



ATTO Technology, Inc.

Product Release Notes

ExpressSAS 12Gb SAS/SATA HBA Release v2.00 - VMware

1. General Release Information

These product release notes define the new features, changes, known issues and release details that apply to the ExpressSAS 12Gb HBA product line driver version 2.00 that was released on June 12, 2017. This information pertains to VMware ESXi 6.5.

2. Changes

- **Version 2.00 (Released 06/12/2017)**

- **Note:** It is recommended that firmware dated 08/20/2015 be used with this driver release.
- **New Features, Enhancements and Changes**
 - Driver now uses the VMware native driver API
 - Resolved an issue where the driver incorrectly responded to a Check condition for ATA Pass-Through commands
 - Implemented a fix for Write Buffer mode 7 translation for SATA drives
 - The driver will now detect and explicitly disable host managed SMR SATA drives
 - Added an NVRAM setting to enable SEMB SATA devices as disks
 - Resolved a memory corruption issue with T10-DIF and SAS enclosures
 - Fixed issues with inaccessible devices (due to invalid topologies) being presented to the OS.
 - Fixed a potential hang when a port goes down during discovery
 - Fixed a potential task management and timeout error recovery conflict
 - Fixed a potential crash when the user connects an invalid expander topology
 - Changed the I/O timeout policy during expander discovery of a single device to have minimal impact on the overall discovery process
 - Disabled the Extended Power Conditions feature set for SATA drives
 - Modified driver to allow communication to SATA drives when the minimum link rate of the expander topology does not match the drive rate
 - Resolved a crash in systems that have multiple HBAs installed
 - Fixed an issue where bad SATA drives causes expander BCCs to enter an infinite discovery loop
 - Adapter SES device is not created until a device is attached (internal connectors only).
 - Fixed reporting adapter SES device status change when a device is removed (internal connectors only).
 - We now ignore SCSI Reserve and Release commands for SATA devices
 - Resolved an issue where the adapter would fall back to legacy interrupts when MSI-X interrupts were enabled but only one queue was allocated
 - Fixed an issue where ESXi could not write to diagnostic partition when MSI-X interrupts were enabled.
 - Fixed Write and Verify support for SATA devices to verify the data when the device supports FUA.
 - Improved discovery of SATA devices that require excessive recovery time from a hard reset

- Added workaround for Super Micro expanders that report invalid discovery data for SATA drives
 - Added faster processing of Write Same commands for SATA devices
 - Added support for Extended Inquiry Data VPD page for SATA devices
 - Fixed an issue where devices with a corrupt format may be blocked from the system when Power Center Pro is enabled
- **Version 1.11 (Released 08/28/2015)**
 - **Note:** It is recommended that firmware dated 08/20/2015 be used with this driver release.
 - **New Features, Enhancements and Changes**
 - An NVRAM parameter has been added to disable/enable Power Center Pro support.
 - Resolved issue where cable management errors prevented PHY enablement. We now attempt to bring up the PHY using default settings.
 - We added *attrace* firmware core dump capability after a fatal controller error.
 - We added forced event logging of internally generated I/O errors.
 - DMA Auto-Activate has been enabled to improve SATA NCQ performance.
- **Version 1.05 (Released 12/15/2014)**
 - **Note:** It is recommended that firmware dated 5/21/15 be used with this driver release.
 - **New Features, Enhancements and Changes**
 - Added support for the H1244, H1248 and H1288.
 - Fixed several issues with recovering a device if task management fails.
 - Fixed an issue with the driver's device scan where devices would be blocked from the system if they didn't have a valid LUN 0.
 - In target mode, when configured for multiple targets, fixed an issue with task management handling that could abort I/O for targets not applicable to the task management.
 - Fixed an issue that could prevent the OS from seeing devices that swapped positions in the topology.
 - Fixed an issue that could cause devices to not be reinserted into a RAID group correctly. This could occur during power management cycles or during cable pull, or replug, within the link down timeout period.
 - Fixed an issue that could cause RAID groups to be degraded when resuming from power management.
 - In the presence of multiple logical SAS ports, when the controller is reset or resumes from power management, fixed an issue that could result in the SAS ports not containing the correct PHYs. This could result in improper SAS discovery or detection of read-only ports.
 - Fixed an issue that could cause a RAID group to disappear after a controller reset.
 - Fixed an issue that could cause the adapter to go degraded before initialization is complete.
 - Fixed a port reset issue that could cause newly attached devices to not be discovered.
 - Fixed an issue that could cause discovery to be blocked forever if discovery command timeout recovery required a controller reset.
 - All discovery operations in flight are correctly aborted if a controller reset occurs.
 - I/O connection errors due to incomplete expander routing are now retried.
 - Increased the discovery command timeout to account for slow SATA SSDs.
 - Fixed an issue with aborting timed out discovery requests.
 - Interpret descriptor based sense data correctly during the driver's device scan.
 - Update device table so that the VMware vSphere web client identifies our devices using their correct names.

- **Version 1.01 (Released 5/21/2014)**
 - **Note:** It is recommended that firmware dated 4/23/2014 be used with this driver release.
 - **New Features, Enhancements and Changes**
 - This is the initial release of the ExpressSAS 12G HBA driver for VMware.

3. Known Issues/Advisements

- None

4. Affected Products

Product Name
ExpressSAS H1208
ExpressSAS H1280
ExpressSAS H12F0
ExpressSAS H120F
ExpressSAS H1244
ExpressSAS H1248
ExpressSAS H1288

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 6:00 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