Intel® RAID Controller Command Line Tool 2 User Guide

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Preface

The Intel® RAID Controller Command Line Tool 2 utility is provided for UEFI*, DOS*, Linux*, or Microsoft Windows* to configure and view a RAID controller, physical and logical drives, initialize and perform consistency checks, and view the battery back-up status and event logs.

This utility is for SAS Software Stack products, including the Intel® RAID Controllers RS2BL080, RS2BL080DE, RS2BL040, RS2PI008, RS2PI008DE, RS2MB044, RMS2MH080, RMS2AF080, RMS2AF040, RT3WB080, RS2VB080, RS2VB040, RS2SG244, RS2WG160, RS25DB080, SRCSAS18E, SRCSAS144E, SROMBSAS18E, SRCSASJV, SRCSASRB, SRCSATAWB, SROMBSASFC, SROMBSASMP2, SROMBSASMR, SRCSASPH16I, SRCSASBB8I, SRCSASLS4I, and onboard ICHx/ESB2 and 106x controllers under ESRTII mode (Linux* or Microsoft Windows* only).

Notes:

- Only some commands and partial parameters are available on Intel® Embedded Server RAID Technology II (ESB2, 1064E). For example, for both Set/Get Adapter Properties, only the RR, Bgi CCRate, and Coercion are supported. The only disk enclosure supported is Enclosure 0 (E0).
- Some Intel® server systems don't fully support DOS. The DOS version Intel® RAID Controller Command Line Tool 2 could have limitation on some commands and partial parameters. The DOS version Intel® RAID Controller Command Line Tool 2 is not fully supported on these systems.
- If User Account Control (UAC) is enabled on Vista, you cannot communicate with the RAID controller.
- Previous Software Stack 2 SCSI/SATA controllers should use the Intel® RAID Controller Command Line Tool, not the Intel® RAID Controller Command Line Tool 2.

Syntax Notes

Most Intel® RAID Controller Command Line Tool 2 commands include a parameter that defines the RAID controllers or drives to be affected by the command. The following syntax is used in in this guide to refer to parameter choices that you must make when issuing commands:

- **a[controller]** or **L[drive]** means the following choices are available:
  - **-a[controller]** or **-L[drive]:** Issue the command for one RAID controller or drive where [controller] or [drive] is replaced by the number of the RAID controller or drive
  - **-a0,1,2** or **-l0,1,2:** Issue the command for two or more RAID controllers or drives where 0,1,2 are the RAID controllers or drives on which to issue the command
  - **-aALL** or **-LALL:** Issue the command for all RAID controllers or drives
- **[E0:S0,E1:S1,……]:** Specifies when one or more physical devices need(s) to be specified in the command line. Each [E:S] pair specifies one physical device where E means device ID of the enclosure in which a drive resides, and S means the slot number of the enclosure.
- **{ }:** Indicates that the parameters are grouped and that they must given at the same time.
- **[ ]:** Indicates that the parameter is optional except when it is used to specify physical devices.
- | indicates a choice between parameters. See the list of parameters to determine the appropriate selection

- **Force:** Specifies that The Intel® RAID Controller Command Line Tool 2 utility does not ask you for confirmation before it performs this command. You might lose data using this option with some commands.
- Silent (no messages)
- The AppLogFile filename command saves the command log into specified file
- The Nolog command disables the option to save the command log

Manual Organization

- Chapter 1 provides a list of commands by function. The command syntax is not complete in this chapter. When you find the command you need to use, see the alphabetical list of commands in Chapter 2 for the correct syntax.
- Chapter 2 provides an alphabetical list of commands with the full syntax and command usage.

Pre-boot Command Line

A second command line utility, known as Pre-boot command line tool (PCLI), is available. You can enter this utility during bootup. PCLI gives you an alternative way to access the CLI utility.

To access PCLI, while the host computer is booting, press the hot key <Ctrl> + <Y> when the following text appears on the screen:

Press <Ctrl><Y> for Preboot CLI

The following commands that are in the regular Intel® RAID Controller Command Line Tool 2 are not available in PCLI:

- AdpSetVerify
- AdpCcSchedAdpDiag
- AdpBatTest
- Option ProgDsplyCfgSave
- CfgRestore
- AdpBbuCmd
- AdpFacDefSet
- AdpFwFlash
- AdpGetConnectorMode
- AdpSetConnectorMode
- DirectPdMapping
- ShowEnclList
- ShowVpd
- EnclLocate
- PdFwDownload
- SetFacDefault
- PDCpyBk
- AdpFwDump
- Snapshot Enbl/Setprop/Dsbl/TakeSnapshot/DeleteSnapshot/CreateView/DeleteView/Info/Clean/Get ViewInfo
- AdpSetProp DefaultSnapshotSpace/DefaultViewSpace/AutoSnapshotSpace

UEFI Command Line

The following commands that are in the regular Intel® RAID Controller Command Line Tool 2 are not available in UEFI:

- AdpSetVerify
- AdpCcSched
- AdpBatTest
- Option ProgDsply
- CfgSave
- CfgRestore
- AdpGetConnectorMode
- AdpSetConnectorMode
- DirectPdMapping
- ShowEnclList
- ShowVpd
- EnclLocate
- SetFacDefault
- PDCpyBk
- AdpFwDump

Contents

1 Command List by Function

The commands displayed in this chapter do not include the command line with parameters. Use this chapter to determine the command you need to use, and then refer to the alphabetical list of commands in Chapter 2 for the correct parameters.

Table 1. Command List by Function

Functional Group	Command	Command Function
Get utility Information		
	-h -help -?	Show a list of commands
	-v	Show the version of the command utility
	-ShowSummary	Show a summary of system information
Controller Property-related Options		
	-AdpCount	Show the number of RAID controllers
	-AdpAllinfo	Show information of RAID controller
	-AdpGetProp	Show specific RAID controller properties
	-AdpSetProp	Set specific RAID controller properties
	-AdpAutoRbld	Show information on automatic rebuild
	-AdpCacheFlush	Flush the controller cache
	-AdpSetTime	Set the date and time
	-AdpBIOS	Show the BIOS settings
	-AdpFacDefSet	Set factory defaults
	-AdpGetTime	Show the date and time
Patrol Read-Related Controller Properties		
	-AdpPR	Set Patrol Read Options
	-AdpPRSetDelay	Set Patrol Read Delay Interval
BIOS-Related Properties		
	-AdpBootDrive	Set or show Bootable Birtual Drive ID
	-AdpBIOS	Set BIOS Status Options
Battery Backup Unit-Related Properties		

Functional Group	Command	Command Function
	-AdpBbuCmd	Show BBU information
	-AdpBbuStatus	Show BBU status information
Options for Displaying Logs Kept at the Firmware Level		
	-AdpEventLog	Event Log Management
	-AdpAliLog	Show information of specified Controller
	-FwTermLog	Set the firmware log and BBU terminal log
Configuration-Related Options		
	-CfgLDAdd	Create RAID Drive Group
	-CfgSpanAdd	Create RAID Drive Span
	-CfgClr	Clear the Existing Configuration
	-CfgSave	Save the Configuration to a file
	-CfgRestore	Restore the Configuration from file
	-CfgForeign	Manage Foreign Configuration Information
	-CfgLDDel	Delete Specified Virtual Drive
	-CfgFreeSpaceInfo	Show the Free Space
Virtual Drive-Related Options		
	-LDInfo	Show Virtual Drive Information
	-LDSetProp	Set Virtual Drive Cache and Access Parameters
	-LDGetProp	Show Virtual Drive Cache and Access Parameters
	-LDInit	Manage Virtual Drives Initialization
	-LDCC	Manage Consistency Check
	-AdpCcSched	Schedule Consistency Check
	-LDBI	Manage a Background Initialization
	-LDRecon	Perform a Virtual Drive Reconstruction
	-LDPDInfo	Show Information of Virtual Drives and Drives
	-LDGetNum	Show the Number of Virtual Drives
	-LDBBMClr	Clear the LDBBM Table entries
	-GetPreservedCacheList	Show the List of Virtual Drives with Preserved Cache
	-DiscardPreservedCache	Discard the Preserved Cache Of Virtual Drives
	-LDExpansion	Expand a Virutal Drive
Drive-Related Options		
	-PDInfo	Show Drive Information

Functional Group	Command	Command Function
	-PdOnline	Set the Drive State to Online
	-PDOffline	Set the Drive State to Offline
	-PDMakeGood	Change the Drive State to Unconfigured Good
	-PDHSP	Change the Hot Swap Drive State
	-PDClear	Manage a Drive Initialization
	-PDRbld	Manage a Drive Rebuild
	-PDlocate	Locate the Drives and Activate LED
	-PDMarkMissing	Mark the Configured Drive as Missing
	-PDGetMissing	Show the Drive in Missing Status
	-PDReplaceMissing	Replace the Configured Drives and Start Rebuild
	-PDPrpRmv	Prepare the Unconfigured Drive for Removal
	-PDGetNum	Show Total Number of Drives
	-PDList	Show List of Physical Drives
	-PDFwDownload	Download Firmware to the Physical Devices
	-CfgAllFreeDrv	Configure All Free Drive into a RAID
	-DirectPdMapping	Set the Mapping Mode of the Drives
	-PdCpyBk	Perform the Copyback Operation
Enclosure-Related Options		
	-EncInfo	Show Enclosure Information
	-EncStatus	Show Enclosure Status
Flashing the Firmware		
	-AdpFwFlash	Flash the Firmware with the ROM File
	-AdpM0Flash	Flash the Firmware in Mode 0 with the ROM File (DOS only)
SAS Topology		
	-PHYInfo	Show PHY Connection Inforamtion
Diagnostic Related Options		
	-AdpDiag	Start Controller Diagnostics
	-AdpBatTest	Start Battery Test
	-AdpNVRAM	Starts the NVRAM diagnostic. (DOS only)
Full Disk Encryption (SafeStore Security) Related Options		
	-PDInstantSecureErase	Use Instant Secure Erase on a Physical Drive
	-LDMakeSecure	Secure Data on a Virtual Drive

Functional Group	Command	Command Function
	-DestroySecurityKey	Destroy the Security Key
	-CreateSecurityKey	Create a Security Key
	-ChangeSecurityKey	Change the Cecurity Key
	-GetKeyID	Get the Security Key ID
	-SetKeyID	Set the Security Key ID
	-VerifySecurityKey	Verify the Security Key
Recovery(Snapshot)-Related Options		
	-Snapshot	Manage Snapshot Feature
Super Sized Cache (CacheCade) Related Options		
	-CfgSscdAdd	Create a Solid State Drive Cache Drive
	-CfgSscdDel	Delete a Solid State Drive Cache Drive

2 Alphabetical List of Commands

?

Description

Shows the list of available commands

Syntax

```
CmdTool2 -?
```

Parameters

None

Example

```
CmdTool2 -?
```

AdpAllinfo

Description

Displays information about controller, including cluster state, BIOS, alarm, firmware version, BIOS version, battery charge counter value, ebuild rate, bus number/device number, present RAM, memory size, serial number of the board, and SAS address.

Syntax

CmdTool2 -AdpAllinfo -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpAllinfo -a1
```

AdpAliLog

Description

Displays information about specified RAID controller

Syntax

CmdTool2 -AdpAliLog -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpAliLog -a0
```

AdpAutoRbld

Description

Enable or disable auto rebuild if hot spare is enabled. This command also determines whether drive insertion will cause an autostart rebuild.

Syntax

```
CmdTool2 -AdpAutoRbld -Enbl | -Dsbl | -Dsply -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Enbl`: Enable auto rebuilds

`-Dsbl`: Disable auto rebuilds

`-Dsply`: Display the current setting

Example

```
CmdTool2 -AdpAutoRbld -Enbl -a1
CmdTool2 -AdpAutoRbld -Dsbl -a1,2
```

AdpBatTest

Description

This command tests the battery back up device and is only valid if a battery back-up unit is installed. This command requires a system reboot.

Syntax

```
CmdTool2 -AdpBatTest -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpBatTest -aALL
```

AdpBbuCmd

Description

Displays complete information about the BBU,

Syntax

```
CmdTool2 -AdpBbuCmd -GetBbuStatus | -GetBbuCapacityInfo | -GetBbuDesignInfo |
-GetBbuPropertie | -BbuLearn | -BbuMfgSleep | -SetBbuProperties -f [filename]
-a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-GetBbuStatus: Displays complete information about the BBU status, such as the temperature and voltage.

-GetBbuCapacityInfo: Displays BBU capacity information.

-GetBbuDesignInfo: Displays information about the BBU design parameters.

-GetBbuPropertie: Displays current properties of the BBU.

-BbuLearn: Starts the learning cycle on the BBU.

-BbuMfgSleep: Places the battery in Low-Power Storage mode.

-SetBbuProperties: Sets the BBU properties on the selected controller(s) after reading from the file.

Note: You can change only two of these parameters: learnDelayInterval and auto LearnMode

Example

```
CmdTool2 -AdpBbuCmd -GetBbuStatus -a1
```

AdpBIOS

Description

Enables, disables, or displays the BIOS status on the selected RAID controller.

Syntax

```
CmdTool2 -AdpBIOS -Enbl | -Dsbl | SOE | BE | EnblAutoSelectBootLd |
DsblAutoSelectBootLd | -Dsply -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Enbl`: Enable the BIOS on the RAID controller

`-Dsbl`: Disable the BIOS on the RAID controller

`-SOE`: Stops POST on BIOS errors. When set to -SOE, the Bios Stops in case of a problem with the configuration. This gives you the option to enter the configuration utility to resolve the problem. This is available only when you enable the BIOS status.

`-BE`: Bypasses BIOS errors during POST. This is available only when you enable the BIOS status.

-Dsply: Displays the BIOS status on the selected controller(s).

-EnblAutoSelectBootLd: Enable automatic selection of the boot virtual drive.

-DsblAutoSelectBootLd: Disable automatic selection of the boot virtual drive.

Example

```
CmdTool2 -AdpBIOS -Enbl -a1
```

AdpBootDrive

Description

Set or Display Bootable Virtual Drive ID

Syntax

```
CmdTool2 -AdpBootDrive {-Set -L[drive] | -physdrv[E0:S0]} | -Get -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Set`: Sets the virtual drive as bootable so that during the next reboot, the BIOS will look for a boot sector in the specified virtual drive.

`-Get`: Display the current bootable Virtual Drive ID

Example

```
CmdTool2 -AdpBootDrive -Set -L0 -a0
CmdTool2 -AdpBootDrive -Get -a0
```

AdpCacheFlush

Description

Flush the RAID controller cache. If the MegaRAID system must be powered down rapidly, you must flush the contents of the cache memory to preserve data integrity.

Syntax

```
CmdTool2 -AdpCacheFlush -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpCacheFlush -a1
```

AdpCcSched

Description

Schedule a Consistency Check

Syntax

CmdTool2 -AdpCcSched -Dsbl | -Info| { -ModeConc | -ModeSeq [-ExcludeLD -L[drive]] [-SetStartTime yyyymmdd hh] [-SetDelay val] } -a[controller]

Parameters

Dsbl: Disables a scheduled CC for the given adapter(s).

Info: Gets information about a scheduled CC for the given adapter(s).

ModeConc: The scheduled CC on all of the virtual drives runs concurrently for the given adapter(s).

ModeSeq: The scheduled CC on all of the virtual drives runs sequentially for the given adapter(s)

ExcludeLd: Specify the virtual drive numbers not included in the scheduled CC. The new list will overwrite the existing list stored on the controller. This is optional.

StartTime: Sets the next start time. The date is in the format of yyyymmdd in decimal digits and followed by a decimal number for the hour between 0 ~ 23 inclusively. This is optional.

SetDelay: Sets the execution delay between executions for the given adapter(s). This is optional.

Val: The value is the length of delay in hours. A value of 0 means continuous execution.

Example

```
CmdTool2 -AdpCcSched -info -a1
CmdTool2 -AdpCcSched -SetDelay 1 -a1
```

AdpCount

Description

Display the number of RAID controllers.

Syntax

```
CmdTool2 -AdpCount
```

Parameters

None

Example

```
CmdTool2 -AdpCount
```

AdpDiag

Description

Run diagnostics on a RAID controller.

Syntax

```
CmdTool2 -AdpDiag [val] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-val`: Indicates the time in seconds for the controller diagnostic to run.

Example

```
CmdTool2 -AdpDiag -aALL
```

AdpEventLog

Description

Display settings for the event log and BBU terminal log, which are kept at the firmware level.

Syntax

```
CmdTool2-AdpEventLogInfo Clear | GetEventLogInfo | GetEvents {-info -warning -
critical -fatal) | GetSinceShutdown {-info -warning -critical -fatal) |
GetSinceReboot {-info -warning -critical -fatal) | IncludeDeleted {-info -warning
-critical -fatal) | GetLatest <number> {-info -warning -critical -fatal) -f
<filename> | GetCCIncon -f [filename] -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Clear`: Clear the event log

`-GetEventInfo`: Displays overall event information

`-GetEvents`: Gets event log entry details.

`-GetSinceShutdown`: Displays all of the events since last controller shutdown.

`-GetSinceReboot`: Displays all of the events since last controller reboot.

`-IncludeDeleted`: Displays all events, including deleted events.

`-GetLatest [number]`: Displays the latest number of events, if any exist. The event data will be written to the file in reverse order.

-GetCCIncon: Displays the events relating to inconsisten data found during a consistency check.

`-f [filename]`: Get events from the specified file

Example

```
CmdTool2 -AdpEventLog Clear -a1
CmdTool2 -AdpEventLog GetSinceShutdown -a1,2
CmdTool2 -AdpEventLog GetLatest 25 -f RAIDEvents.log -aALL
```

AdpFacDefSet

Description

Set to Factory Defaults. They are not visible if the RAID controller is already configured.

Syntax

```
CmdTool2 -AdpFacDefSet -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpFacDefSet -a1
```

AdpFwFlash

Description

Flashes a firmware file onto the RAID controller. Use this command with care.

Syntax

```
CmdTool2 -AdpFwFlash -f [filename] {-NoSigChk} {-NoVerChk} -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-NoSigChk`: Do not check the firmware's signature

`-NoVerChk`: Do not check the firmware file version

`-f [filename]`: The name of the firmware file for the flash update.

Example

```
CmdTool2 -AdpFwFlash -f FlashUpdt -a1
```

AdpGetConnectorMode

Description

Show the connector mode.

Syntax

```
CmdTool2 -AdpGetConnectorMode -Connector** -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Connector**`: Specified connecotr ID

Example

CmdTool2 -AdpGetConnectorMode -ConnectorAll -a0

AdpGetProp

Description

Display the properties of a RAID controller.

Syntax

```
CmdTool2 -AdpGetProp -[parameter(s)] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-[parameter(s)]`: See the following list of allowed parameters

`-CacheFlushInterval`: Show the cash flush interval

`-RebuildRate`: Show the rebuild rate

`-PatrolReadRate`: Show the patrol read rate

`-BgiRate`: Show the background initialization rate

`-CCRate`: Show the consistency check rate

`-ReconRate`: Show the reconstruction rate

`-SpinupDriveCount`: Show the pinup drive count

`-SpinupDelay`: Show the spinup delay time

`-CoercionMode`: Show the coercion mode

`-PredFailPollInterval`: Show the interval used to poll for predicting failure

`-EccBucketSize`: Show the ECC bucket size

`-EccBucketLeakRate`: Show the ECC bucket leak rate

`-EccBucketCount`: Show the number of ECC buckets

`-ClusterEnable`: Show if Cluster is supported

`-BatWarnDsbl`: Show if the battery warning is disabled

`-AlarmDsply`: Show the Alarm setting

`-SMARTCpyBkEnbl`: Show if copyback operation on SMART is enabled.

`-AutoDetectBackPlaneDsbl`: Detect automatically backplane if the backplane is enabled.

`-CopyBackDsbl`: Show if the copyback operation is enabled.

`-LoadBalanceMode`: Show if the load balancing modeis enabled.

`-NCQDsply`: Show if the native command queueing is enabled.

`-SSDSMARTCpyBkEnbl`: Show if copyback operation on SMART errors on a SSD is enabled.

`-MaintainPdFailHistoryEnbl`: Show if maintenance of the history of a failed

drive is enabled.

`-EnblSpinDownUnConfigDrvs`: Show if spindown of unconfigured drives is enabled.

`-EnblSSDPatrolRead`: Show if the patrol read operation (media scan) on a SSD is enabled.

`-AutoEnhancedImportDsply`: Show if the automatic enhanced import of foreign drives is enabled.

`-UseFDEOnlyEncrypt`: Show encryption on FDE drives.

`PrCorrectUncfgdAreas`: Show the patrol read operation correct media errors.

Example

```
CmdTool2 -AdpGetProp -AlarmDsply -a1
CmdTool2 -AdpGetProp -RebuildRate -PatrolReadRate -a1
```

AdpGetTime

Description

Display the date and time on a RAID controller.

Syntax

```
CmdTool2 -AdpGetTime -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpGetTime -a1,2
```

AdpM0Flash

Description

Flash the RAID controller in Mode 0 state with the ROM file

Syntax

```
CmdTool2 -AdpM0Flash -f [filename]
```

Parameters

None

Example

```
CmdTool2 -AdpM0Flash -f filename
```

AdpNVRAM

Description

Starts the NVRAM diagnostic.This option is for DOS only.

Syntax

```
cmdtool2 -AdpNVRAM {-Read|-Write -f filename} | -clear [-
startOffset 0xXXXX] [-EndOffset] -a[controller]
```

Parameters

`-Read`: Reads the content in NVRAM and writes the data to file filename

`-Write`: Reads data from file filename and writes to NVRAM

`-Clear`: Writes 0 to NVRAM

`-StartOffset, EndOffset`: Specifies the start offset and/or end offset in NVRAM

Example

```
Cmdtool2 -AdpNVRAM -Read -f filename -a1
```

AdpPR

Description

Start, stop, or show the progress of a patrol read.

Syntax

CmdTool2 -AdpPR -Dsbl | EnblAuto | EnblMan | Start | Stop | Info `|SSDPatrolReadEnbl | SSDPatrolReadDsbl | {-SetStartTime yyyymmdd hh} | maxConcurrentPD -a[controller]`

Parameters

`-Dsbl`: Disable patrol reads

`-EnblAuto`: Enable automatic patrol reads

`-EnblMan`: Enable manual patrol reads

`-Start`: Start a patrol read

`-Stop`: Stop a patrol read

`-Info`: See information about a patrol read

`-SSDPatrolReadEnbl`: Enable the patrol read operation (media scan) on a SSD.

`-SSDPatrolReadDsbl`: Disable the patrol read operation (media scan) on a SSD.

`-SetStartTime yyyymmdd hh`: Set the start time for the patrol read

`-maxConcurrentPD`: Sets the maximum number of concurrent drives that patrol read runs on.

Example

```
CmdTool2 -AdpPR -Dsbl -a1
```

AdpPRSetDelay

Description

Set patrol read delay interval.

Syntax

```
CmdTool2 -AdpPRSetDelay -val -a[conrtoller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-val: Time of delay in hours

Example

CmdTool2 -AdpPRSetDelay -1 -a1

AdpSetConnectorMode

Description

Choose to use the internal or external connector on a RAID controller.

Syntax

```
CmdTool2 -AdpSetConnectorMode -Internal | -External -Connector**
-a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Internal`: Use the internal connector on the RAID controller

`-External`: Use the external connector on the RAID controller

`-Connector**`: Specified connecotr ID

Example

```
CmdTool2 -AdpSetConnectorMode -Internal -a1
```

AdpSetProp

Description

Set RAID controller properties.

Syntax

```
CmdTool2 -AdpSetProp -[parameter(s)] -val -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-[parameter(s)]`: See the following list of allowed parameters:

CacheFlushInterval: Cache flush interval in seconds. Values: 0 to 255.

RebuildRate: Rebuild rate. Values: 0 to 100.

PatrolReadRate: Patrol read rate. Values: 0 to 100.

BgiRate: Background initilization rate. Values: 0 to 100.

CCRate: Consistency check rate. Values: 0 to 100.

ReconRate: Reconstruction rate. Values: 0 to 100.

SpinupDriveCount: Max number of drives to spin up at one time. Values: 0 to 255.

SpinupDelay: Number of seconds to delay among spinup groups. Values: 0 to 255.

CoercionMode: Drive capacity Coercion mode. Values: 0 - None, 1 - 128 Mbytes, 2 - 1 Gbytes.

ClusterEnable: Cluster is enabled or disabled. Values: 0 - Disabled, 1 - Enabled.

PredFailPollInterval: Number of seconds between predicted fail polls. Values: 0 to 65535.

BatWarnDsbl: Disable warnings for missing battery or missing hardware. Values: 0 - Enabled, 1 - Disabled.

EccBucketSize: Size of ECC single-bit-error bucket. Values: 0 to 255.

EccBucketLeakRate: Leak rate (in minutes) of ECC single-bit-error bucket. Values: 0 to 65535.

AbortCCOnError: Abort the consistency check if an error is found.

AlarmEnbl: Set alarm to Enabled.

AlarmDsbl: Set alarm to Disabled.

AlarmSilence: Silence an active alarm.

SMARTCpyBkEnbl: Enable copyback operation on Self-Monitoring Analysis and Reporting Technology (SMART) errors.

Copyback is initiated when the first SMART error occurs on a drive that is part of a virtual drive.

AutoDetectBackPlaneDsbl: Detect automatically if the backplane has been disabled.

CopyBackDsbl: Disable or enable the copyback operation.

LoadBalanceMode: Disable or enable the load balancing mode.

NCQEnbl: Enable the native command queueing.

NCQDsbl: Disable the native command queueing.

SSDSMARTCpyBkEnbl: Enable copyback operation on Self-Monitoring Analysis and Reporting Technology (SMART) errors on a Solid State Drive (SSD). Copyback is initiated when the first SMART error occurs on a SSD that is part of a virtual drive.

MaintainPdFailHistoryEnbl: Enable maintenance of the history of a failed drive.

EnblSpinDownUnConfigDrvs: Enable spindown of unconfigured drives.

EnblSSDPatrolRead: Enable the patrol read operation (media scan) on a SSD.

AutoEnhancedImportEnbl: Enable the controller to import a foreign configuration automatically at boot (known as automatic enahanced import).

AutoEnhancedImportDsbl: Do not allow the controller to import a foreign configuration automatically.

UseFDEOnlyEncrypt: Use encryption on FDE drives only.

PrCorrectUncfgdAreas: Have the patrol read operation correct media errors if the value is 1.

DsblSpinDownUnConfigDrvs: Disable the automatic spindown of unconfigured drives.

BootWithPinnedCache: If the value is 1 then controller is allowed boot with pinned cache. If the value is 0 then this property is disabled.

ExposeEnclDevicesEnbl: If the value is 1, then it enables device drivers to expose enclosure devices. If the value is 0, the enclosure devices are hidden, not exposed.

DsblCacheBypass: If the value is 1, then cache bypass performance improvement feature is disabled. If the value is 0, then cache bypass performance improvement feature is enabled.

Note: Intel recommands the default rebuild rate of 30 percent, and the default patrol read rate of 30 percent.

Example

```
CmdTool2 -AdpSetProp -AlarmEnbl -a0
CmdTool2 -AdpSetProp -NCQEnbl -a0
```

AdpSetSASA

Description

Set SAS address of the specified controllers.

Syntax

```
Cmdtool2 -AdpSetSASA str[0-64] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`str[0-64]:` This string must be a 64-digit hexadecimal number.

Example

```
cmdTool2 -AdpSetSASA str0 -a1
```

AdpSetTime

Description

Set the date and time on a RAID controller.

Syntax

```
CmdTool2 -AdpSetTime [yyyymmdd] [hh:mm:ss] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`[yyyymmdd]`: The date to set

`[hh:mm:ss]`: The time to set

Example

```
CmdTool2 -AdpSetTime 20071230 24:00:00 -a1
```

AdpSetVerify

Description

Verify a RAID controller's configuration against a file.

Syntax

```
CmdTool2 -AdpSetVerify -f [filename] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-f [filename]`: Verify the RAID configuration against the contents defined in [filename]

Example

```
CmdTool2 -AdpSetVerify -f RAIDConfig -a1
```

AdpShutDown

Description

Shut down the RAID controller.

Syntax

```
CmdTool2 -AdpShutDown -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -AdpShutDown -a1
```

CfgAllFreeDrv

Description

Configure All Free Drives into a RAID 0, 1, 5, or 6 Configuration for a Specific Controller

Syntax

```
CmdTool2 -CfgAllFreeDrv -rX [-SATAOnly] [-SpanCountXXX] [WT|WB] [NORA|RA|ADRA]
[Direct|Cached] [CachedBadBBU|NoCachedBadBBU] [-strpszM] [-HspCountXX [-HspType
-Dedicated|-EnclAffinity|-nonRevertible]] | [FDE|CtrlBased] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Rx[E0:S0,...]: Specifies the RAID level and the physical driveenclosure/slot numbers to construct a disk group.

`-RW`: Set the array to read-write

`-RO`: Set the array to read-only

`-Blocked`: Blocked array access

`-WT`: Set the array to write-through

`-WB`: Set the array to write-back

-RA: Set the array to read-ahead

-NORA: Set the array to no read-ahead

-ADRA: Set the array to adaptive read ahead

-Cached, Direct: Selects cache policy

-CachedBadBBU|NoCachedBadBBU: Specifies whether to use write cache when the BBU is bad

strpszM: Specifies the stripe size

AfterLdX: This command is optional. By default, the application uses the first free slot available in the virtual drive. This option is valid only if the virtual disk is already used for configuration.

FDE|CtrlBased: If controller support security feature, this option enables FDE/controller-based encryption on virtual disk.

Example

```
CmdTool2 -CfgAllFreeDrv -R5 -WB -RA  -a0
```

CfgClr

Description

Clear the RAID controller configuration.

Syntax

```
CmdTool2 -CfgClr -a[controller]
```

Parameters

-a[controller]: The RAID controller affected by the command

Example

```
CmdTool2 -CfgClr -a1
```

CfgDsply

Description

Display the RAID controller configuration and the remaining unconfigured space.

Syntax

```
CmdTool2 -CfgDsply -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -CfgDsply -a1
```

CfgEachDskRAID0

Description

Configure every physical drive in an Unconfigured-Good state as RAID 0 on the RAID controller. Set the array properties.

Note: You cannot span RAID 0 across a single drive.

Syntax

```
CmdTool2 -CfgEachDskRAID0 -a[controller] {WT | WB} {NORA | RA | ADRA} {Direct | Cached} {-strpszM}
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`WT`: Optional parameter to define the write through setting

`WB`: Optional parameter to define the write back setting

`NORA`: Optional parameter to define no read ahead

`RA`: Optional parament to define read ahead

`ADRA`: Optional parameter to define adptive read ahead

`Direct`: Optional parameter to define direct I/O

`Cached`: Optional parameter to define cached I/O

`-strpszM`: Optional parameter to set the stripe size. The default is 64 kb.

Example

```
CmdTool2 -CfgEachDskRAID0 -a1 -WT -RA -Cached
```

CfgForeign

Description

Manage foreign configuration information.

Syntax

```
CmdTool2 -CfgForeign -Scan | [-SecurityKey password] | -Dsply [x] | -Preview [x]
| -Import [x] | -Clear [x] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command (default is all)

-Scan: Scans and displays available foreign configuration

-Disply (x): Displays the foreign configuration

-Import (x): Imports the foreign configuration.

-Preview (x): Provides a preview of the imported foreign configuration

`-SecurityKey`: Lock and unlock access to the secure user data.

[x] is the foreign configuration ID (FID). The FID is optional.

Example

```
CmdTool2 -CfgForeign -Clear -a0
```

CfgFreeSpaceinfo

Description

Displays all of the free space available for configuration on the selected controller(s).

Syntax

```
CmdTool2 -CfgFreeSpaceinfo -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -CfgFreeSpaceinfo -a1
```

CfgLDAdd

Description

Configure RAID and determine the attributes of the RAID array.

Syntax

```
CmdTool2 -CfgLDAdd -Rx[En:Sn] [WB|WT] [NORA|RA|ADRA] [Direct|Cached]
[CachedBadBBU | NOCachedBadBBU ] [ -szXXXXXXXX [-szYYYYYYYY [...]]]
[-strpszM] [-Hsp[E0:S0,...]] [-afterLdX] | -Force [FDE|CtrlBased] -a[controller]
```

Parameters

`-Rx[E0:Sn]`: Specifies the RAID level and the drive enclosure/slot numbers used to construct a drive group.

`-WT`: Set the array to write-through

`-WB`: Set the array to write-back

`-RA`: Set the array to read-ahead

`-NORA`: Set the array to no read-ahead

`-ADRA`: Otional parameter to define adptive read ahead

`-Direct`: Otional parameter to define direct I/O

`-Cached`: Otional parameter to define cached I/O

-strpszM: Optional parameter to set the stripe size (only 64 Kbyte is supported)

`-CachedBadBBU|NoCachedBadBBU`: Specifies whether to use write cache when the BBU is bad

`-Hsp[Ex:Sx,…]`: Create a global hot spare using a specified physical drive

`-szXXXX`: The size of the logical drive using regular numbers, in MB (the actual size of the logical drive may be smaller as physical drive blocks must be aligned to stripe size; the free space in the array can be used to create a configuration)

`-AfterLdX`: Optional parameter. The slot to use (default is the first slot)

`-Force`: Specifies the drive coercion is used to make the capacity of the drives compatible.

NOTE: Previously -szXXX expressed capacity in Mbytes but now you can enter the capacity in your choice of units. For example, to create a virtual drive of 10 Gbytes, enter the size as sz10GB. If you do not enter a unit, by default it is considered as Mbytes.

Example

```
CmdTool2 -CfgLDAdd -R5[252:0,252:1,252:3] -WB -RA  -sz10GB -a0
```

CfgLdDel

Description

Delete logical drives from a RAID controller.

Syntax

```
CmdTool2 -CfgLdDel -l[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-l[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -CfgLdDel -l2 -a1
```

CfgRestore

Description

Restore configuration data from a file. The restored data includes all read and write RAID controller and logical drive properties, and the RAID configuration, including hot spares. This command requires identical physical drive device IDs.

Syntax

```
CmdTool2 -CfgRestore -f <filename> -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-f <filename>`: The data will be restored from the file specified by [filename]

Example

```
CmdTool2 -CfgRestore -f RAIDCOnfig -a1
```

CfgSave

Description

Saves the configuration and properties structure for each RAID controller(s) to a binary file.

Syntax

```
CmdTool2 -CfgSave -f [filename] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-f <filename>: The binary file in which the RAID configuration is to be saved

Example

```
CmdTool2 -CfgSave -f RAIDConfig -a1
```

CfgSpanAdd

Description

Creates a RAID level 10, 50 or 60 (spanned) from the specified arrays listed as Array [En:Sn,...].

This option requires that at least two arrays are created with the same quantity of physical drives.

Syntax

```
CmdTool2 -CfgSpanAdd -r10 | -r50 | -r60 -Array0[E0:S0, E1:S1] -Array1[E0:S0,
E1:S1] [...] [{WT | WB}] [{NORA | RA | ADRA}] [{Direct | Cached}] [{-strpszM}]
[CachedBadBBU | NOCachedBadBBU] [-szXXXXXXXX [-szYYYYYYYY [...]]] [-strpszM]
[-afterLdX] | -Force [FDE|CtrlBased] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-r10`: To create RAID 10 array

`-r50`: To create RAID 50 array

`-r60`: To create RAID 60 array

`-Array0[E0:S0, E1:S1]`: Uing the specifid enclosure ID and slot ID drives to create Array0

`-Array1[E0:Sn] [...]`: Uing the specifid enclosure ID and slot ID drives to create Array1

`-WT`: Set the array to write-through

`-WB`: Set the array to write-back

`-RA`: Set the array to read-ahead

`-NORA`: Set the array to no read-ahead

`-ADRA`: Otional parameter to define adptive read ahead

`-Direct`: Otional parameter to define direct I/O

`-CachedBadBBU|NoCachedBadBBU`: Specifies whether to use write cache when the BBU is bad

-strpszM: Optional parameter to set the stripe size (only 64 Kbyte is supported)

Example

```
CmdTool2 -CfgSpanAdd -r10 -Array0[252:0, 252:1] -Array1[252:2, 252:3] -a0
```

CfgSscdAdd

Description

Create a Solid State Drive Cache Drive (SSCD) to use as secondary cache

Syntax

CmdTool2 -CfgSscdAdd -Physdrv[E0:S0,...] {-Name LdNamestring}-a[controller]

Parameters

-a[controller]: The RAID controller affected by the command

-Physdrv[E0:S0,...]: Specifies the physical drive enclosure and the slots to use to construct a drive group.

-Name LdNamestring: This is the name given to the SSD cache drive.

Example

```
CmdTool2 -CfgSscdAdd -physdrv[252:0] -a1
```

CfgSscdDel

Description

Delete a Solid State Drive Cache Drive (SSCD) to use as secondary cache

Syntax

CmdTool2 -CfgSscdDel -L[drive] -a[controller]

Parameters

-a[controller]: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -CfgSscdDel -L1 -a1
```

ChangeSecurityKey

Description

Change the sercurity key

Syntax

CmdTool2 -ChangeSecurityKey -OldSecurityKey sssssssssss | -SecurityKey sssssssssss | [-Passphrase sssssssssss] | [-KeyID kkkkkkkkkkk]-a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-OldSecurityKey sssssssssss: Enters the old security key. The security key is case-sensitive. It must be between eight and thirty-two characters and contain at least one number, one lowercase letter, one uppercase letter, and one non-alphanumeric character (e.g. < > @ +). The space character is not permitted.

-SecurityKey sssssssssss: Enters the new security key. The security key is case-sensitive. It must be between eight and thirty-two characters and contain at least one number, one lowercase letter, one uppercase letter, and one non-alphanumeric character (e.g. < > @ +). The space character is not permitted.

-Passphrase sssssssssss: Enters the new passphrase. The pass phrase is case-sensitive. It must be between eight and thirty-two characters and contain at least one number, one lowercase letter, one uppercase letter, and one non-alphanumeric character (e.g. < > @ +). The space character is not permitted.

-KeyID kkkkkkkkkkk: Enters the security key ID. The key ID displays when you have to enter a security key. If you have multiple security keys, the security key ID helps you determine which security key to enter.

Example

```
CmdTool2 -ChangeSecurityKey -OldSecurityKey p@ssw0rd -SecurityKey p@ssw0rd -a1
```

CreateSecurityKey

Description

Create a security key

Syntax

CmdTool2 -CreateSecurityKey -SecurityKey sssssssssss | [-Passphrase sssssssssss] | [-KeyID kkkkkkkkkkk]-a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-SecurityKey sssssssssss: Enters the new security key. The security key is case-sensitive. It must be between eight and thirty-two characters and contain at least one number, one lowercase letter, one uppercase letter, and one non-alphanumeric character (e.g. < > @ +). The space character is not permitted.

-Passphrase sssssssssss: Enters the new passphrase. The pass phrase is case-sensitive. It must be between eight and thirty-two characters and contain at least one number, one lowercase letter, one

uppercase letter, and one non-alphanumeric character (e.g. < > @ +). The space character is not permitted.

-KeyID kkkkkkkkkkk: Enters the security key ID. The key ID displays when you have to enter a security key. If you have multiple security keys, the security key ID helps you determine which security key to enter.

Example

```
CmdTool2 -CreateSecurityKey -SecurityKey p@ssw0rd -a1
```

DestroySecurityKey

Description

Destroy the security key

Syntax

```
CmdTool2 -DestroySecurityKey | [-Force] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -DestroySecurityKey -Force -a1
```

DirectPdMapping

Description

Set the mapping mode of the drives to the selected controllers.

Syntax

```
CmdTool2 -DirectPdMapping -Enbl|-Dsbl|-Dsply -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Enbl: Enables the direct physical drive mapping mode.

Dsbl: Disables the direct physical drive mapping mode.

Dsply: Displays the current state of the direct physical drive mapping.

Example

```
CmdTool2 - DirectPdMapping -Enbl -a1
```

DiscardPreservedCache

Description

Discard the preserved cache of a virtual drive.

Syntax

```
CmdTool2 -DiscardPreservedCache -L[drive] -force -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -DiscardPreservedCache -L1 -a1
```

EncInfo

Description

Show enclosure information for the RAID controller(s) specified.

Syntax

```
CmdTool2 -EncInfo -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -EncInfo -aALL
```

EncStatus

Description

Show enclosure status for the RAID controller(s) specified.

Syntax

```
CmdTool2 -EncStatus -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -Encstatus -aALL
```

GetKeyID

Description

Get the security key ID.

Syntax

```
CmdTool2 -GetKeyID -PhysDrv[E0:S0,…] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -GetKeyID -PhysDrv[E0:S0] -aALL
```

FwTermLog

Description

Display or clear the RAID firmware level term log.

Syntax

```
CmdTool2 -FwTermLog -Bbuoff|-BbuoffTemp|-Bbuon|-BbuGet| Dsply | Clear
-a[controller]
```

Parameters

`-Bbuoff:` Turn off BBU for the RAID firmware level term log protection

`-BbuoffTemp:` Turn off BBU temporary

`-Bbuon:` Turn on BBU for RAID firmware level term log protection

`-BbuGet:` Displays the BBU setting for RAID firmware level term log protection

`-Dsply:` Displays the RAID firmware level term log

`-Clear:` Clears RAID firmware level term log

Example

```
CmdTool2 -FwTermLog -Dsply -a0
```

GetPreservedCacheList

Description

Displays the list of virtual drives with preserved cache.

Syntax

```
CmdTool2 -GetPreservedCacheList -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -GetPreservedCacheList -a1
```

h, -help

Description

Displays a list of available commands.

Syntax

```
CmdTool2 -h, -help
```

Parameters

None

Example

```
CmdTool2 -h
CmdTool2 -help
```

LDBI

Description

Manages background initialization options.

Syntax

```
CmdTool2 -LDBI -Enbl | -Dsbl | -ProgDsply | -ShowProg | -GetSetting
-L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

`-Enbl`: Enables background initialization

`-Dsbl`: Disables the background initialization

`-ProgDsply`: View ongoing background initialization until all background initialization processes are completed or until the user presses a key to exit

`-ShowProg`: Displays the current progress value.

`-GetSetting`: Displays the background initialization status (enabled or disabled)

Example

```
CmdTool2 -LDBI -ProgDsply -l2 -a1
```

LDBBMClr

Description

Clear the LDBBM Talbe Entries

Syntax

```
CmdTool2 -LDBBMClr -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -LDBBMClr -L1 -a1
```

LDCC

Description

Starts or stops the consistency check per array for each RAID controller.

Syntax

```
CmdTool2 -LDCC -Start | -Abort | -ShowProg | -ProgDsply -L[drive]
-a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

`-Start`: Starts a consistency check on the logical drive(s), and then displays the progress/time left

`-Abort`: Aborts a consistency check on the logical drive(s)

`-ShowProg`: Displays a snapshot of an ongoing consistency check

`-ProgDsply`: Displays progress until at least one consistency check is completed or until a key is pressed

Example

```
CmdTool2 -LDCC -ProgDsply -L2 -a1
```

LDMakeSecure

Description

Secure data on a virtual drive

Syntax

```
CmdTool2 -LDMakeSecure -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -LDMakeSecure -L2 -a1
```

LdExpansion

Description

This command is used to expand the virtual drive .

Syntax

```
CmdTool2 -LdExpansion -pN -dontExpandArray -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

`-pN:` Denotes the percentage of the array to use to expand the virtual drive. N ranges from 0 to 100 percent. For example, -p30 indicates expansion up to 30 percent of available array size.

`-dontExpandArray:` Expand a virtual drive within the array, even when there is room to expand the array.

Example

```
CmdTool2 -LDCC -ProgDsply -l2 -a1
```

LDGetNum

Description

Displays the number of virtual drives attached to the controller.

Syntax

```
CmdTool2 -LDGetNum -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -LDGetNum -a1
```

LDGetProp

Description

Displays Virtural Drive Cache and Access Parameters

Syntax

```
CmdTool2 -LDGetProp -Cache | -Access | -Name | -DskCache -L[drive] -a[controller]
```

Parameters

`-`DskCache: Display the physical disk cache policy

`-L[drive]`: The drive(s) affected by the command

`-Cache`: Display the cache properties

`-Access`: Display the access mode

`-Name`: Display the name of the cache

`-DskCache`: Display the physical disk cache policy

Example

```
CmdTool2 -LDGetProp -Cache -Access -l2
```

LDInfo

Description

Displays information about the virtual drive(s) on the selected controller(s).

Syntax

```
CmdTool2 -LDInfo -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -LDInfo -l2 -a1
```

LDInit

Description

Start, stop, or show the progress of an array initialization.

Syntax

```
CmdTool2 -LDInit { -Start [Fast|Full]} | -Abort | -ShowProg | -ProgDsply
-L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Start [-full]`: Writes 0s, optional progress display (fast init displays the first 100 Mbs, and full initializes the entire logical drive)

`-Abort`: Aborts the ongoing initialization

`-ShowProg`: Displays the snapshot of the ongoing initialization

`-ProgDsply`: Displays initialization progress until at least one is completed or a key is pressed

`-l[drive]`: The drive(s) affected by the command

Example

```
CmdTool2 -LDInit -Start -full -l0 -a1
```

LdPDInfo

Description

Display information about the present virtual drives and drives

Syntax

```
CmdTool2 -LdPDInfo -PhysDrv[E0:S0,E1:S1....] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -LdPDInfo -a1
```

LDRecon

Description

Controls and manages virtual drive reconstruction.

Syntax

```
CmdTool2 -LDRecon {-Start -RX[Add | Rmv -Physdrv[E0:S0,...]]} |
-ShowProg | -ProgDsply -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-L[drive]`: The drive(s) affected by the command

`-`Start: Start the reconstruction

`-`RX: Set the reconstruction RAID level

`-Add`: Add a drive

-Rmv: Remove a drive

-Physdrv[E0:S0,...]: The drive to add or remove

-ShowProg: Displays a snapshot of the ongoing reconstruction

-ProgDsply: Displays the reconstruction progress until completion or until a key is pressed

Example

```
CmdTool2 -LDRecon -Start -r5 -Add -Physdrv[E0:S4] -l0 -a0
```

LDSetProp

Description

Change virtual drive cache and access parameters

Syntax

```
CmdTool2 -LDSetProp {-Name [ArrayName]} | -RW | RO | Blocked |
WT | WB | RA | NORA | ADRA | Cached|Direct | -EnDskCache|DisDskCache |
CachedBadBBU|NoCachedBadBBU -L[drive] -a[controller]
```

Parameters

-Name [ArrayName]: Name the array with a defined name [ArrayName]

-RW: Set the array to read-write

-RO: Set the array to read-only

-Blocked: Blocked array access

-WT: Set the array to write-through

-WB: Set the array to write-back

-RA: Set the array to read-ahead

-NORA: Set the array to no read-ahead

-ADRA: Set the array to adaptive read ahead

-Cached, Direct: Selects cache policy

-CachedBadBBU|NoCachedBadBBU: Specifies whether to use write cache when the BBU is bad

-EnDskCache, DisDskCache: Enables and disables drive cache

Example

```
CmdTool2 -LDSetProp -RW WB NORA Direct -DisDskCache CachedBadBBU -L0 -a0
```

PdFwDownload

Description

Flashes the firmware with the file specified.

Syntax

```
cmdTool2 -PdFwDownload -PhysDrv[E0:S0,E1:S1,...] -f [filename] -
a[controller]
```

Parameters

-a[controller]: The RAID controller affected by the command

-PhysDrv[E0:S0,E1:S1,...]: The physical drive(s) affected

Example

```
cmdTool2 -PdFwDownload -physDrv[252:0] -a1
```

PDClear

Description

Manage a drive initialization

Syntax

```
CmdTool2 -PDClear -Start | -Stop | -ShowProg | -ProgDsply -PhysDrv
[E0:S0,E1:S1,...] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Physdrv[E0:S0,...]`: The physical drive(s) affected

`-Start`: Start initialization on the selected drive

`-Stop`: Stop initialization on the selected drive

`-ShowProg`: Displays a snapshot of the ongoing initialization process

`-ProgDsply`: Displays the initialization progress until completion or until a key is pressed

Example

```
CmdTool2 -PDClear -Stop -PhysDrv[252:0] -a0
```

PDCpyBk

Description

Perform the Copyback Operation on the Selected Drive

Syntax

CmdTool2 -PDCpyBk -Start | -Stop|-ShowProg|-ProgDsply -PhysDrv[E0:S0] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

Start: Initializes the copyback operation on the selected drive.

Stop: Stops the copyback operation on the selected drive.

ShowProg: Displays a snapshot of the ongoing copyback operation.

ProgDsply: Allows you to view the ongoing copyback operation. The routine continues to display progress until at least one copyback is completed or a key is pressed.

Example

```
CmdTool2 -PDCpyBk -Start -Physdrv[252,0] -a1
```

PDGetMissing

Description

Display Drives in Missing Status.

Syntax

```
CmdTool2 -PDGetMissing -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -PDGetMissing -a1
```

PDGetNum

Description

Lists the number of physical drives either attached directly to the RAID controller or in enclosures attached to the RAID controller.

Syntax

```
CmdTool2 -PDGetNum -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -PDGetNum -a1
```

PDHSP

Description

Converts a physical drive into a global or dedicated hot spare in the listed array or removes the hot spare. Make sure the capacity of the hot-spare drive is equal to or larger than the capacity of the disks in the array and that it is the same type of drive (SAS or SATA).

Syntax

```
CmdTool2 -PDHSP {-Set [-Dedicated [-ArrayN | -Array0,1,2...]]
[-EnclAffinity] [-nonRevertible]} | -Rmv -PhysDrv[E0:S0,E1:S1,...]
-a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:S0,E1:S1,...]`: The physical drive(s) affected

-Set: Changes the drive state to dedicated hot spare for the enclosure.

`-Dedicated`: Set the spare to a specified array

`-ArrayN`: Specified array by the array ID

`-EnclAffinity`: Set the spare for a specific enclosure's array

`-nonRevertible`: Put the spare in non-revertible mode

`-Rmv`: Changes the physical drive state to ready (removes the hot spare)

Example

```
CmdTool2 -PDHSP -Set -PhysDrv[252,0] -a0
```

PDInfo

Description

Shows the drive size, type, serial number, and firmware version for the physical drives connected to the enclosure and RAID controller.

Syntax

```
CmdTool2 -PDInfo -PhysDrv[E0:S0,E1:S1,...] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:S0,E1:S1,...]`: The physical drive(s) affected

Example

```
CmdTool2 -PDInfo -PhysDrv[252,0] -a0
```

PDInstantSecureErase

Description

Use instant secure erase on a physical drive to erase data on SED drives.

Syntax

```
CmdTool2 -PDInstantSecureErase -PhysDrv[E0:S0,...] | [-Force] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-PhysDrv[E0:S0,...]: Specifies the drive(s) that you want to perform the Instant Secure Erase on.

Example

```
CmdTool2 -PDInstantSecureErase -PhysDrv[252,0] -Force -a1
```

PDList

Description

Displays the size, type, serial number, and firmware version for all physical drives attached to a RAID controller.

Syntax

```
CmdTool2 -PDList -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -PDList -a1
```

PDLocate

Description

Starts and stops flashing the disk activity LED for a drive.

Syntax

```
CmdTool2 -PDLocate -physdrv[E0:S0,E1:S1,...]
-a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-physdrv[E0:S0,E1:S1,...]`: The drive for the affected LED

Example

```
CmdTool2 -PDLocate -physdrv[252,0] -a0
```

PDMakeGood

Description

Change the physical drive state from unconfigured-bad to unconfigured-good.

Syntax

```
CmdTool2 -PDMakeGood -PhysDrv[E0:Sn....] | [-Force] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:Sn...]`: The physical drive(s) affected

`-Force`: Force the drive to the Unconfigured Good state

Example

```
CmdTool2 -PDMakeGood -PhysDrv[252,0] -a0
```

PDMarkMissing

Description

Mark the selected physical drive as missing.

Syntax

```
CmdTool2 -PDMarkMissing -physdrv[E0:S0,E1:S1,...] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-physdrv[E0:S0,E1:S1,...]`: The physical drive(s) affected

Example

```
CmdTool2 -PDMarkMissing -physdrv[252,0] -a0
```

PDOffline

Description

Sets the drive state to offline.

Syntax

```
CmdTool2 -PDOffline -PhysDrv[E0:S....] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:S....]`: The physical drive(s) affected

Example

```
CmdTool2 -PDOffline -PhysDrv[252,0] -a0
```

PDOnline

Description

Sets the drive state to online

Syntax

```
CmdTool2 -PDOnline -PhysDrv[E0:Sn....] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:Sn....]`: The physical drive(s) affected

Example

```
CmdTool2 -PDOnline -PhysDrv[252,0] -a0
```

PDPrpRmv

Description

Prepare an unconfigured physical drive(s) for removal. The drive is spun down and the drive state is set to unaffiliated, which marks it as offline even though it is not a part of the configuration.

Syntax

```
CmdTool2 -PDPrpRmv [-Undo] -PhysDrv[E0:Sn....] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:Sn....]`: The physical drive(s) affected

`-Undo`: Marks a drive as unconfigured-good

Example

```
CmdTool2 -PDPrpRmv -PhysDrv[252,0] -a0
```

PDRbld

Description

Start, stop, or display the progress of a physical disk rebuild. The command begins immediately if not in DOS. The drive affected must be part of an array and have sufficient capacity.

Syntax

```
CmdTool2 -PDRbld -Start | -Stop | -ShowProg | -ProgDsply -PhysDrv [E0:Sn....] -
a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-Start`: Start the physical disk rebuilding

`-Stop`: Stop the physical disk rebuilding

`-ShowProg`: Displays a snapshot of the ongoing rebuild

`-ProgDsply`: Displays the rebuild progress until completion or until a key is pressed

Example

```
CmdTool2 -PDRbld -Start -PhysDrv[252,0] -a0
```

PDReplaceMissing

Description

Replaces the configured physical drive, and then starts an automatic rebuild. The specified array, index and row must be a missing drive.

Syntax

```
CmdTool2 -PDReplaceMissing -PhysDrv[E0:Sn] -ArrayX -RowY -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-PhysDrv[E0:Sn]`: The physical drive(s) affected

`-Array[X]`: Specifies the array ID

`-Row[Y]`: Specifies the physical drive location

Example

```
CmdTool2 -PDReplaceMissing -PhysDrv[252,0] -Array0 -Row1 -a0
```

PhyErrorCounters

Description

Displays the error counter for each PHY.

Syntax

```
CmdTool2 -PhyErrorCounters -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -PhyErrorCounters -a0
```

PhyInfo

Description

Displays information about the PHY of the specified port ID.

Syntax

```
CmdTool2 -PhyInfo -phyM -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

`-phyM`: Specifies the PHY ID

Example

```
CmdTool2 -PhyInfo -phy3 -a1
```

SetKeyID

Description

Set the security key ID.

Syntax

```
CmdTool2 -SetKeyID -KeyID kkkkkkkkkkk -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-KeyID kkkkkkkkkkk: Enters the security key ID. The key ID displays when you have to enter a security key. If you have multiple security keys, the security key ID helps you determine which security key to enter.

Example

```
CmdTool2 -SetKeyID -KeyID abcd1234@ -a0
```

Snapshot

-Clean

Description

Clean the recoverable free space on the drives in a virtual drive

Syntax

CmdTool2 -Snapshot -Clean -L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

Example

```
CmdTool2 -snapshot -Clean -L1 -a1
```

-CreateView

Description

Create a view

Syntax

CmdTool2 -Snapshot -CreateView -SnapshotTime yyyymmdd hh:mm:ss [-viewName NameString] [-RW|RO|Blocked] [-szXXX]-L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-SnapshotTime yyyymmdd hh:mm:ss: Creates the view on the snapshot with the time stamp yyyymmdd hh:mm:ss

-viewName NameString: (Optional) Specifies the name of the view.

-RW|RO|Blocked: (Optional) Specifies the access policy of the view.

-szXXX: (Optional) Specifies the size of the view in Mbytes where XXX is adecimal number.

```
CmdTool2 -snapshot -CreateView -SnapshotTime 20110401 00:00:00 -L1 -a1
```

-DeleteSnapshot

Description

Delete a snapshot

Syntax

CmdTool2 -Snapshot -DeleteSnapshot [SnapshotTime yyyymmdd hh:mm:ss | -all] [-force|-y] -L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-AutoSnapshot: If the value is 0, this command disables the AutoSnapshot feature on source virtual drive. If the value is 1, it enables the AutoSnapshot feature on source virtual drive

-AutoDeleteOldestSnapshot: If the value is 0, this command disables the AutoDeleteOldestSnapshot feature on the source virtual drive. If the value is 1,i n enables the AutoDeleteOldestSnapshot feature on the source virtual drive.

Example

```
CmdTool2 -snapshot -DeleteSnapshot -all -L1 -a1
```

-Dsbl

Description

Disable the snapshot feature

Syntax

```
CmdTool2 -Snapshot -Dsbl -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

Example

```
CmdTool2 -snapshot -Dsbl -L1 -a1
```

-DeleteView

Description

Delete a view

Syntax

CmdTool2 -Snapshot -DeleteView [SnapshotTime yyyymmdd hh:mm:ss | -L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-SnapshotTime yyyymmdd hh:mm:ss: Creates the view on the snapshot with the time stamp yyyymmdd hh:mm:ss

Example

```
CmdTool2 -snapshot -DeleteView -L1 -a1
```

-Enbl

Description

Enable the snapshot feature

Syntax

```
CmdTool2 -Snapshot -Enbl -szXXX SnapshotRepositoryLD N [-AutoSnapshot]
[AutoDeleteOldestSnapshot] -L[drive] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-szXXX: Specifies the size in Mbytes on for the virtual drive, where XXX is adecimal number of Mbytes.

SnapshotRepositoryLD N: Specifies the repository LD number.

-AutoSnapshot: Optional parameter, if specified, enables the AutoSnapshot for the source virtual drive.

-AutoDeleteOldestSnapshot: Optional parameter, enables the AutoDeletOldestSnapshot for the source virtual drive.

Example

```
CmdTool2 -snapshot -Enbl -sz10GB SnapshotRepositoryLD 0 -L1 -a1
```

-GetViewInfo

Description

Display the information for a specific view

Syntax

```
CmdTool2 -Snapshot -GetViewInfo [-ViewTargetID N] -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-ViewTargetId N: (Optional) If specified, this displays the information about the view with the specified target ID.

Example

```
CmdTool2 -snapshot -GetViewInfo -a1
```

-Info

Description

Display snapshot and view information

Syntax

CmdTool2 -Snapshot -Info [-SnapshotTime yyyymmdd hh:mm:ss | -ViewTime yyyymmdd hh:mm:ss]-L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-SnapshotTime yyyymmdd hh:mm:ss: (Optional) If specified, this displays the snapshot information for the snapshot with the time stamp yyyymmdd hh:mm:ss.

-ViewTime yyyymmdd hh:mm:ss: (Optional) If specified, this displays the view information for the view with the time stamp yyyymmdd hh:mm:ss and the associated snapshot information.

Example

```
CmdTool2 -snapshot -Info -L1 -a1
```

-Rollbak

Description

Rollback to an old snapshot

Syntax

CmdTool2 -Snapshot --Rollback -SnapshotTime yyyymmdd hh:mm:ss [-Force|-Y] -L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-SnapshotTime yyyymmdd hh:mm:ss: Creates the view on the snapshot with the time stamp yyyymmdd hh:mm:ss

-Force: If specified, this overrides the warning message and causes a rollback to an older snapshot.

-Y: If specified, this overrides the warning message and causes a rollback to an older snapshot.

Example

```
CmdTool2 -snapshot -Rollback SnapshotTime 20110401 00:00:00 -L1 -a1
```

-SetProp

Description

Set the snapshot properties

Syntax

CmdTool2 -Snapshot -SetProp {-AutoSnapshot -val} | {-AutoDeleteOldestSnapshot -val} -L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-AutoSnapshot: If the value is 0, this command disables the AutoSnapshot feature on source virtual drive. If the value is 1, it enables the AutoSnapshot feature on source virtual drive

-AutoDeleteOldestSnapshot: If the value is 0, this command disables the AutoDeleteOldestSnapshot feature on the source virtual drive. If the value is 1,i n enables the AutoDeleteOldestSnapshot feature on the source virtual drive.

Example

```
CmdTool2 -snapshot -Enbl -sz10GB SnapshotRepositoryLD 0 -L1 -a1
```

-TakeSnapshot

Description

Take Snapshot of volume

Syntax

CmdTool2 -Snapshot -TakeSnapshot [-snapshotName name] [-CreateView [-ViewName view_name] [-RW|RO|Blocked] [-szXXX]] -L[drive] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

-L[drive]: specifies the source LD number for the command.

-snapshotName name: (Optional) If specified, the snapshot is createdwith the name you enter for it.

-CreateView: (Optional) If specified, this creates a view for the snapshot. A view contains the content from the Point-in-Time [PiT] when the snapshot was made.

-ViewName view_name: (Optional) Specifies the name of the view you created.

-RW|RO|Blocked: Optional Parameter, specifies the access policy of the view.

-szXXX: Specifies the size of the view in MB where XXX is a decimal number

Example

```
CmdTool2 -snapshot -TakeSnapshot -SnapshotName Snapshot_1 -L1 -a1
```

ShowSummary

Description

Dispalys a summary of system information, controller information, drive information, virtual drive information, and enclosure information.

Syntax

CmdTool2 -ShowSummary [-f filename] -a[controller]

Parameters

`-a[controller]`: The RAID controller affected by the command

Example

```
CmdTool2 -ShowSummary -f Summary -a1
```

VerifySecurityKey

Description

Verify the security key

Syntax

```
CmdTool2 -VerifySecurityKey -SecurityKey sssssssssss -a[controller]
```

Parameters

`-a[controller]`: The RAID controller affected by the command

-SecurityKey sssssssssss: Enters the new security key. The security key is case-sensitive. It must be between eight and thirty-two characters and contain at least one number, one lowercase letter, one uppercase letter, and one non-alphanumeric character (e.g. < > @ +). The space character is not permitted**.**

Example

```
CmdTool2 -VerifySecurityKey -SecurityKey abcd1234@ -a0
```

V

Description

Displays the version of the Intel® RAID Controller Command Line Tool 2 program.

Syntax

```
CmdTool2 -v
```

Parameters

None

Example

```
CmdTool2 -v
```