAID Adapter. They do not affect Celerity Fibre Channel adapters, ExpressPCI SCSI adapters or ExpressSAS host adapters.
  - **New Features, Enhancements and Changes**
    - Added support for tape drives and libraries.
    - Support added to allow users to set the adapter to automatically begin a rebuild of a RAID group when a failed drive is replaced with a new, clean drive.
    - Support added to set the interval to spin drives up individually, lowering the power consumption on the enclosure power supply.
    - Added support to monitor the health of the storage enclosure and its respective devices using SES.
    - Added ability to display RAID group properties within the Configuration Tool.
    - Added the ability to change the SpeedRead setting after the creation of a RAID group.

©2010 ATTO Technology, Inc.

- Added support for N-way mirroring. Note that since anything other than one mirror is not supported in RAID 10, migration is disabled for RAID1 with more than one mirror and RAID 0 with more than one stripe.
- Enhanced device enumeration to improve user experience by providing feedback while waiting for drives to be discovered.
- Improved messaging during the configuration of hot spares.
- Added Spin-Up Delay option configurability.
- Reassign I/O base registers when a system BIOS improperly assigns I/O addresses to avoid system hangs on some platforms.

3. Known Issues/Advisements

- When a member faults and is automatically replaced with a hot spare or unallocated disk (auto rebuild), the old device does needs to be manually refreshed to reflect the faulted state.

4. Affected Products

Product Name	SKU
ATTO Configuration Tool	N/A

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:

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

©2010 ATTO Technology, Inc.