ATTO Technology, Inc.

ATTO CLI Tools™
Installation and Operation Manual

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1.0 ATTO CLI Tools

The ATTO CLI (Command Line Interface) Tools are applications which allow an experienced user to perform additional capabilities and various functions within ATTO Storage Controllers (Host Adapters, RAID Controllers and desklink devices). The CLI is useful in environments where a GUI (Graphical User Interface) is either not available, or not a preferred method for performing configuration or diagnostic tasks. These tools can be used from a remote system or locally via a command prompt (Windows) or a terminal application (OS X and Linux) and uses ASCII commands typed while in CLI mode.

These tools execute under the following supported operating systems:

- Windows 7, Vista, XP, Server 2008, 2003
- Linux 2.4 and 2.6 kernels, x86 and x64
- Mac OS X 10.4.x, 10.5.x, 10.6.x, 10.7.x, 10.8.x

Supported Products:

- **ATTO Celerity Fibre Channel Host Adapters** – Models 84EN, 82EN, 81EN, 44ES, 42ES, 42XS, 41ES, and 41XS
- **ATTO ExpressSAS 6Gb RAID Adapters** – Models R60F, R680, R608, and R644
- **ATTO ExpressSAS 6Gb Host Bus Adapters** – Models H6F0, H60F, H680, H608, and H644
- **ATTO FastFrame Network Interface Cards**– Models NS11, NS12, NS14
- **ATTO FastFrame Converged Network Adapters** – Models CS11, CS12, CS14

Supported desklink devices:

- **ATTO ThunderStream Storage Controller desklink devices** – Model SC 3808
- **ATTO ThunderLink desklink devices** – Models FC 1082, SH 1068, NS 1101, NT 1102

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2.0 Installing from the ATTO Website

Use the following instructions to install ATTO CLI Tools.

Downloading

1 Go to www.attotech.com.
2 Click on **Downloads**.
3 Register or log in if previously registered.
4 Click on the desired product in the left dialog.
5 Navigate to your specific Host Bus Adapter model on the right dialog and click on it.
6 Scroll down to and click the desired ATTO CLI Tools depending on operating system.
7 A download window will appear. Choose **Save**.
8 After the download has completed, process the download file:

Windows

a. Run the downloaded .exe file.
b. Follow the instructions for installing the application.

OS X

a. Mount the .dmg file.
b. Copy all of the application files to a directory of your choice. (eg. /Users/CLI Tools).

Linux

a. Expand the .tgz file.
b. Copy all of the application files to a directory of your choice. (eg. /root/atto/cli tools).

3.0 Using the ATTO CLI Tools

The ATTO CLI Tools can be found in the following location for the following operating systems.

The ATTO CLI Tools can be found in the directory of your choice.

Note

Suggested examples are given below for the following operating systems:

- Windows = c:\ATTO\ CLI TOOLS
- Linux = /root/atto/ cli tools
- OS X = /Users/ Cli Tools

To run the ATTO CLI Tools, follow these samples:

- Windows = atinfo.exe [parameters]
- OS X = ./atinfo [parameters]
- Linux 32 bit = ./atinfo [parameters]
- Linux 64 bit = ./atinfo_x64 [parameters]

4.0 CLI Applications with Help and Usage Example

ATTO Fibre Channel NVRAM Tool

This tool modifies NVRAM settings for ATTO Celerity Fibre Channel Host Adapters and ThunderLink Fibre Channel desklinks. These settings can also be saved to or restored from a file.

atfcnvr

Options:

-b {boot}
Sets the boot driver setting.

{boot} values are:
enable Enable the boot driver
disable Disable the boot driver
scanonly (BIOS only) Display devices and don't load

-c {channel}
Selects a specific adapter or desklink device channel for the operation,
starts at 1, all channels are selected by default.

-g {disctype}
Set the device discovery type.

{disctype} values are:
port Discover devices by node WWN
node Discover devices by port WWN

-h
Display extended help.

-i {coalescing}
Set the interrupt coalescing.

{coalescing} values are 'low', 'medium', 'high', and 'disable'.

-j {mode}
Set the connection mode. {mode} values are:
alonly Arbitrated loop connections only
alpref Arbitrated loop connections preferred
ptponly Point-to-point connections only
ptppref Point-to-point connections preferred

-k {speed}
Set the connection speed. {speed} values are:

auto Auto speed negotiation
8 8 Gb/s
4 4 Gb/s
2 2 Gb/s
1 1 Gb/s (4Gb storage controllers only)

-l
List the adapters and desklink devices in the system.

-m {seconds}
Set the spinup delay. (0-255)

-n {hardaddr}
Set the hard address. {hardaddr} values are 0-125 or 'disable'.

-o {framesize}
Set the frame size in bytes. {framesize} values are '512', '1024', and '2048'.

-p
Print the contents of the NVRAM when other operations are complete.

-q {throttle}
Set the execution throttle (1-255).

-r {filename}
Restore the NVRAM from a file.

-s {filename}
Save the NVRAM to a file.

-t
Restore the NVRAM to default settings.

-v
Display non-error messages.

-w {seconds}
Set the link down timeout (0-255). 0 selects the driver default.

-x {count}
Set the port down retry countt (0-255).

Usage examples:
1. Display all adapters and desklink devices:
atfcnvr -l
2. Display the NVRAM settings for all adapters and desklink devices:
atfcnvr -p
3. Set the NVRAM for all adapters and desklink devices to the defaults:
atfcnvr -t
4. Save the NVRAM for channel 1 to a file:
atfcnvr -c 1 -s {filename}
5. Set the execution throttle to 8 for all adapters and desklink devices and set all other settings from a file:
atfcnvr -r {filename} -q 8
6. Set the spinup delay to 20 seconds for all adapters and desklink devices and set all other settings to defaults:
atfcnvr -t -m 20

ATTO SAS NVRAM Tool

This tool modifies NVRAM settings for ExpressSAS adapters and ThunderLink SAS desklink devices. These settings can also be saved to or restored from a file.

atsasnvr

Options:

-b {boot}
Set the boot driver setting. {boot} values are:
enable Enable the boot driver
disable Disable the boot driver
scanonly (BIOS only) Display devices and don't load

-c {channel}
Selects a specific adapter or desklink device channel for the operation, starts at 1, all channels are selected by default.

-d {feature}
Disable an NVRAM feature.

-e {feature}
Enable an NVRAM feature.

{feature} values:
heartbeat adapter and desklink devices health monitoring.
internal Internal connector for the ExpressSAS R348.
ncq Native Command Queuing for SATA.
sort Device sorting by type.

-h
Display extended help.

-j {seconds}
Set the PHY staggered spinup delay (0-20).

-k {speed}
Set the PHY link speed. {speed} values are:
auto Auto speed negotiation
6 6.0 Gb/s
3 3.0 Gb/s
1.5 1.5 Gb/s

-l
List the adapters and desklink devices in the system.

-m {seconds}
Set the amount of time to wait for devices (0-255).

-n {count}
Set the number of devices to wait for (0-255).

-o {alignrate}
Set the SSP ALIGN rate for the H6xx adapters or ThunderLink 1068 desklink devices (0-255).

-p
Print the contents of the NVRAM when other operations are complete.

-q
Set the sort type - used when sort enabled (0-255)

-r {filename}
Restore the NVRAM from a file.

-s {filename}
Save the NVRAM to a file.

-t
Restore the NVRAM to default settings.

-v
Display non-error messages.

Usage examples:

1. Display all adapters and desklink devices:
   atsasnvr -l
2. Display the NVRAM settings for all adapters and desklink devices:
   atsasnvr -p
3. Set the NVRAM for all adapters and desklink devices to the defaults:
   atsasnvr -t
4. Save the NVRAM for channel 1 to a file:
   atsasnvr -c 1 -s {filename}
5. Disable the heartbeat for all adapters and desklink devices and set all other settings from a file:
   atsasnvr -r {filename} -d heartbeat
6. Set the staggered spinup delay to 5 seconds for all

ATTO Flash Update Tool

This tool updates adapter and desklink device flash from an ATTO flash bundle.

atflash

Options:

-c {channel}
Selects a specific adapter or desklink device channel for the operation, starts at 1, all channels are selected by default.

-f {filename}
Specifies the flash bundle file name.

-h Display extended help.
-l List the adapters and desklink devices in the system.
-p Print the flash version.
-v Display non-error messages.

Usage examples:

1. Display all adapters and desklink devices:
   atflash -l
2. Display the current flash version for all adapters and desklink devices:
   atflash -p
3. Display the flash bundle version for all adapters and desklink devices:
   atflash -p -f {filename}
4. Update the flash on channel 1:
   atflash -c 1 -f {filename}

ATTO Information Tool

This tool displays adapter and desklink information.

atinfo
Options:

-c {channel}
Selects a specific adapter and desklink channel for the operation, starts at 1, all channels are selected by default.

-h
Display extended help.

-i {infotype}
Print information. Information types are:

all All information
adapter Adapter and desklink device Information
device Device (target) information
lun Logical unit information

-l
List the adapters and desklink devices in the system.

-v
Display non-error messages.

ATTO RAID CLI Tool

This tool sends RAID CLI commands to ExpressSAS RAID adapters and ThunderStream SC RAID desklink devices.

Note
All commands that can be sent to the adapter or desklink device can be found in Appendix A of the ATTO Utilities Manual (PRMA 0267-000MD.)

atraidcli
Options:

-c {channel}
Selects a specific adapter or desklink device channel for the operation, starts at 1, all channels are selected by default.

-f {filename}
Issue multiple RAID CLI commands from a file.

-h
Display extended help.

-l
List the adapter and desklink devices in the system.

-v
Display non-error messages.

-x {command}
Execute a RAID CLI command.

Usage examples:
1. Display all adapters and desklink devices:
   atraidcli -l
2. Send a 'blockdevscan' command to all adapters and desklink devices:
   atraidcli -x “blockdevscan”
3. Send a list of commands to channel 1:
   atraidcli -f {file} -c 1

Note
Command files may contain comments. Comment lines must be preceded by a '#' or ';'.