



Hewlett Packard
Enterprise

HPE StorCLI2 User Guide

Abstract

This document includes tool command syntax, logging and task information for HPE StorCLI users. It is intended for users with a good working knowledge of storage hardware and configuration of logical drives and arrays. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

For a comprehensive list of changes to this document, see the [Revision History](#).

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Overview

The Storage Command Line Interface2 (StorCLI2) tool is the command line management software designed for the MegaRAID product line. The StorCLI2 tool is a command line interface that is designed to be easy to use, consistent, and easy to script. This chapter provides information on how to install and use the StorCLI2 tool and explains the various features of the StorCLI2 tool.

NOTE

The legacy commands are deprecated from this guide.

Common Branding and Terminology

NOTE

Some of the commands, arguments, and error messages listed in this guide might not be applicable to all users because these are generic commands and only run depending on the type of controller that is used, the features enabled for a particular controller, the storage environment that you configure, and so on.

The table that follows details the most common MegaRAID and StorCLI2 terminologies and their equivalent or corresponding ProLiant/Hewlett Packard Enterprise terminologies.

Table 1: Common Branding and Terminology

MegaRAID/StorCLI2 Terminology	ProLiant/Hewlett Packard Enterprise Terminology
Broadcom	HPE
Avago	HPE
LSI	HPE
Broadcom 9761W-32i RAID Controller	HPE MR932i-p Gen12 Controller
Drive Group	Array
DG	Array
Span	Parity Group
Drive Slot	Drive Bay
Energy Pack	HPE Smart Storage Battery
Reconstruction	Transformation
TTY Log	Serial Log/Serial Log Output
Virtual Drive	Logical Drive
VD	Volume
PD	Drive
Hot Spare	Spare Drive

Supported Controllers and Operating Systems

The following topics provide information on supported controllers, operating systems, and default logging:

Supported Controllers

The StorCLI2 tool supports the following controllers:

- HPE MR932i-p Gen12 Controller

Supported Operating Systems

The following table lists the supported operating systems.

Table 2: Supported Operating Systems and Versions

Supported Operating Systems	Version/Flavors
Microsoft	Microsoft Windows versions: • Windows 11 25 H2 Microsoft Windows Client versions: • Windows Client 24H2 Microsoft Windows Server versions: • Windows Server 2025 (RTM) • Windows Server 2022 (LTSC)
Linux	Red Hat: • Red Hat Enterprise Linux 10.1 • Red Hat Enterprise Linux 10.0 • Red Hat Enterprise Linux 9.7 • Red Hat Enterprise Linux 9.6 • Red Hat Enterprise Linux 9.5 SUSE: • SUSE Linux Enterprise Server 16 • SUSE Linux Enterprise Server 15 SP7 • SUSE Linux Enterprise Server 15 SP6 • SUSE Linux Enterprise Server 15 SP5 Oracle Linux: • Oracle Linux 10.1 • Oracle Linux 9.7 Fedora: • None CentOS: • None Citrix: • None
VMware	• VMware ESXi™ 9.0
Ubuntu	• Ubuntu 24.04 LTS • Ubuntu 22.04 LTS

Supported Operating Systems	Version/Flavors
Debian	- Debian 13.1 - Debian 13.0 - Debian 12.11

StorCLI2 Default Logging

Default logging functionality has been enabled in StorCLI2. When a default log file is created, the file is saved as `storcli2.log`. Each time default logging occurs, the information is added to the `storcli2.log`. Once the log file reaches a maximum size of 3 MB, a new log file is created. There can be up to four log files at any given time. The following example shows four log files:

- `storcli2.log`
- `storcli2.log.1`
- `storcli2.log.2`
- `storcli2.log.3`

Due to default logging, there is a space limitation in light operating systems such as VMware or UEFI.

NOTE

StorCLI2 default logging requires a minimum of 20 MB of free space.

StorCLI2 logging occurs in two conditions:

- When the `storcli2conf.ini` file is present in the same directory as the StorCLI2 binary.
Logging happens to the file name specified in the `ini` file. This is useful in situations where default logging will not work.
For example, a segmentation fault occurs, or a crash happens in StorCLI2 binary. In these situations, collect a StorCLI2 log file by placing the `storcli2conf.ini` file in the current running directory.
- When the `storcli2conf.ini` file is not present in the current running directory.
Default logging occurs automatically.
- To disable default logging, set to `DEBUGLEVEL=0` in the `storcli2conf.ini`.

Use the `nolog` option to disable logging for any command.

For example, include the `nolog` option in the `storcli2 /cx show nolog` command to prevent default logging.

Installing StorCLI2 on MegaRAID8

The following topics detail the steps that are required to install the StorCLI2 tool for MegaRAID8 controllers on various operating systems:

Installing the StorCLI2 Tool on Microsoft Windows Operating Systems

The Windows StorCLI2 binary is provided in a binary format, and no separate installation is required.

1. Copy the binary file from the Company website.
2. Place the binary file in the directory from which you want to run StorCLI2, and run the tool.

Because Windows PowerShell is not fully supported by the StorCLI2 tool, use one of the following techniques to run commands in the StorCLI2 tool in Windows PowerShell:

- Enclose commands in double quotation marks; for example,
`storcli2 "/cx show"`
- Launch the command prompt from within Windows PowerShell to run the StorCLI2 commands.

NOTE

The StorCLI2 tools must be run with the administrator privileges.

Installing the StorCLI2 Tool on Linux Operating Systems

To install the StorCLI2 tool on Linux operating systems, perform the following steps:

1. Unzip the StorCLI2 tool package.
2. To install the StorCLI2 RPM feature, run the `rpm -ivh <StorCLI2- x.xx-x.x86_64.rpm >` command.
By default, the StorCLI2 tool is installed in the `/opt/MegaRAID/storcli2` location.
3. To upgrade the StorCLI2 RPM feature, run the `rpm -Uvh <StorCLI2- x.xx-x.x86_64.rpm >` command.

Uninstalling the StorCLI2 Tool on Linux Operating Systems

To uninstall the StorCLI2 tool on Linux operating systems, perform the following steps:

Enter the `rpm -e <StorCLI2 -x.xx-x.x86_64.rpm >` command.

Installing the StorCLI2 Tool on VMware® Operating Systems

To install the StorCLI2 tool on VMware® operating systems, run the following commands from the command line:

```
esxcli software vib install -v=<path-to-vib-package>
```

Example:

```
esxcli software vib install -v=/vmfs/volumes/datastore1/StorCli2MN/vmware-esx-StorCli2-1.01.04.vib
```

Uninstalling the StorCLI2 Tool on VMware Operating Systems

Perform the following step to uninstall StorCLI2 on VMware OS:

Enter the `esxcli software vib remove -n =<StorCLI2 package name>` command.

StorCLI2 Commands

The section provides information on the commands that are used in StorCLI2.

StorCLI2 Tool Command Syntax

This section describes the StorCLI2 command syntax and the valid values for each parameter in the general command syntax.

- In large configurations, do not run two instances of the StorCLI2 tool in parallel (at the same time).
- To get the output in JavaScript Object Notation (JSON) format, add `J` at the end of the command syntax. For example:
`storcli2 /cx show <property1> J`
- Background operations are blocked in the UEFI environment, and these operations are resumed in the operating system environment.

NOTE

Only the commands listed in the file `Schema_mapping_list.xlsx`, which is included in the `JSON_SCHEMA_FILES.zip`, support the JSON format output.

StorCLI2 is a command line utility tool and is not case-sensitive. The order in which you specify the command options should be the same as in this document to ensure proper command execution. Incorrect or duplicate values for variables may result in the last variable being executed or in a command failure.

The StorCLI2 tool syntax uses the following general format:

```
<[object identifier]> <verb> <[adverb | attributes | properties]> <[key=value]>
```

The StorCLI2 tool supports the object identifiers that are listed in the following table.

Here *x* can be any of the following numbers:

- Object identifier number
- A list of numbers
- A range of numbers

Table 3: Object Identifiers in the StorCLI2 Command Syntax

Object Identifier	Description
No object identifier specified	If no object identifier exists, the command is a system command.
<code>/cx</code> <code>/sasx</code>	This object identifier is for controller <i>x</i> or the controller with <i>sasaddress0x</i> .
<code>/call</code> <code>/sasall</code>	This object identifier is for sending the command to all controllers.
<code>/cx/vx</code> <code>/sasx/vx</code>	This object identifier is for a volume <i>x</i> on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
<code>/cx/vall</code> <code>/sasx/vall</code>	This object identifier is for all volumes on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
<code>/cx/ex</code> <code>/sasx/ex</code>	This object identifier is for an enclosure <i>x</i> on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
<code>/cx/eall</code> <code>/sasx/eall</code>	This object identifier is for all enclosures on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
<code>/cx/fall</code> <code>/sasx/fall</code>	This object identifier is for all foreign configurations on controller <i>x</i> or the controller with <i>sasaddress0x</i> .

Object Identifier	Description
/cx/ex/sx sasx/ex/sx	This object identifier for the drive is slot <i>x</i> on enclosure <i>x</i> on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
/cx/ex/sall /sasx/ex/sall	This object identifier is for all the drives on enclosure <i>x</i> on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
/cx/dx sasx/dx	This object identifier is for the drive group <i>x</i> on enclosure <i>x</i> on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
/cx/dall sasx/dall	This object identifier is for the all drive groups on enclosure <i>x</i> on controller <i>x</i> or the controller with <i>sasaddress0x</i> .
/cx/ep /sasx/ep	The object identifier is for all the energy packs on controller <i>x</i> or the controller with <i>sasaddress0x</i> .

The StorCLI2 tool supports the following verbs.

Table 4: Verbs in the StorCLI2 Command Syntax

Verb	Description
add	This verb adds volumes, JBODs, and so on, to the object identifier.
delete	Deletes an element (for example, VD, or spare).
download	This verb downloads and flashes a file to the target.
expand	This verb expands the size of the volume.
erase	This verb erases a particular region on the controller, depending on the argument specified.
get	This verb obtains the data from the controller.
import	This verb imports the foreign configuration into the drive.
insert	This verb replaces the configured drive that is identified as missing, and starts an automatic rebuild.
resume	This verb resumes paused operation.
reset	This verb resets the controller without a system reboot.
set	This verb sets a value of the object identifier.
show	This verb shows the value and properties of the object identifier.
start	This verb starts an operation.
stop	This verb stops an operation that is in progress. A stopped process cannot be resumed.
suspend	This verb suspends an ongoing operation.
undo	This verb is used to undo the requested operation.

- <[adverb | attributes | properties]>
Specifies what the verb modifies or displays.
- <[key=value]>
Specifies a value, if a value is required by the command.

StorCLI2 ESXCLI Plugin Command Usage

Starting with VMware ESXi 8.0, the plugin model is mandatory because of the security policy enhancement in ESXi 8.0.

The direct execution of the StorCLI2 utility is not permitted when using the ESXi 8.0 plugin.

VIB includes the following behavioral changes:

- Because of the ESXCLI plugin support, a system reboot is required for changes to take effect after the VIB installation. The StorCLI2 namespace must be registered with ESXCLI and hence a system reboot is the mandatory step per VMware for changes to take effect.
- A system reboot is required post VIB removal for the changes to take effect.
- If the StorCLI2 utility is directly executed, the command output is in XML format with XML encoded special characters.

Other items to consider when using the ESXCLI plugin:

- For the system namespace, for example, `esxcli storcli2 system <>`, except the ESXCLI StorCLI2 system file `<>` plugin options `--json` and `--nolog` are valid. These options are not displayed in the ESXCLI plugin help because they are optional. No mandatory options exist for these sets of commands.
- The command options to the plugins are maintained in lowercase as they are case-sensitive.
- Due to the ESXCLI plugin convention and rules, the command options are presented in alphabetical order of the parameter name.
- The input value must be enclosed in double quotes if the format of the value has a space.
- Help command is not added as the ESXCLI plugin framework offers help based on the available namespaces and corresponding commands/command options can be queried accordingly.
- For plugin commands, use the property `-i` with the controller addressmode as `c` or `sas`. When the addressmode is `c`, use the addressvalue with the controller index with property `-z`. And when addressmode is `sas` use the respective `sasaddress` of the controller.

```
ex: esxcli storcli2 controller show basic -i=c -z=0
    esxcli storcli2 controller show basic -i=sas -z=0X5F4EE0804FD0A200
```

The following sample shows the ESXCLI plugin command output in the format: `esxcli [options] {namespace}+{cmd} [cmd options]`

```
[root@dhcp-10-123-75-187:~] esxcli storcli2 system show ctrlcount
```

```
CLI Version = 008.0006.0000.0002 Mar 22, 2023
Operating system = VMkernel8.0.0
Status Code = 0
Status = Success
Description = None
```

```
Controller Count = 1
```

System Commands

The StorCLI2 utility supports the system commands described in this section.

System Show Commands

StorCLI2 supports the following system `show` commands:

```
storcli2 show
storcli2 show all
storcli2 show file=<filepath>
storcli2 show ctrlcount
storcli2 get rttDump
storcli2 verify file=<filepath> [key=keyfile]
```

The following sections provide detailed descriptions for each of the commands.

storcli2 show

This command shows a summary of controller and controller-associated information for the system. The summary includes the number of controllers, the host name, the operating system information, and the overview of existing configuration. The system summary output is updated with a table **Controller Function I/O Controllers** to display the details of the I/O controllers that are discovered in the operating system. This has the **Function-ID** and **Function Name** and the **SerialNumber**. Using the serial number we can identify its supervisor. All operations are supported on the Supervisor Controller listed in the System Overview table. Operations on non-supervisor controllers are not supported. For physical function operations, see [Physical Function Commands](#) (Show, Enable, Name, FirstDeviceID, Show Map, Set Map) for details.

Sample Output

```
storcli2 show
CLI Version = 008.0016.0000.0001 Aug 18, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Status Code = 0
Status = Success
Description = None

Number of Controllers = 7
Host Name = dhcp-10-123-234-186
Operating System = Linux5.14.0-427.13.1.el9_4.x86_64
SL8 Library Version = 08.1602.0000

System Overview :
=====
-----
Ctrl Product Name SASAddress Personality Status PD(s) VD(s) VNOpt EPack MF SerialNumber
-----
0 HPE MR932i-p Gen12 0X500062B222869740 RAID Optimal 0 2 0 Unavailable Y PYPFH0BIKY04A
4 HPE MR932i-p Gen12 0X500062B222869748 RAID Optimal 0 2 0 Unavailable Y PYPFH0BIKY048
-----

Controller Function IO Controllers :
=====
-----
Ctrl FunctionID Name SerialNumber
-----
0 0 Supervisor PYPFH0BIKY04A
1 1 IocNum 01 PYPFH0BIKY04A
2 2 IocNum 02 PYPFH0BIKY04A
3 3 IocNum 03 PYPFH0BIKY04A
4 0 Supervisor PYPFH0BIKY048
5 1 IocNum 01 PYPFH0BIKY048
6 2 IocNum 02 PYPFH0BIKY048
7 3 IocNum 03 PYPFH0BIKY048
-----
```

NOTE

The Controller Function I/O controller table is only displayed if one of the controllers supports multiple physical functions. The controller index in the system summary is dynamic, and can be changed based on whether the controllers are configured as PCI Passthrough. Controller commands can be used using sasx as explained in the previous section.

storcli2 show all

This command shows the list of controllers and controller-associated information, information about the drives that need attention, and advanced software options.

storcli2 show file

This command shows the version information of the controller flash image file presented.

storcli2 show ctrlcount

This command shows the number of controllers that are connected to the system.

storcli2 get rttddump

This command gets the Windows `rttdump` of all the controllers and saves them to individual files. `rttdump` is the dump of the Windows driver `rttrace` logs. `rttrace` is a Windows driver feature where the real-time events are captured in drivers internal circular buffer for debugging.

Input example:

```
storcli2 get rttddump
```

NOTE

This command is only supported on a Windows operating system.

storcli2 verify file=<filepath> [key=keyfile]

This command verifies the firmware signing of the components present in the firmware package file.

`key` : The public PEM file which must be verified.

Input example:

```
storcli2 verify file=<abc> [key=123]
```

NOTE

This command is only supported on the Windows and Linux x64 operating systems.

Controller Help Commands

To retrieve the list of commands supported by a specific controller, use the following command.

```
storcli2 /c0 ?
```

This command lists the supported commands on the controller index-0. Similarly, you can retrieve the command support with the respective index given.

Controller Commands

The StorCLI2 utility supports the controller commands described in this section.

Controller commands provide information and perform actions related to a specified controller.

Controller Show Commands

StorCLI2 supports the following `show` commands:

```
storcli2 /cx show
```

```
storcli2 /cx show all [noforeign] [logfile[=filename]]
storcli2 /cx start nvcacheerase
storcli2 /cx start diag [duration=<val>]
storcli2 /cx compare factory defaults
```

The detailed description for each command follows.

storcli2 /cx show

This command shows the summary of the controller information. The summary includes basic controller information, foreign configurations, drive groups, volumes, drives, enclosures, and energy pack information.

Input example:

```
storcli2 /c0 show
```

storcli2 /cx show all [noforeign] [logfile[=filename]]

The `cx show all` command shows all of the controller information, which includes basic controller information, bus information, controller status, advanced software options, controller policies, controller defaults, controller capabilities, scheduled tasks, miscellaneous properties, drive groups, volumes, drives, enclosures, and energy pack information.

If you use the `noforeign` option in the command syntax, foreign configuration details are excluded.

If you use the `logfile` option in the command syntax, the output is written to the specified file. If you do not specify the file name, then the output is written to the `storcli2.log` file. If you do not use the `logfile` option in the command syntax, the entire output is printed to the console.

Ensure that the file name does not contain a blank space.

Input example:

```
storcli2 /c0 show all [noforeign] logfile=log.txt
```

NOTE

The PCI information displayed as part of the `storcli2 /cx show` and `storcli2 /cx show all` commands is not applicable for the FreeBSD operating system. Hence, the PCI information fields are displayed as N/A.

storcli2 /cx start nvcacheerase

This command erases the NVCache flash on the controller. NVCache flash is used for offloading cached data during abrupt power loss.

Input example:

```
storcli2 /c0 start nvcacheerase
```

storcli2 /cx start diag [duration=<val>]

This command runs the self diagnostic for a specified duration (1 to 120 seconds). By default, the duration value is set to 20 seconds.

Input example:

```
storcli2 /c0 start diag duration=10
```

storcli2 /cx compare factory defaults

This command compares the default controller properties with the current property values.

Input example:

```
storcli2 /c0 compare factory defaults
```

Show and Set Controller Properties Commands

This section provides command information for the `show` and `set` controller properties.

NOTE

You cannot set multiple properties with a single command.

Table 5: Controller Commands Quick Reference

Commands	Value Range	Description
<code>show <properties></code>	See Show Controller Properties Commands .	Displays specific controller properties.
<code>set <properties></code>	See Set Controller Properties Commands .	Sets controller properties.
<code>show</code>	<code>all</code> : Shows all properties of the controller. <code>freespace</code> : Shows the free space available in the controller. See Controller Show Commands .	Displays drive information.

Show Controller Properties Commands

This section provides command information for the `show` controller properties.

storcli2 /cx show <property>

This command shows the current value of the specified property on the specified controller.

General example output:

```
StorCLI2 /c0 show rebuildrate
CLI Version = 008.0000.0000.0074 Sep 2, 2020
Operating system = Windows Server 2016
Controller = 0
Status = Success
Description = None
```

```
Controller Properties :
=====
```

```
-----
Ctrl_Prop      Value
-----
RebuildRate(%)    40
-----
```

General example output using a SAS address:

```
storcli2 /sas0x500062b200000000 show rebuildrate
```

```

CLI Version = 008.0002.0000.0003 Sep 14, 2021
Operating system = Linux4.18.0-305.el8.x86_64
Controller = 0X500062B200000000
Status = Success
Description = None

```

```

Controller Properties :
=====

```

```

-----
Ctrl_Prop      Value
-----
Rebuild Rate(%)    100
-----

```

The following table lists and describes the properties for the `show` command.

Table 6: Properties for Show Commands

Cmd	Property Name	Description
show	abortccconerror	Displays the cancel consistency check on an error status.
show	alilog	Displays detailed information for components of the controller.
show	aso	Displays the advanced software options status, and provides the controller safeid and key information.
show	atahostjbodsecurity	Displays the Host ATA managed security on JBOD PDs.
show	autoconfig	Displays the current autoconfiguration mode.
show	autorebuild	Displays the <code>autorebuild</code> status.
show	bgirate	Displays the background initialization rate in percentage.
show	bootmode	Displays the <code>bootmode</code> status.
show	BootWithPreservedCache	Displays the <code>bootwithpreservedcache</code> status.
show	captureSODPLLogs	Displays the captured start of the day PL Log settings.
show	coercionmode	Displays the drive coercion mode status.
show	cc consistencycheck	Displays the <code>cc consistencycheck</code> (consistency check) information.
show	ccrate	Displays the consistency check rate in percentage.
show	drivewceforrebuild	Displays the drive write cache setting during rebuild.
show	DeviceReportingOrder	Displays the device reporting order of the controller.
show	dmhi	Displays the Dedicated Management Host Interface.
show	eccbucketsize	Displays the size of the ECC single-bit-error bucket.
show	eccbucketleakrate	Displays the value of the leak rate of the single-bit bucket in minutes.
show	eidretentiontime	Displays the electronic identification (EID) retention time in seconds.
show	energypackwarning	Displays the <code>energypackwarning</code> status.
show	es	Displays the emergency global hot spare (GHS) and Emergency Unconfigured Good (UG) status.
show	esSMARTer	Displays the emergency SMARTer status.

Cmd	Property Name	Description
show	events	Displays the events information. type=<blocking nonblocking sincereboot sinceshutdown includedeleted latestAcknowledged latest=x ccincon vd=<0, 1, ...> filter=<info warning critical fatal> file=<filepath>
show	eventseqinfo	Displays the event sequence information and status.
show	exposeencldevice	Displays the expose enclosure device status.
show	failonsmarterror	Displays the failonsmarterror status.
show	firstdeviceid	Displays the persistent ID of the first device to be reported. This is used by the OS driver for reporting the device to the OS.
show	fwjbodsecurity	Displays the fwjbodsecurity status.
show	hdddefaults	Displays the volumes default HDD Default policies.
show	jbodsesmgmt	Displays the jbodsesmgmt status.
show	maintainjbodfailhistory	Displays the maintainjbodfailhistory status.
show	maintainpdfailhistory	Displays the maintainpdfailhistory status.
show	name	Displays the name of the controller.
show	nvmeThermalPollInterval	Displays the value of NVMe Thermal poll interval in seconds.
show	nvmedefaults	Displays the volumes default NVMe Default policies.
show	ocerate	Displays the transformation status.
show	ocr	Displays the online controller reset (ocr) status.
show	pdfaileventoptions	Displays the details of the PD predictive failures event information.
show	pci	Displays the PCI information.
show	pdspindownatshutdown	Displays the PD spindown options at shutdown.
show	pdtemppoll	Displays the pdtemppoll status.
show	personality	Displays the current, supported, and requested personalities. It also displays the current behavior and respective behavior parameters.
show	perst	Displays PERST (PCIe Reset Side-Band Signal) setting on the controller.
show	prcorrectunconfigured areas	If set to On , corrects the media errors during a patrol read by writing 0s. If set to Off , unconfigured areas will be unchanged.
show	preservedcache	Displays a list of VDs that have pinned cache.
show	pr patrolRead	Displays the pr patrolRead status.
show	prrate	Displays the patrol read rate of the volumes in percentage.
show	ps	Displays the dimmer switch information.
show	rebuildrate	Displays the rebuild rate of the drive in percentage.
show	RebuildOperatingMode	Displays the value of the rebuild operating mode priority.
show	refClk	Displays the PCIe reference clock setting on the controller.
show	replacedrive	Displays the replacedrive status.
show	security keyid	Displays the security keyid status.
show	securebootinfo	Displays the controller secure boot information.

Cmd	Property Name	Description
show	sidownership	Displays the controller SID credential ownership management settings.
show	snapdump	Displays the snapdump information.
show	sesvpdassociation	Displays the VPD association type for SES in a multipath configuration.
show	smartpoll	Displays whether SMART polling is on or off for PDs.
show	smartpollinterval	Displays the value of the SMART/temperature poll interval value for internal and external PDs in seconds.
show	spinupdelay	Displays the spin up delay in seconds.
show	spinupdrivecount	Displays the maximum number of drives to spin up at a time.
show	ssddefaults	Displays the volumes default SSD Default policies.
show	supportssdpatrolread	Displays the supportssdpatrolread status.
show	time	Displays the controller time.
show	unusabledriveinfo	Displays the list of unusable drives and their details.
show	vpd	Displays the vital product data (VPD) information of the controller.

Set Controller Properties Commands

This section provides command information for the `set` controller properties.

NOTE

You cannot set multiple properties with a single command.

storcli2 /cx set <property> = <value>

General example output:

```
storcli2 /c0 set bgirate=40
Controller = 0
Status = Success
Description = None
Controller Properties :
=====
-----
Ctrl_Prop Value
-----
BGI Rate 40%
-----
```

The following commands are examples of the properties that can be set using the `storcli2 /cx set <property>=<value>` command structure.

NOTE

Setting a property to `on` enables that feature, and setting a property to `off` disables that feature.

The following table lists and describes the properties for the `set` command.

Table 7: Properties for Set Commands

Cmd	Property Name	Set Command Range	Description
set	abortcconerror	= [on off]	Cancel consistency check when it detects an inconsistency.
set	aso	deactivatetrailkey	Displays the enabled Advanced Software Options.
set	atahostjbodsecurity	= [on off]	Sets the ATA Host managed security on JBOD PDs.
set	autoconfig factory	—	Sets the current autoconfiguration to factory default settings.
set	autoconfig primary option	= [UGOOD JBOD SecureJBOD R0 SecureR0 ROWB SecureROWB]	Sets the primary behavior to UGOOD , JBOD , SecureJBOD , R0 , SecureR0 , ROWB , or SecureROWB .
set	autoconfig secondary option	= [UGOOD JBOD SecureJBOD R0 SecureR0 ROWB SecureROWB]	Sets the secondary behavior to UGOOD , JBOD , SecureJBOD , R0 , SecureR0 , ROWB , or SecureROWB .
set	autoconfig immediate option	= JBOD SecureJBOD R0 SecureR0 ROWB SecureROWB drives= all <e:s e:s-x e:s-x,y> [noautoassign]	Immediately sets the autoconfig option chosen by the user for the selected drives.
set	autorebuild	= [on off]	Sets the autorebuild to on or off .
set	bgirate	= 1 to 100	Sets the background initialization rate in percentage.
set	bootmode	= [COE SMOE]	Sets the controller boot mode to continue on error or safe mode on error.
set	BootWithPreservedCache	= [on off]	Sets the boot with preserved cache to on or off . When BootWithPreservedCache is set, if the controller has only R0 LDs and preserved cache is discovered during the boot, the firmware logs a non-blocking boot event which follows a controller property bootMode for log action and has COA and ROA options as acknowledged actions. This means that firmware initialization can be completed even with the pinned cache is present.
set	cc consistencycheck	factory	Schedules the consistency check operation to default values.
set	cc consistencycheck	=off	See Consistency Check .
set	cc consistencycheck	=on	Enables the consistency check (CC) schedule operation.
set	cc consistencycheck	=on starttime=<yyyy/mm/dd hh> execfrequency hours days weeks=<value	See Consistency Check .

Cmd	Property Name	Set Command Range	Description
set	cc consistencycheck	[starttime=<<yyyy/mm/dd hh>] [execfrequency hours days weeks=<value>] [maxvd=<value>] [excludevd=x-y, z none] [includevd=x-y, z none]	See Consistency Check .
set	ccrate	= 1 to 100	Sets the consistency check rate in percentage.
set	coercionmode	—	Sets the drive capacity in coercion mode: • (0) – No coercion • (1) – 128 MiB • (2) – 1 GiB
set	datalosswarning	= [on off]	Enables or disables the data loss warnings.
set	deviceReportingOrder	= 0 1	Sets the device reporting order on the controller: • 0 - Logical drives are reported after JBOD devices. • 1 - Logical drives are reported prior to JBOD devices.
set	drivewceforrebuild	= [on off]	Sets the drive write cache setting during rebuild.
set	eccbucketleakrate	0 to 65535	Sets the leak rate of the single-bit bucket in minutes (one entry removed per leak-rate).
set	eccbucketsize	0 to 255	Sets the size of ECC single-bit-error bucket (logs event when full).
set	eidretentiontime	eidretentiontime=<0-255> transport=<i2c pcie>	Set the EID retention time options of controller properties.
set	energypackwarning	= [on off]	Enables (on) or disables (off) energy pack warnings.
set	es	= [on off] ghs ug	Sets the use of a global hot spare or Unconfigured Good drive as an emergency drive to on or off .
set	esSMARTer	= on off	Sets the use of a SMARTer drive as an emergency drive to on or off .
set	exposeencldevice	= [on off]	Enables or disables the device drivers to expose the enclosure devices.
set	factory defaults	—	Restores the factory default settings.
set	failonSMARTerror	= [on off] pdtype=RAID JBOD	Enables (on) or disables (off) the <i>Fail on SMARTer</i> property.
set	firstdeviceid	—	Sets the first device to be reported. Value is the persistent ID of the device. This is used by the OS driver for reporting the device to the OS. Where applicable, this choice takes higher precedence over the device reporting order.
set	fwjbodsecurity	= <on off>	Sets the firmware-managed security on non-RAID drives.

Cmd	Property Name	Set Command Range	Description
set	hostjbodsecurity	=<on off>	Sets the host-managed security on JBOD PDs.
set	jbodsesmgmt	=<on off>	Sets the SES management for the JBOD to on or off.
set	maintainjbodfailhistory	=<on off>	Sets the Maintain JBOD Drive Fail History to on or off.
set	maintainpdfailhistory	=<on off>	Sets the Maintain Drive Fail History to on or off.
set	name	=<name>	Sets the name of the controller.
set	nvcacherekey	nvcacherekey	This command rekeys the NVCache flash on the controller. NVcache flash is used for offloading cached data during abrupt power loss.
set	nvmeThermalPollInterval	nvmeThermalPollInterval=<value>	Set time for NVMe Thermal Poll interval in seconds. Minimum is 5 seconds and maximum is 30 minutes for example, 1800 seconds
set	ocerate	= 1 to 100	Sets the volume configuration transformation rate in percentage.
set	ocr	=<on off> type=<all auto>	type=<all> – Enables or disables the online controller reset feature. type=<auto> – Enables or disables the online controller reset feature for controller recovery and firmware update.
set	oob_discoverymode	=<i2c i3c auto>	Sets OOB Discovery mode to i2c i3c auto..
set	oob_instanceid	=<val>	Sets OOB Discovery instance ID.
set	pdspindownatshutdown	[type=direct expander] { [sashdd=<on off>] [sasssd=<on off>] [satahdd=<on off>] [satassd=<on off>] }	Set the PD spindown at shutdown. One of the following options is required: • sashdd • sasssd • satahdd • satassd
set	pdspindownatshutdown	type=direct switch] nvmeSSD=<on off>	Sets the NVME SSD PD spindown at shutdown.
set	pr patrolread	factory	Sets the patrol read scheduling options to default values.
set	pr patrolread	=off	See Patrol Read .
set	pr patrolread	=on	Enables the patrol read scheduling on a controller.
set	pr patrolread	=on starttime=<yyyy/mm/dd hh> execfrequency hours days weeks=<value>	See Patrol Read .

Cmd	Property Name	Set Command Range	Description
set	pr patrolread	=[starttime=<yyyy/mm/dd hh>] [execfrequency hours days weeks=<value>] [maxconcurrentpd=<value>] [includessds=<on off>] [excludevd=x-y,z none] [includevd=x-y,z none]	See Patrol Read .
set	pdfaileventoptions	[detectionType=<val>] [correctiveaction=<val>] [errorThreshold=<val>]	See Predictive Failure Monitoring Commands .
set	pdtempoll state	=[on off] pdtype=raid jbod	Sets the temperature poll for RAID and JBOD.
set	perst	=<0-3>	Sets the PERST Reset Side-Band Signal setting of the controller: • 0 – Default (no override). • 1 – Deasserted. PCIe PERST is currently deasserted. • 2 – Asserted. PCIe PERST is currently asserted. • 3 – Deasserted upon backplane failure.
set	personality id	=[on off]	—
set	personality id	=<val>[force]	Sets the personality to RAID or eHBA . If you switch personalities, you must reboot the system for the changes to take effect.
set	prcorrectunconfigured areas	=[on off]	Corrects media errors during patrol read by writing 0s to unconfigured areas of the disk.
set	prrate	= 1 to 100	Sets the patrol read rate of the volumes in percentage.
set	ps	=OFF type=UG HS all	See Controller Power Savings Commands .
set	ps	=ON type=UG HS properties	See Controller Power Savings Commands .
set	ps [properties]	—	See Controller Power Savings Commands .
set	rebuildrate	= 1 to 100	Sets the rebuild rate of the drive in percentage.
set	rebuildoperatingmode	1 2	Sets the rebuild operating mode priority on the controller: • 1 – Rebuild • 2 – Host I/O

Cmd	Property Name	Set Command Range	Description
set	refClk	<0-3>	0 – Default. The PCIe RefClk is managed by the I/O unit. 1 – Enable. The PCIe RefClk is currently enabled. 2 – Disable. The PCIe RefClk is currently disabled. 3 – Backplane error. The PCIe RefClk is enabled upon failure to detect a backplane management device.
set	replacedrive	=<on off> type=ctrl smartssd smarthdd all	See Controller Replacedrive Commands .
set	security	{ securitykey = xxxx [passphrase = xxxx] [keyid = xxxx] } file = filename	See Controller Security Commands .
set	security passphrase	<key>	See Controller Security Commands .
set	security rekey	oldsecuritykey=<xxxx> securitykey=<xxxx> [passphrase=<xxxx>] [keyid=<xxxx>] [file=<filename>]	See Controller Security Commands .
set	security rekey	securitykey=<xxxx> [passphrase=<xxxx>] [keyid=<xxxx>] [file=<filename>]	See Controller Security Commands .
set	security rekey useEKMS	—	See Controller Security Commands .
set	security rekey useekms	oldsecuritykey=<xxxx> [file=<filename>]	See Controller Security Commands .
set	security useekms		See Controller Security Commands .
set	sesvpdassociation	=<lun targetport>	Sets the VPD association type for SES in a multipath configuration: =lun – Association type based on the LUN. =targetport – Association type based on the target port.
set	sidownership	=<MSID FW>	Sets Controller SID Credential Ownership Management settings either to MSID or FW. - MSID – Drive Security Default: Allows the user to change the SID ownership to the firmware. Drives are password protected. Reprovision is possible only when a password is forgotten, which may cause data loss. - FW – Drive Security Firmware Managed: Allows the user to change the SID ownership to security default. Drive security is not FIPS compliant.

Cmd	Property Name	Set Command Range	Description
set	smartpoll	=<on off> pdtype=RAID JBOD	Sets the SMART poll to On or Off for RAID and JBOD PDs.
set	smartpollinterval	=<value> pdtype=Internal External	Sets the value of SMART/Temperature Poll Interval for internal and external PDs in seconds. The minimum interval is 5 seconds and maximum interval is 30 minutes (1800 seconds).
set	spinupdrivecount	=<value>	Sets the maximum number of drives to spin up at a time.
set	supportssdpatrolread	=[on off]	Enables (on) or disables (off) patrol read for SSD drives.
set	time	=systemtime	Sets the controller time to the system time.
set	captureSODPLLogs	captureSODPLLogs=on off	Sets the start of the day capture of PL Log settings.

Controller Background Task Operation Commands

The StorCLI2 utility supports the controller commands background task operation commands described in this section.

Rebuild Rate

The StorCLI2 utility supports the following rebuild rate commands:

```
storcli2 /cx set rebuildrate=<value>
storcli2 /cx show rebuildrate
```

The detailed description for each command follows.

storcli2 /cx set rebuildrate=<value>

This command sets the rebuild task rate of the specified controller. The input value is in percentage.

Input example:

```
storcli2 /c0 set rebuildrate=30
```

NOTE

A high rebuild rate slows down I/O transaction processing.

storcli2 /cx show rebuildrate

This command shows the current rebuild task rate of the specified controller in percentage.

Input example:

```
storcli2 /c0 show rebuildrate
```

Patrol Read

The StorCLI2 utility supports the following patrol read commands:

```
storcli2 /cx set pr|patrolread=off
```

```

storcli2 /cx set pr|patrolread factory
storcli2 /cx set pr|patrolread=on
storcli2 /cx set pr|patrolread=on starttime=<yyyy/mm/dd hh> execfrequencyhours/days/weeks=<value>
storcli2 /cx set pr|patrolread [starttime=<yyyy/mm/dd hh>] [execfrequencyhours/days/weeks=<value>]
[maxconcurrentpd=<value>] [includessds=<on|off>] [excluded=x-y,z|none] [includevd=x-y,z|none]
storcli2 /cx set prrate=<value>
storcli2 /cx show prrate
storcli2 /cx show pr|patrolread
storcli2 /cx start patrolread
storcli2 /cx stop patrolread
storcli2 /cx suspend pr|patrolread
storcli2 /cx resume patrolread

```

NOTE

A patrol read operation is scheduled for all the drives of the controller.

The detailed description for each command follows.

storcli2 /cx set pr|patrolread factory

This command sets the patrol read scheduling options to the default values.

Input example:

```
storcli2 /c0 set patrolread factory
```

storcli2 /cx set pr|patrolread=on

This command enables the patrol read scheduling on a controller.

Input example:

```
storcli2 /c0 set patrolread=on
```

storcli2 /cx set pr|patrolread=on starttime=< yyyy/mm/dd hh> execfrequency hours|days|weeks=<value>

This command schedules a patrol read operation.

Input example:

```
storcli2 /c0 set patrolread starttime=2012/02/21 00
```

storcli2 /cx set pr|patrolread [starttime=< yyyy/mm/dd hh>] [execfrequency hours|days|weeks=<value>] [maxconcurrentpd =<value>] [includessds=<on|off>] [excludevd=x-y,z|none]

This command schedules a patrol read operation. You can use the following options for patrol read command operations.

Table 8: Set Patrol Read Input Options

Option	Value Range	Description
starttime	A valid date and hour in 24 hours format	Sets the start time in a yyyy/mm/dd hh format.
maxconcurrentpd	Valid number of physical drives present	Sets the number of drives that can be patrol read at a single time.

Option	Value Range	Description
includessds	—	Include SSDs in the patrol read operation.
includevd	The virtual drive IDs or None.	Includes volumes from the consistency checks. To include particular volumes, you can provide list of volume IDs (x,y, z format) or the range of volumes that you want to include from a consistency check (x-y format). If this option is not specified in the command, no volumes are included. None: if user specifies as None, we will remove the volumes if any were included before..
excludevd	—	Excludes volumes from the patrolread. To exclude a particular volumes, provide list of the volume IDs (x,y, z format) or the range of volumes. If this option is not specified in the command, no volumes are excluded. None : When specified the volumes are removed, if any were previously excluded.

NOTE

Controller time is taken as a reference for scheduling a patrol read operation.

Input example:

```
storcli2 /c0 set patrolread starttime=2012/02/21 00
```

storcli2 /cx set patrolread [ExecFrequency=<value>]

This command delays the scheduled patrol read in hours.

Input example:

```
storcli2 /c0 set patrolread ExecFrequency=30
```

storcli2 /cx show patrolread

This command shows the current state of the patrol read operation along with other details such as the **PR Mode**, **PR Execution Frequency**, **PR iterations completed**, and **PR on SSD**. This command also shows the start time and the date when the patrol read operation started.

The values shown for the current state of the patrol read operation are **Ready**, **Active**, **Suspend**, **Aborted**, **Stopped**, or **Unknown**.

If the state of the patrol read is active, a numeric value is shown along with the state which depicts the number of drives that have completed the patrol read operation. As an example, **Active 1** means that the one drive has completed the patrol read operation.

Input example:

```
storcli2 /c0 show patrolread
```

storcli2 /cx start patrolread

This command starts the patrol read operation. This command starts a patrol read immediately.

Input example:

```
storcli2 /c0 start patrolread
```

storcli2 /cx stop patrolread

This command stops a running patrol read operation.

Input example:

```
storcli2 /c0 stop patrolread
```

NOTE

You cannot resume a stopped patrol read.

storcli2 /cx suspend pr|patrolread

This command suspends a running patrol read operation.

Input example:

```
storcli2 /c0 suspend patrolread
```

storcli2 /cx resume patrolread

This command resumes a suspended patrol read operation.

Input example:

```
storcli2 /c0 resume patrolread
```

Consistency Check

The StorCLI2 utility supports the following commands to schedule, perform, and view the status of a consistency check (CC) operation:

```
storcli2 /cx set cc|consistencycheck [starttime=<yyyy/mm/dd hh>] [execfrequency hours|days|weeks=<value>]
[maxvd=<value>] [excludevd=x-y,z|none] [includevd=x-y,z|none]
storcli2 /cx show cc
storcli2 /cx show ccrate
storcli2 /cx set cc|consistencycheck=off
storcli2 /cx set cc|consistencycheck=on starttime=<yyyy/mm/dd hh> execfrequency hours|days|weeks=<value>
storcli2 /cx set cc|consistencycheck=on
storcli2 /cx set cc|consistencycheck factory
```

The detailed description for each command follows.

storcli2 /cx set cc|consistencycheck [starttime=<yyyy/mm/dd hh>] [execfrequency hours|days|weeks=<value>] [maxvd=<value>] [excludevd=x-y,z|none] [includevd=x-y,z|none]

This command schedules a consistency check (CC) operation. You can use the following options with the consistency check command.

Table 9: Set CC Input Options

Option	Value Range	Description
cc	off or on	Sets CC to either sequential mode or concurrent mode, or turns off the CC. The concurrent mode slows I/O processing.
execfrequency	Hours, days, or weeks. These input options should be supported by the firmware.	Sets the execution frequency of a scheduled consistency check operation.
starttime	A valid date and hour in 24-hour format.	The start time of a consistency check is yyyy/mm/dd hh format.
includevd	–	Includes volumes from the patrolread. To include particular volumes, you can provide list of volume IDs (x,y, z format) or the range of volumes that you want to include from a patrolread (x-y format). If this option is not specified in the command, no virtual drives are included. None : When specified as None, the volumes if any were included before.
excludevd	The volume IDs or None .	Excludes volumes from consistency checks. To exclude particular volumes, provide a list of volume IDs (x, y, z format), or the range of volumes to exclude from a consistency check (x-y format). If this option is not specified in the command, no volumes are excluded. None : When specified the volumes are removed if any were previously excluded.

Input example:

```
storcli2 /c0 set CC starttime=2022/02/21 00 excludevd=0-3
```

storcli2 /cx show cc

This command shows the consistency check schedule properties for a controller.

Input example:

```
storcli2 /c0 show cc
```

storcli2 /cx show cc

This command shows the consistency check schedule properties for a controller.

Input example:

```
storcli2 /c0 show cc
```

storcli2 /cx show ccrate

This command checks the status of a consistency check operation. The CC rate appears in percentage.

Input example:

```
storcli2 /c0 show ccrate
```

NOTE

A high CC rate slows I/O processing.

storcli2 /cx set cc|consistencycheck factory

This command resets the consistency check to factory settings.

Input example:

```
storcli2 /c0 set cc factory
```

Premium Feature Key Commands

The StorCLI2 utility supports the following commands for premium feature keys:

```
storcli2 /cx show aso
storcli2 /cx set aso key=<value> [trial][preview]
storcli2 /cx set aso deactivatetrialkey
```

The detailed description for the command follows.

storcli2 /cx show aso

This command shows the advanced software options (ASO) for a controller.

Input example:

```
storcli2 /c0 show aso
```

storcli2 /cx set aso key=<value> [trial][preview]

This command is used to apply a key to enable Advanced Software Options (ASO) on a controller. You can use the following options with the advanced software options command.

Table 10: Set Advanced Software Options Input Options

Option	Description
key	Key to activate ASO on the controller. After they are activated, ASOs cannot be removed from the controller.
trial	Applies the trial activation key. This is for feature evaluation purposes only.
preview	Displays the preview of the advanced software options that gets enabled after applying this key on the controller.

Input example:

```
storcli2 /c0 set aso key=LSI0000
```

storcli2 /cx set aso deactivatetrialkey

This command deactivates all of the trial keys on the controller.

Input example:

```
storcli2 /c0 set aso deactivatetrialkey
```

Controller Security Commands

The StorCLI2 utility supports the following controller security commands:

```
storcli2 /cx set security { securitykey = xxxx [passphrase = xxxx] [keyid = xxxx] } | file = filename
storcli2 /cx set security rekey { oldsecuritykey=xxxxsecuritykey=xxxx[passphrase=xxxx] [keyid=xxxx] } |
  file=<filename>
storcli2 /cx set security rekey { securitykey=xxxx[passphrase=xxxx] [keyid=xxxx] } | file=<filename>
storcli2 /cx set security rekey useEKMS { oldsecuritykey=xxxx } | file=<filename>
storcli2 /cx set security useekms
storcli2 /cx set security rekey useekms
storcli2 /cx set security rekey passphrase=<key>
storcli2 /cx set security {passphrase=<key>}|file=<filename>
storcli2 /cx show fwjbodsecurity
storcli2 /cx set fwjbodsecurity=<on|off>
storcli2 /cx show hostjbodsecurity
storcli2 /cx set hostjbodsecurity=<on|off>
```

The detailed description for each command follows.

storcli2 /cx show security keyid

This command shows the security key on the controller.

Input example:

```
storcli2 /c0 show security keyid
```

storcli2 /cx set securitykey < keyid=xxxx | file=filename>

This command sets the key ID for the controller. The key ID is unique for every controller.

Input example:

```
storcli2 /c0 set securitykey=Lsi@12345 keyid=1
```

storcli2 /cx set securitykey < =xxxxxxxx [passphrase=xxxx] [keyid=xxxx] | file=filename > [useekms]

This command sets the security key for the controller. You can use the following options with the `set security key` command.

Table 11: Set Security Key Input Options

Option	Value Range	Description
passphrase	Should have a combination of numbers, uppercase letters, lowercase letters, and special characters. Minimum of 8 characters.	A string that is linked to the controller and is used in the next bootup to encrypt the lock key. If the <code>passphrase</code> is not set, the controller generates it by default.
keyid	—	The unique ID set for different controllers to help you specify a passphrase to a specific controller.

Input example:

```
storcli2 /c0 set securitykey=Lsi@12345 passphrase=Lsi@123456 keyid=1
```

storcli2 /cx set security { securitykey = xxxx [passphrase = xxxx] [keyid = xxxx] } | file = filename

This command changes the security key for the controller.

Input example:

```
storcli2 /c0 set securitykey=Lsi@12345 oldsecuritykey=pass123 passphrase=Lsi@123456 keyid=1
```

storcli2 /cx set security { passphrase=<key> } | file=filename

This command sets the passphrase of the controller.

Input example:

```
storcli2 /c0 set security passphrase=Lsi@123456
```

storcli2 /cx delete securitykey

This command deletes the security key of the controller.

NOTE

In MegaRAID8, disabling controller security is not allowed in the presence of Secure LD, Secure JBOD or Secure UG. Users can reprovision all such drives and then disable the controller security.

Input example:

```
storcli2 /c0 delete security securitykey
```

storcli2 /cx show fwjbodsecurity

This command shows the status of the firmware managed security.

Input example:

```
storcli2 /c0 show fwjbodsecurity
```

storcli2 /cx set fwjbodsecurity=<on|off>

This command enables firmware managed security and sets the SafeStore on advanced host PDs.

Input example:

```
storcli2 /c0 set fwjbodsecurity=on
```

storcli2 /cx show hostjbodsecurity

This command shows the status of the host managed security.

Input example:

```
storcli2 /c0 show hostjbodsecurity
```

storcli2 /cx set hostjbodsecurity=<on|off>

This command enables and disables the host managed security on advanced host PDs. If this command is enabled, SED passthrough commands are supported on the JBOD drive.

Input example:

```
storcli2 /c0 set hostjbdsecurity=on
```

Flashing Controller Firmware

The StorCLI2 utility supports the following flashing controller firmware commands:

```
storcli2 /cx download file=<filepath> [activationtype=online|offline] [noverchk]
storcli2 /cx reset
storcli2 /cx get activation status
storcli2 /cx delete activation offline
```

The detailed description for each command follows.

storcli2 /cx download file=<filepath> [activationtype=online|offline] [noverchk]

This command flashes the firmware with the ROM file to the specified adapter from the given file location (<filepath> is the absolute file path).

You can use the following options in the table to flash the firmware.

Table 12: Flashing Controller Firmware Input Options

Option	Value Range	Description
file	filepath	The absolute file path.
offline	—	Offline activation will be issued post download. When this command completes successfully, the following message is displayed: A Complete Reset is required to activate Component Images.
noverchk	—	If a firmware downgrade is required, this option needs to be provided.

Once the `offline` command successfully completes, restart the Host PC. Wait at least 5 minutes after the OS boots or attempts to boot. To activate the new image, a full AC power cycle is required.

Input example:

```
storcli2 /c0 download file=c:\app.rom
```

storcli2 /cx reset

This command resets the controller firmware.

Input example:

```
storcli2 /c0 reset
```

storcli2 /cx get activation status

This command retrieves the activation status.

Input example:

```
storcli2 /c0 get activation status
```

Snapdump Commands

Snapshot dumping is a mechanism of saving a snapshot of the debug information at fault time. The intention is to collect all required information to be able to root-cause the defect at the first instance of defect detection. The Snapdump command makes sure that multiple defect reproductions are not required to debug.

storcli /cx get snapdump

Requests that the adapter generate a new snapdump, and download all the snapdumps present.

Input example:

```
storcli /cx get snapdump
```

Retrieving Snapdump Data Commands

The StorCLI2 utility supports the Snapdump commands that follow:

```
storcli2 /cx get snapdump all|id=<val> [norttdump]
storcli2 /cx get snapdump ondemand debugfile=<filename> [norttdump]
storcli2 /cx get snapdump ondemand [ExtTty | pf=x-y,z][force] [norttdump]
storcli2 /cx get snapdump ondemand
storcli2 /cx show snapdump
```

Detailed descriptions for each command follow.

storcli2 /cx get snapdump all|id=<val>

To download a specific Snapdump ID, you must read the ID from the firmware. The StorCLI2 utility keeps writing the data to the file, truncating the file and adding new information.

Input example:

```
storcli2 /c0 get snapdump ID=<val>
```

Where:

- `val` – Specifies the Snapdump ID number.

storcli2 /cx get snapdump all

To download all Snapdump IDs that are present on the controller, use the `all` option.

With this command, the file name is framed by the CLI in a specific format as shown:

```
snapdump_c#(controllerid)_id#(snapdump_id)_year_month_day_hour_min_sec.zip
```

Input example:

```
storcli2 /c0 get snapdump all
```

storcli2 /cx get snapdump ondemand

To generate and download all Snapdump data when the user has not provided ID, an on-demand request to the controller is generated and downloads all the Snapdump data present on the controller. With this command, the file name is framed by the CLI in a specific format as shown:

```
.snapdump_c#(controllerid)_id#(snapdump_id)_year_month_day_hour_min_sec.zip.
```

Input example:

```
storcli2 /c0 get snapdump ondemand
```

NOTE

An interval of 10 minutes is required between two consecutive on-demand Snapdump requests. Snapdump is a high resource operation and in certain cases can lead to I/O timeouts.

storcli2 /cx show snapdump

This command shows if any Snapdumps are present.

Input example:

```
storcli2 /c0 show snapdump
```

Delete Snapdump Data Commands

The StorCLI2 utility is able to delete all Snapdump data from the firmware.

NOTE

Save all previous Snapdumps, as personality changes and flashing a new firmware package discards all Snapdumps on both DDR and flash.

```
storcli2 /cx delete snapdump [force]
storcli2 /cx delete snapdump enhanced
```

A detailed description for this command follows.

storcli2 /cx delete snapdump [force]

To clear the Snapdump data from the firmware, use this command application to request the firmware to clear/delete the Snapdump data. If the `force` option is not specified, the StorCLI2 utility warns the user that this command will clear the Snapdump data and prompt the user to use the `force` option. When the `force` option is specified, the CLI requests the firmware to clear all the Snapdump data.

Input example:

```
storcli2 /c0 delete snapdump [force]
```

storcli2 /cx delete snapdump enhanced

This command clears the Snapdump data from the firmware.

Input example:

```
storcli2 /c0 delete snapdump enhanced
```

Predictive Failure Monitoring Commands

The StorCLI2 utility supports the following command for drive performance monitoring:

```
storcli2 /cx set pdfaileventoptions {[detectionType=<val>] [correctiveaction=<val>] [errorrthreshold=<val>]}
storcli2 /cx show pdfaileventoptions
```

The detailed description for each command follows.

storcli2 / cx set pdfaileventoptions {[detectionType=<val>] [correctiveaction=<val>] [errorrthreshold=<val>]}

This command provides the current settings of the `pdfaileventoptions` set on the controller and the various options to change these settings.

Input example 1:

```
storcli2 /c0 set pdfaileventoptions detectiontype=x
```

Where:

- 0 – Detection disabled
- 1 – Detection enabled, high latency for reads is OK
- 2 – Detection enabled, aggressive (high latency for reads is not OK)
- 3 – Detection enabled, use NVDATA specified value, see `recoveryTimeLimit` and `writeRetryCount`

This command sets the detection type for the drive. The valid range is 0 to 3.

NOTE

For the changes to take effect, a reboot is required.

Input example 2:

```
storcli2 /c0 set pdfaileventoptions correctiveaction=x
```

Where:

- 0 – Only log events
- 1 – Log events, take corrective action based on SMARTer.

This command sets the corrective actions to be taken when the media error is detected. The valid value is 0 or 1.

Input example 3:

```
storcli2 /c0 set pdfaileventoptions errorrrthreshold=x
```

Where:

- 0 = 1 – One error every 8 hours (least tolerant)
- 1 = 8 – One error every 1 hour
- 2 = 32 – One error every 15 minutes
- 3 = 90 – One error every 5 minutes (most tolerant of drive with degraded media)

This command sets the error threshold for the controller. The valid range is 0 to 3.

storcli2 /cx show pdfaileventoptions

This command displays the current settings and checks the settings if the `set pdfaileventoptions` command is used to change settings.

Input example:

```
storcli2 /c0 show pdfaileventoptions
```

Controller Replacedrive Commands

The StorCLI2 utility supports the following commands for controller replacedrive:

```
storcli2 /cx show replacedrive
storcli2 /cx set replacedrive=<on|off> type=ctrl|smartssd|smarthdd|all
```

The detailed description for each command follows.

NOTE

In the replacedrive commands, `cx/ex/sx` indicates the source drive and `eid:sid` indicates the target drive.

NOTE

When a replacedrive operation is enabled, the alarm continues to beep even after a rebuild is complete; the alarm stops beeping only when the replacedrive operation is completed.

storcli2 /cx show replacedrive

This command displays the replacedrive status.

Input example:

```
storcli2 /c0 show replacedrive
```

storcli2 /cx set replacedrive=on type=ctrl

This command sets a control replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 set replacedrive type=ctrl
```

storcli2 /cx set replacedrive=on type=smarthdd

This command sets a smart HDD replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 show replacedrive type=smarthdd
```

storcli2 /cx set replacedrive=on type=smartssd

This command sets a smart SSD replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 show replacedrive type=smartssd
```

storcli2 /cx set replacedrive=on type=all

This command sets a replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 show replacedrive type=all
```

Drive Performance Monitoring Commands

The StorCLI2 utility supports the following commands for drive performance monitoring:

```
storcli2 /cx start DPM [delay=<value>] [maxconcurrentpd =<value>] drives=e:s|e:s-x|e:s-x,y
storcli2 /cx stop DPM
storcli2 /cx/ex/sx show DPM type = HIST | LCT | RA | EXT
storcli2 /cx delete DPM
storcli2 /cx get DPM status
storcli2 /cx get DPM config
storcli2 /cx set DPM [duration=<val>] [raFactor=<value>]
```

The detailed description for each command follows.

storcli2 /cx start DPM [delay=<value>] [maxconcurrentpd =<value>] drives=e:s|e:s-x|e:s-x,y

This command starts the drive performance monitoring on the requested drive.

Table 13: Drive Performance Monitoring Options

Option	Description
delay	The delay in seconds before the operation starts.
maxconcurrentpd	The number of PDs to run concurrently (0 for maximum).

NOTE

If the options are not included in the command, the default value is 0.

Input example:

```
storcli2 /c0 start DPM
```

storcli2 / cx stop DPM

This command stops the drive performance monitoring on the controller.

Input example:

```
storcli2 /c0 stop DPM
```

storcli2 /cx/ex/sx shows dpmstat type = HIST | LCT | RA | EXT |

This command displays the requested drive performance monitoring data of the respective drive.

Where:

- HIST – Histogram of response time.
- LCT – Long time commands.
- RA – Running average drive statistics.
- EXT – Extended DPM information.

storcli2 /cx delete DPM

This command deletes the drive performance monitoring data on the controller.

Input example:

```
storcli2 /c0 delete DPM
```

storcli2 /cx get DPM status

This command displays the drive performance monitoring status on the controller.

Input example:

```
storcli2 /c0 get DPM status
```

storcli2 /cx get DPM config

This command displays the drive performance monitoring configuration on the controller.

Input example:

```
storcli2 /c0 get DPM config
```

storcli2 /cx set DPM [duration=<val>] [raFactor=<value>]

This command sets the drive performance monitoring configuration on the controller.

Table 14: Drive Performance Monitoring Configuration Options

Option	Description
duration	The total duration the PD list is running (in seconds).
raFactor	The divisor used when calculating the running average.

Input example:

```
storcli2 /c0 set DPM
```

SPDM Commands

StorCLI2 SPDM commands display the security protocol details and allow users to configure the security protocol on a controller. The SPDM commands allow users to view the security protocol version, slot status, export and import security protocol, and invalidate a slot.

```
storcli2 /cx show security spdm
storcli2 /cx show security spdm slotgroup=xxslot=yy
storcli2 /cx export security spdm slotgroup=xxslot=yysubject=subjectnamefile=filename
storcli2 /cx import security spdm slotgroup=xxslot=yyfile=filename
storcli2 /cx set security spdm slotgroup=xxslot=yyinvalidate[force]
storcli2 /cx get security spdm slotgroup=xxslot=yyfile=filename
```

storcli2 /cx show security spdm

This command shows the SPDM details for all the slots and slot groups.

storcli2 /cx show security spdm slotgroup=xx slot=yy

This command show the SPDM details for the specific slots and slot groups.

storcli2 /cx export security spdm slotgroup=xx slot=yy subject=subjectname file=filename

This command exports the CSR for a particular slot group or slot combination.

storcli2 /cx import security spdm slotgroup=xx slot=yy file=filename

This command imports the SPDM certificate slot chain for a particular slot group or slot combination.

storcli2 /cx set security spdm slotgroup=xx slot=yy invalidate [force]

This command invalidates the certificate chain storage slot.

storcli2 /cx get security spdm slotgroup=xx slot=yy file=filename

This commands gets the SPDM status.

Diagnostic Buffer Commands

StorCLI2 supports the following diagnostic buffer commands.

```
storcli2 /cx db register type=<trace|fw>
storcli2 /cx db query
storcli2 /cx db get type=trace|fw offset=<hex-val> size=<hex-val> file=<filepath>
storcli2 /cx db manage type=<trace|fw> action=<release|pause|resume>
storcli2 /cx db refresh region=<Current|Default|NVMSRAM>
storcli2 /cx trigger get type= {[global],[event],[ mpi],[ scsi]} | all
storcli2 /cx trigger delete type= {[global],[event],[ mpi],[ scsi]} | all
storcli2 /cx trigger set global=<hex-val>
storcli2 /cx trigger set event EventValue=<hex-val>
storcli2 /cx trigger set mpi iocloginfo=<hex-val> iocstatus=<hex-val>
storcli2 /cx trigger set scsi sensekey=<hex-val> asc=<hex-val> ascq=<hex-val>
```

storcli2 /cx db register type=<trace|fw>

This command registers or posts the diagnostic buffer.

Input example:

```
storcli2 /c0 db register type=trace
```

storcli2 /cx db query

This command queries the diagnostic buffer registered on the controller.

Input example:

```
storcli2 /c0 db query
```

storcli2 /cx db get type=<trace|fw> offset=<hex-val> size=<val> file=<filename>

This command retrieves the diagnostic buffer of the controller.

Input example:

```
storcli2 /c0 db get type=trace offset=0 size=1024 file=diagbuff.bin
```

storcli2 /cx db manage type=<trace|fw> action=<release|pause|resume>

This command manages the I/O unit or host diagnostic buffer on the controller.

Input example:

```
storcli2 /c0 db get type=trace
```

storcli2 /cx db refresh region=<Current|Default|NVSRAM>

This command refreshes the diagnostic buffer triggers on the controller.

Input example:

```
storcli2 /c0 db refresh region=current
```

storcli2 /cx trigger get type= {[global],[event],[mpi],[scsi]} | all

This command displays the diagnostic buffer trigger information.

Input example:

```
storcli2 /c0 trigger get type=event
```

storcli2 /cx trigger delete type= {[global],[event],[mpi],[scsi]} | all

This command deletes the diagnostic buffer triggers set on the controller.

Input example:

```
storcli2 /c0 trigger delete type=mpi
```

storcli2 /cx trigger set global=<hex-val>

This command sets the diagnostic buffer global trigger on the controller.

Input examples:

```
storcli2 /c0 trigger set global=0x12345678
```

storcli2 /cx trigger set event EventValue=<hex-val>

This command sets the diagnostic buffer event triggers on the controller.

Input example:

```
storcli2 /c0 trigger set event EventValue=0x12
```

storcli2 /cx trigger set mpi iocloginfo=<hex-val> iocstatus=<hex-val>

This command sets the diagnostic buffer MPI triggers on the controller.

Input example:

```
storcli2 /c0 trigger set mpi iocloginfo=0x12341234 iocstatus=0x0006
```

storcli2 /cx trigger set scsi sensekey=<hex-val> asc=<hex-val> ascq=<hex-val>

This command sets the diagnostic buffer SCSI triggers on the controller.

Input example:

```
storcli2 /c0 trigger set scsi sensekey=0x06 asc=0x05 ascq=0x01
```

Drive Commands

This section describes the drive commands, which provide information and perform actions related to physical drives. The following table describes frequently used drive commands.

Table 15: Drive Commands Quick Reference Table

Commands	Value Range	Description
set	missing : Sets the drive status as missing. good : Sets the drive status to unconfigured good. offline : Sets the drive status to offline. online : Sets the drive status to online.	Sets drive properties.
show	all : Shows all properties of the drive. See Drive Show Commands .	Displays drive information.

Drive Show Commands

The StorCLI2 utility supports the following drive `show` commands:

```
storcli2 /cx/ex/sx show
storcli2 /cx /ex /sx| show all[noosdrivename]
storcli2 /cx /ex /sx show smart
storcli2 /cx/ex/sx show smartinformation
storcli2 /cx/ex/sx show phyerrorcounters
storcli2 /cx/ex/sx reset phyerrorcounters
```

The detailed description for each command follows.

storcli2 /cx/ex/sx show

This command displays the summary of the drives specified.

Input example:

```
storcli2 /c0/e25/s4 show
```

storcli2 /cx/ex/sx show all [noosdrivename]

This command shows all information of a drive for the specified slot in the controller.

Input examples:

```
storcli2 /c0/e25/s0-3 show all
storcli2 /c0/e25/sall show all
```

noosdrivename

Displays the detailed drive information, excluding the operating system drive details.

Input examples:

```
storcli2 /cx/ex/sx show all[noosdrivename]
```

storcli2 /cx/ex/sx show smart

This command displays the SMART information of a drive.

Input example:

```
storcli2/c0/e25/s4 show smart
```

storcli2 /cx/ex/sx show smartinformation

This command displays the identity SMART information of the drive.

Input example:

```
storcli2 /c0/e25/s4 show smartinformation
```

storcli2 /cx/ex/sx show phyerrorcounters

This command retrieves the drive `phyerrorcounters` information.

Input example:

```
storcli2 /c0/e25/s4 show phyerrorcounters
```

storcli2 /cx/ex/sx reset phyerrorcounters

This command resets the drive phyerrorcounters .

Input example:

```
storcli2 /c0/e25/s4 resetphyerrorcounters
```

Missing Drives Commands

The StorCLI2 utility supports the following commands to mark and replace missing physical drives with the specified Unconfigured Good drive:

```
storcli2 /cx/ex/sx set missing
```

The detailed description for each command follows.

NOTE

To set a drive that is part of an array as `missing` , first set it as `offline`. After the drive is set to `offline`, you can then set the drive to `missing`.

storcli2 /cx/ex/sx set missing

This command marks a drive as missing.

Input example:

```
storcli2 /c0/e5/s4 set missing
```

Set Drive State Commands

The StorCLI2 utility supports the following commands to set the status of physical drives:

```
storcli2 /cx/ex/sx set good [force]
storcli2 /cx/ex/sx set offline
storcli2 /cx/ex/sx set online [force]
storcli2 /cx/ex/sx set missing
storcli2 /cx/ex/sx reset phyerrorcounters
storcli2 /cx/ex/sx set JBOD [< security=on [cryptoerase] | force>] [noautoassign]
storcli2 /cx/ex/sx set uconf [force]
storcli2 /cx/ex/sx set resume current
storcli2 /cx/ex/sx set smartstate=on|off
```

The detailed description for each command follows.

storcli2 /cx/ex/sx set good [force]

This command sets the drive state to good.

Input example:

```
storcli2 /c0/e25/s4 set good
```

storcli2 /cx/ex/sx set offline

This command changes the drive state to offline.

Input example:

```
storcli2 /c0/e25/s4 set offline
```

NOTE

Setting a drive to offline might trigger a hot spare to be commissioned. When this occurs, the offline drive transitions to Unconfigured Good. This transition makes the drive eligible for further use.

storcli2 /cx/ex/sx set online [force]

This command changes the drive state to online.

Input example:

```
storcli2 /c0/e25/s4 set online
```

storcli2 /cx/ex/sx set missing

This command marks a drive as missing.

Input example:

```
storcli2 /c0/e25/s4 set missing
```

storcli2 /cx/ex/sx set JBOD [< security=on [cryptoerase] | force>] [noautoassign]

This command changes the respective drive state to JBOD.

Table 16: Set JBOD Input Options

Option	Description
force	This option must be specified when the drive has any operating system.
security	Enables security on the drive.
cryptoerase	Performs the cryptographic erase operation.
noautoassign	Ignore function auto assign policy.

Input example:

```
storcli2 /c0/e25/s4 set jbod force
storcli2 /c0/e25/s4 set jbod security=on
storcli2 /c0/e25/s4 set jbod security=on cryptoerase
```

storcli2 /cx/ex/sx set uconf [force]

This command converts the drive to an unconfigured drive.

NOTE

If the drive has an operating system or a file system on it, the StorCLI2 utility displays an error message and fails the conversion. If you want to proceed with the conversion, use the force option as shown in the following command.

Input example:

```
storcli2 /c0/e25/s4 set uconf
```

storcli2 /cx/ex/sx set resume current

This command resumes an ongoing current process. You can run this command only when an operation is running on a drive.

Input example:

```
storcli2 /c0/e25/s4 set resume current
```

storcli2 /cx/ex/sx set smartstate=on|off

This command enables and disables the SMART capability on the drive.

Input example:

```
storcli2 /c0/e25/s4 set smartstate=on
```

NOTE

The `set smartstate` command is supported on SAS drives.

Drive Initialization Commands

When you initialize drives, all the data from the drives is cleared. The StorCLI2 utility supports the following commands to initialize drives:

```
storcli2 /cx/ex/sx show clear
storcli2 /cx/ex/sx start clear
storcli2 /cx/ex/sx stop clear
storcli2 /cx/ex/sx start smartselftest [short]
storcli2 /cx/ex/sx stop smartselftest
```

The detailed description for each command follows.

storcli2 /cx/ex/sx show clear

This command shows the current progress of the initialization in percentage.

The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli2 /c0/e25/s4 show clear
```

storcli2 /cx/ex/sx start clear

This command starts the initialization process on a drive.

Input example:

```
storcli2 /c0/e25/s4 start clear
```

storcli2 /cx/ex/sx stop clear

This command stops an initialization process running on the specified drive. A stopped initialization process cannot be resumed.

Input example:

```
storcli2 /c0/e25/s4 stop clear
```

storcli2 /cx/ex/sx start smartselftest

This command executes an extended SMART self test on the drive.

```
storcli2 /cx/ex/sx start smartselftest [short]
```

storcli2 /cx/ex/sx stop smartselftest

This command aborts any noncaptive SMART self test on the drive.

```
storcli2 c0/e25/s4 stop smartselftest
```

Drive Firmware Download Commands

The StorCLI2 utility supports the following command to download the drive firmware:

```
storcli2 /cx/ex/sx download file=<filepath> mode=5|7|E [activatenow] | F [chunksize=value>] [parallel] [noprepare]
```

IMPORTANT

StorCLI2 default logging should be disabled when an expander or drive firmware download is initiated in the presence of I/Os.

The valid timeout value for the prepare firmware download DCMD command is 1 through 120 seconds. If the user sends a timeout value of 0 seconds the controller sets the default timeout value of 120 seconds.

storcli2 /cx/ex/sx download file=<filepath> mode=5|7|E [activatenow] | F [chunksize=<val>] [parallel] [noprepare]

This command flashes the drive firmware with the specified file.

All images are authenticated at activation time and package compatibility checks are performed. Downloaded flash-based components are placed in secondary locations until activation takes place. During the activation, the secondary images are copied to their primary locations, so if the download is interrupted the firmware will continue running from the primary location. If the firmware update process fails, the image is restored by copying the good image from the primary location.

IMPORTANT

When updating the MegaRAID8 firmware, you must use the same StorCLI2 version or higher. Using an older version of StorCLI may cause errors and the download to fail.

The `mode` options specify the SCSI write buffer mode. The description follows.

Table 17: Drive Firmware Download Options

Option	Description
<code>cx</code>	Specifies the controller, where <code>x</code> is the index of the controller.
<code>/ex</code>	Specifies the enclosure ID of the controller.
<code>/sx</code>	Specifies the drive slot ID of the controller.
<code>5</code>	The entire drive firmware file is downloaded at once.
<code>7</code>	The drive firmware file is downloaded in chunks of 32 KB.
<code>mode E</code>	Downloads the microcode and defers the activation.

Option	Description
file	This option is needed for mode 5, 7, and E.
mode F	Activates the deferred microcode and allows you to issue this command to all devices in a safe manner. The default delay time is 60 seconds.
chunksize	The chunksize in KB. Chunksize is valid only for Mode 7 and E. The default chunksize is 32KB.
activatenow	Activates the drive firmware. This option is valid only for Mode E downloads.
parallel	Must be specified if a parallel download is needed on selected drives.
noprepare	Must be specified if prepare is not going to be sent.

Input example:

```
storcli2 /c0/e25/s4 download file=c:\file.bin mode=7
```

NOTE

Prepare and Complete requests are only sent for Mode 5, 7, and F downloads. The maximum value of the chunk size cannot be more than 1020 KB.

Drive Firmware Update through Parallel Microcode

MegaRAID provides an interface to update the drive firmware in both online and offline modes through host applications, such as StorCLI2. Using the parallel drive microcode update feature, firmware updates can be done simultaneously on multiple drives of the same family in an online mode. Also, the parallel drive microcode update overcomes the VD tolerance level. It is recommended to perform the parallel drive microcode update in system maintenance mode.

The parallel drive microcode update is not supported in the following scenarios:

- If drive firmware download is already in progress on any drive.
- If Pinned Cache is present on the controller.
- Online firmware upgrade is not supported if `FEATURE SET` value is enabled for `DEFAULT` and disabled for `LOW COST`.

Command Usage Examples

```
storcli2 /c0/ex/sall download src=drv_fw.lod [mode=5/7] [parallel] [force]
storcli2 /c1/e1/sall download src=drivefirmware.lod mode=5 parallel
```

Where:

- `c` – Controller number
- `x` – The index of either the controller or the enclosure
- `e` – Enclosure number
- `s` – Slot number
- `sall` – All drives
- `parallel` – Indicates firmware update is done in parallel mode
- `force` – Indicates whether you want to force this operation

storcli2 /c0/e1/sall download status

This command provides the current firmware download status on the specified drive list.

Locate Drives Commands

The StorCLI2 utility supports the following commands to locate a drive and activate the physical disk activity LED:

```
storcli2 /cx/ex/sx start locate
```

```
storcli2 /cx/ex/sx stop locate
```

The detailed description for each command follows.

storcli2 /cx/ex/sx start locate

This command locates a drive and activates the drive's LED.

Input example:

```
storcli2 /c0/e25/s4 start locate
```

storcli2 /cx/ex/sx stop locate

This command stops a locate operation and deactivates the drive's LED.

Input example:

```
storcli2 /c0/e25/s4 stop locate
```

Prepare to Remove Drives Commands

The StorCLI2 utility supports the following commands to prepare the drive for removal:

```
storcli2 /cx/ex/sx start prepformv1
```

```
storcli2 /cx/ex/sx undo prepformv1
```

The detailed description for each command follows.

storcli2 /cx/ex/sx start prepformv1

This command spins down an unconfigured drive and prepares it for removal. The drive state is unchanged.

Input example:

```
storcli2 /cx/e25/s4 start prepformv1
```

storcli2 /cx/ex/sx undo prepformv1

Use this command to undo the prepare drive for removal command.

Input example:

```
storcli2 /c0/e25/s4 undoprepformv1
```

Drive Security Command

The StorCLI2 utility supports the following drive security commands:

```
storcli2 /cx/ex/sx show security keyid
```

storcli2 /cx/ex/sx show security keyid

This command shows the security key for secured physical drives.

Input example:

```
storcli2 /c0/e25/s4 show security keyid
```

storcli2 /cx/ex/sx set security = on

This command sets the security on the SED-capable JBOD drive.

Input example:

```
storcli2 /c0/e25/s4 set security = on
```

Drive Secure Erase Commands

The StorCLI2 utility supports the following drive erase commands:

```
storcli2 /cx/ex/sx start erase type=<simple | normal | thorough | crypto>[aue=<0|1>][patternA=<val>]
[patternB=<val>] [force]
storcli2 /cx/ex/sx start erase type=sanitize mode=1|2|3|4 [aue=<0|1>] [patternA=<val>] [patternB=<val>]
[overwritecount=<val> invert=<val>] [force]
storcli2 /cx/ex/sx stop erase
storcli2 /cx/ex/sx show erase
storcli2 /cx/ex/sx start erase type=reprovision [PSID=xxx][force]
```

The detailed description for each command follows.

storcli2 /cx/ex/sx start erase type= <simple | normal | thorough | crypto> [aue=<0|1>] [patternA=<val>] [patternB=<val>] [force]

storcli2 /cx/ex/sx start erase type=sanitize mode=1|2|3|4 [aue=<0|1>] [patternA=<val>] [patternB=<val>] [overwritecount=<val> invert=<val>] [force]

These commands securely erase drives. The drive is written with erase patterns to make sure that the data is securely erased. You can use the following options with the `start erase` command.

WARNING

The sanitize erase operation cannot be interrupted, and it may take several minutes to complete. When you perform a sanitize operation, any data on the drive is permanently lost.

NOTE

The erase option is supported only on UG drives and is not supported on JBOD drives.

This command is issued when this erase type is listed under the property **supported erase type** in the drive properties (`/cx/ex/sx show all`).

Table 18: Drive Erase Command Options

Options	Description
simple	Single pass, single pattern write.
normal	Three pass, three pattern write.
thorough	Nine pass, repeats the normal write three times.
standard	Performs standard erase for SSD drives.
threepass	Three pass verify: - pass1 – Random pattern write. - pass2,3 – Write zero and verify.
crypto	Cryptographic erase.

Options	Description
sanitize	Erase type sanitize.
Mode	Modes: • 1 – Sanitize Overwrite for physical drives. • 2 – Sanitize Block Erase for physical drives. • 3 – Sanitize FREEZE LOCK for physical drives. • 4 – Sanitize. • ANTIFREEZE LOCK for physical drives.
patternA	8-bit binary value. Erases pattern A to overwrite the data.
patternB	8-bit binary value. Erases pattern B to overwrite the data.
aue	Allow uninterrupted erase.

Input example:

```
storcli2 /c0/e25/s4 start erase type=thorough aue=0 patternA=10010011 patternB=11110000
```

storcli2 /cx/ex/sx stop erase

This command stops the erase operation.

Input example:

```
storcli2 /c0/e25/s4 stop erase
```

storcli2 /cx/ex/sx show erase

This command provides the status of erase operation on non-SED drives.

Input example:

```
storcli2 /c0/e25/s4 show erase
```

storcli2 /cx/ex/sx start erase type=reprovision [PSID=xxx][force]

This command securely erases the requested SED drive, the data on the drive, and the security configuration of the drive. You can use the force option as a confirmation to erase the data on the drive and the security information.

Option	Description
reprovision	Erases the security configuration of the drive and securely erases the data on the requested drive.
PSID	PSID string to perform the cryptographic erase with the PSID revert operation.
force	Use the force option as a confirmation to erase.

Input example:

```
storcli2 /c0/e25/s4 start erase type=reprovision force
```

NOTE

This command deletes the data on the drive and the security configuration, resulting in the data no longer being accessible. This command is applicable for SED capable drives.

Rebuild Drives Commands

The following commands rebuild drives in the StorCLI2 utility:

```
storcli2 /cx/ex/sx suspend rebuild
storcli2 /cx/ex/sx resume rebuild
storcli2 /cx/ex/sx show rebuild
storcli2 /cx/ex/sx start rebuild
storcli2 /cx/ex/sx stop rebuild
```

NOTE

If enclosures are used to connect physical drives to the controller, specify the enclosure ID in the command.

The detailed description for each command follows.

storcli2 /cx/ex/sx suspend rebuild

This command suspends an ongoing rebuild process. You can run this command only for a drive that is currently rebuilding.

Input example:

```
storcli2 /c0/s4 suspend rebuild
```

storcli2 /cx/ex/sx resume rebuild

This command resumes a suspended rebuild process. You can run this command only when a suspended rebuild process for the drive exists.

Input example:

```
storcli2 /c0/s4 resume rebuild
```

storcli2 /cx/ex/sx show rebuild

This command shows the progress of the rebuild process in percentage.

The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli2 /c0/s4 show rebuild
```

storcli2 /cx/ex/sx start rebuild

This command starts a rebuild operation for a drive.

Input example:

```
storcli2 /c0/s4 start rebuild
```

storcli2 /cx/ex/sx stop rebuild

This command stops a rebuild operation. You can run this command only for a drive that is currently rebuilt.

Input example:

```
storcli2 /c0/s4/e4 stop rebuild
```

Hot Spare Drive Commands

The following commands create and delete hot spare drives:

```
storcli2 /cx/ex/sx add hotsparedrive {dgs=<n|0,1,2...>}[enclaffinity]
storcli2 /cx/ex/sx delete hotsparedrive
```

The detailed description for each command follows.

storcli2 /cx/ex/sx add hotspare [dgs=<n|0,1,2...>] [enclaffinity]

This command creates a hot spare drive. Use the following options to create a hot spare drive.

Table 19: Add Hot Spare Drive Input Options

Option	Value Range	Description
dgs	Valid drive group number	Specifies the drive group to which the hot spare drive is dedicated.
enclaffinity	Valid enclosure number	Specifies the enclosure with which the hot spare is associated. If this option is specified, affinity is set. If this option is not specified, there is no affinity. Affinity cannot be removed after it is set for a hot spare drive.

Input example:

```
storcli2 /c0/e25/s4,5 add hotspare
```

This command sets the drives /c0/e25/s4,5 as global hot spare.

Input example:

```
storcli2 /c0/e25/s6,8 add hotspare dgs=0
```

This command sets /c0/e25/s6,8 as dedicated hot spare for disk group 0.

storcli2 /cx/ex/sx delete hotspare

This command deletes a hot spare drive.

Input example:

```
storcli2 /c0/e25/s4,5 delete hotspare
```

NVMe Drive Commands

The StorCLI utility supports the following NVMe drive commands.

```
storcli /cx show unusabledriveinfo
storcli /cx/ex/sx start recovery [force]
storcli /cx/ex/sx stop recovery
```

storcli /cx show unusabledriveinfo

This command displays the list of initialization failed NVMe drives and their details.

Input example:

```
storcli /c0 show unusabledriveinfo
```

storcli /cx/ex/sx start recovery [force]

This command starts the recovery operation on the specified drive.

Where:

force – Deletes all data present on the drive.

Input example:

```
storcli /c0/e25/s4 start recovery
```

storcli /cx/ex/sx stop recovery

This command stops the recovery operation on the specified drive.

Input example:

```
storcli storcli /c0/e25/s4 stop recovery
```

NOTE

If any unusable NVMe drives are detected, the controller state will move to Need Attention.

Replacedrive Commands

The StorCLI2 utility supports the following commands for replacedrive:

```
storcli2 /cx/ex/sx start replacedrive target=e:s  
storcli2 /cx/ex/sx stop replacedrive  
storcli2 /cx/ex/sx suspend replacedrive  
storcli2 /cx/ex/sx resume replacedrive  
storcli2 /cx/ex/sx show replacedrive
```

The detailed description for each command follows.

NOTE

When a replacedrive operation is enabled, the alarm continues to beep even after a rebuild is complete. The alarm stops beeping only when the replacedrive operation is completed.

storcli2 /cx/ex/sx start replacedrive target=e:s

This command starts a replacedrive operation for a drive.

Input example:

```
storcli2 /c0/e25/s4 start replacedrive target=25:8
```

storcli2 /cx/ex/sx stop replacedrive

This command stops a replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 stop replacedrive
```

storcli2 /cx/ex/sx suspend replacedrive

This command suspends a replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 suspend replacedrive
```

storcli2 /cx/ex/sx resume replacedrive

This command resumes a suspended replacedrive operation.

Input example:

```
storcli2 /c0/e25/s4 resume replacedrive
```

storcli2 /cx/ex/sx show replacedrive

This command shows the progress of the replacedrive operation in percentage. The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli2 /c0/e25/s4 show replacedrive
```

Spin-up Drive Commands

The StorCLI2 utility supports the following spin-up drive command:

```
storcli2 /cx spinup drives=<e:s|e:s-x|e:s-x,y>
```

The detailed description for the command follows.

storcli2 /cx spinup drives= <e:s|e:s-x|e:s-x,y>

This command spins up the requested drive.

Input example:

```
storcli2 /c0 spinup drives=318:0,1
```

Physical Function Show Commands

Lists the physical functions on the controller and the state of each PF and max queues for each PF.

Physical Function Show

Command:

```
storcli2 /cx/pfx show
```

Sample Output:

```
Controller Function Information :  
=====
```

```
-----  
FuncID PCI-Info      State   Supervisor IsCurrent FuncType Name          SerialNo  
-----
```

0	0000:43:00:0	Enabled	Yes	Yes	MPI	Supervisor	SNF2811319
1	0000:44:00:0	Enabled	No	No	MPI	IocNum 01	SNF2811319
2	0000:45:00:0	Enabled	No	No	MPI	IocNum 02	SNF2811319
3	0000:46:00:0	Enabled	No	No	MPI	IocNum 03	SNF2811319

Physical Function Enable Command

Enables or disables a physical function state.

NOTE

Disabling the physical function is not supported. It may be supported in the future releases.

NOTE

It is not possible to disable the PF0.

Command:

```
storcli2 /cx/pfx set state=on|off
```

Sample Output:

```
storcli2 /c0/pf1 set state=on
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
Detailed Status :
=====
```

```
-----
FunctionID Prop Status Description
-----
1 State Success ON
-----
```

Physical Function Name Command

Updates the function name of a specific physical function using the following command `StorCLI2 /c0/pfx set name=IOCTNum1` to update the specific physical function.

Command:

```
storcli2 /cx/pfx set name=<val>
```

Sample Output:

```
storcli2 /c0/pf1 set name=IOCTNum1
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
Detailed Status :
=====
```

```

-----
FunctionID Prop Status Description
-----
1 Name Success ON
-----

```

Physical Function FirstDeviceId Command

Updates the physical function FirstDeviceId of a specific physical function using the following command `StorCLI2 /c0/pfx set FirstDeviceId=282` to update the particular physical function.

Command:

```
storcli2 /cx/pfx set FirstDeviceId=<val>
```

Sample Output:

```

storcli2 /c0/pf1 set FirstDeviceId=282
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = Please reboot the system for the changes to take effect.

```

```

Controller Properties :
=====

```

```

-----
FunctionID Prop Status Description
-----
0 First Reporting Device Persistent Id Success 282
-----

```

Physical Function Show Map Command

Lists the function mapping information of a specific physical function using the following command `StorCLI2 /c0/pfx` to list the VD/PD function mapping information of the specific physical function.

Command:

```
storcli2 /cx/pfx show map
```

Sample Output:

```

/storcli2 /c0/pf0 show map
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None

```

```

Controller Function VD Information :
=====

```

```

-----
FuncID FuncState VD-ID State Mapped
-----
0 Enabled          1 Opt1  Yes
-----

```

```

Controller Function PD Information :
=====

```

```

-----
FuncID FuncState EID:Slt PID State Mapped
-----
0 Enabled    284:7    282 JBOD  Yes
-----

```

Physical Function Set Map Command

Updates the function mapping information of a specific physical function using the following command `StorCLI2 /c0/pfx` to add/remove the VD/PD function mapping information of the specific physical function.

Command:

```

storcli2 /cx/pfx add|remove map drives= all | <e:s|e:s-x|e:s-x,y>
storcli2 /cx/pfx add|remove map vd=all | x-y,z

```

sample output:

```

storcli2 /c0/pf0 add map vd=1
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None

```

```

Controller Properties :
=====

```

```

-----
FunctionID Prop                               Status  Description
-----
0 Controller Function Map Success VDs - 1
-----

```

Volume Commands

The StorCLI2 utility supports the following volume commands.

The following table describes frequently used volume commands.

Table 20: Volume Commands Quick Reference Table

Command	Value Range	Description
add	See Add RAID Configuration Input Options .	Creates volumes.
set	See Add RAID Configuration Input Options and Change Volume Properties Commands .	Sets volume properties.
show	all : Shows all properties of the volume. See Volume Show Commands .	Shows volume information.

Add Volume Commands

The StorCLI2 utility supports the following commands to add volumes:

```
storcli2 /cxadd vd each r0 [name=<VDNAME1>,...] drives=e:s|e:s-x|e:s-x,y
[secure [cryptoerase]] [pdcache=on|off|default] [ps=default|none]
[WT|WB|AWB] [nora|ra] [unmap] [wsunmap]
[Strip=<64|256>]
[cachebypass=None|All|64|128|256|512|1024] [init=0|1|2] [NoAutoBGI] [ReusePersistentid] [noautoassign]
storcli2 /cx/vx show BBMT
storcli2 /cx/vx delete BBMT
```

This command creates a RAID configuration. You can use the options in the following table to create the RAID volume.

The detailed description for each command follows.

Table 21: Add RAID Configuration Input Options

Option	Value Range	Description
raid	[0 1 5 6 10 50 60]	Sets the RAID type of the configuration.
size	Maximum size based on the physical drives and RAID level.	Sets the size of each volume. The default value is for the capacity of all referenced disks.
name	15 characters in length.	—
remaining	—	Considers the remaining space in the drive group.
drives	Valid enclosure number and valid slot numbers for the enclosure.	In <code>e:s e:s-x e:s-x,y</code> : <code>e</code> specifies the enclosure ID. <code>s</code> represents the slot in the enclosure. <code>e:s-x</code> is the range convention used to represent slots <code>s</code> to <code>x</code> in the enclosure <code>e</code> (250 characters maximum). Make sure that the same block size (in a drive) is used in each <code>[e:s]</code> pair. As an example, if you use 4096 bytes in the <code>e0:s0</code> pair, use 4096 bytes in the <code>e1:s1</code> pair too. Mixing block sizes between the <code>[e:s]</code> pairs is not supported.
pdperarray	1–16.	Specifies the number of physical drives per array.
secure	—	Creates security-enabled drives.
pdcache	on off default.	Enables or disables PD cache. <code>PDcache=default</code> indicates that the drive default cache settings are retained and will not be modified by the firmware.
pi	—	Enables protection information.

Option	Value Range	Description
ps	default : Logical device uses controller default power-saving policy. none : No power-saving policy.	Specifies the power-saving policy. Default indicates that the default cache settings are retained and will not be modified by the firmware. None indicates that no power-saving policy is set.
wt wb awb	- wt : Write through. - wb : Write back. - awb : Always write back.	Enables write through. Write back is the default.
nora ra	- ra : Read ahead. - nora : No read ahead.	Disables read ahead. Enabled is the default.
strip	64,256	Sets the strip size for the RAID configuration.
aftervd	Valid volume number.	Creates the VD in the adjacent free slot next to the specified VD.
hotspare	Number of spare physical drives present.	Specifies the physical drives that are to be assigned to a disk group for spares.
init	—	Initializes the volume.
noautobgi	—	Prevents a background initialization operation.
ReusePersistentid	—	Disables the cool-off period of two minutes to reuse a persistent ID.
noautoassign	—	Ignore auto function assignment.

Input example:

```
storcli2 /c0 add vd raid50 names=vdname drives=252:0-9 pdperarray=5
```

storcli2 /c0/v2 show BBMT

This command shows the bad block management table details for the given VD.

Input example:

```
storcli2 /c0/v2 compare factory defaultsshow BBMT
```

storcli2 /cx/vx delete BBMT

This command deletes the bad block management table for the given VD.

Input example:

```
storcli2 /c0/v2 delete BBMT
```

Delete Volume Commands

The StorCLI2 utility supports the following volume delete commands:

```
storcli2 /cx/vx|val del
storcli2 /cx/vx|vall del force
storcli2 /cx/vx del[discardcache][force]
```

NOTE

If the volume has user data, you must use the `force` option to delete the volume.

A volume with a valid master boot record (MBR) and a partition table is considered to contain user data.

If you delete a volume with a valid MBR without erasing the data and then create a volume using the same set of physical drives and the same RAID level as the deleted volume, the old un-erased MBR still exists at block 0 of the new volume, which makes it a volume with valid user data. Therefore, you must provide the `force` option to delete this newly created volume.

The detailed description for each command follows.

storcli2 /cx/vx|vall del

This command deletes a particular volume, or when the `vall` option is used, all the volumes on the controller are deleted.

Input example:

```
storcli2 /c0/v2 del
```

ATTENTION

This command deletes volumes. Data located on these volumes will no longer be accessible.

storcli2 /cx/vx|vall del force

This command deletes a volume. With the `force` option, the command deletes a volume without checking whether the OS or File System is present.

Input example:

```
storcli2 /c0/v2 del force
```

ATTENTION

This command deletes the volume where the operating system is present. Data located on these drives and the operating system of the drive will no longer be accessible.

storcli2 /cx/vx del [discardcache] [force]

This command with the `discardcache` option deletes the volume without flushing the cached data.

Input example:

```
storcli2 /c0/v2 delete discardcache
```

Volume Show Commands

The StorCLI2 utility supports the following volume show commands:

```
storcli2 /cx/vx show
storcli2 /cx /vx show all[noosdrivename][logfile[=filename]]
```

The detailed description for each command follows.

storcli2 /cx/vx show

This command shows the summary of the volume information.

Input example:

```
storcli2 /c0/v0 show
```

storcli2 /cx/vx show all [noosdrivename] [logfile[=filename]]

The `show all` command shows all of the volume information, which includes the volume information, drives used for the volumes, and volume properties.

If you use the `logfile` option in the command syntax, the logs are written to the specified file. If you do not specify a file name, then the logs are written to the `storsas.log` file. If you do not use the `logfile` option in the command syntax, the entire log output is printed to the console.

Input example:

```
storcli2 /c0/v0 show all[noosdrivename]logfile = log.txt
```

Preserved Cache Commands

If a volume becomes offline or is deleted because of missing disks, the controller preserves the dirty cache from the volume. The StorCLI2 utility supports the following commands for preserved cache:

```
storcli2 /cx/vx delete preservedCache [force]
storcli2 /cx show preservedCache
```

The detailed description for each command follows.

storcli2 /cx/vx delete preservedcache

This command deletes the preserved cache for a particular volume on the controller in missing state. Use the `force` option to delete the preserved cache along with the volume when the volume is in an offline state.

Input example:

```
storcli2 /c0/v1 delete preservedcache
```

storcli2 /cx show preservedCache

This command shows the volume that has preserved cache and whether the volume is offline or missing.

Input example:

```
storcli2 /c0 show preservedCache
```

Change Volume Properties Commands

The StorCLI2 utility supports the following commands to change volume properties:

```
storcli2 /cx/vx set name=<namestring>
storcli2 /cx/vx set pdcache=<on|off|default>
storcli2 /cx/vx set rdcache=<ra|nora>
storcli2 /cx/vx set wrcache=<wt|wb|awb>
storcli2 /cx/vx setps=Default|None
storcli2 /cx/vx set autobgi=On|Off
storcli2 /cx/vx set Unmap=<On|Off>
storcli2 /cx/vx set wsUnmap=<On|Off>
storcli2 /cx/ex/sx set resume current
```

The detailed description for each command follows.

storcli2 /cx/vx set name=<namestring>

This command names a volume. The name is restricted to 15 characters.

Input example:

```
storcli2 /c0/v0 set name=testdrive123
```

storcli2 /cx/vx set pdcache=<on|off|default>

This command sets the write cache of the PD (Physical Drives) in the VD.

NOTE

This is independent of the cache policy of the VD.

Input example:

```
storcli2 /c0/v0 set pdcache=on
```

storcli2 /cx/vx set rdcache=<ra|nora>

This command sets the read cache policy on a volume to read ahead or no read ahead.

NOTE

Setting the read cache policy is not supported on 97XX series of controllers since the 97XX is an SSD only.

Input example:

```
storcli2 /c0/v0 set rdcache=nora
```

storcli2 /cx/vx set wrccache=<wt|wb|awb>

This command sets the write cache policy on a volume to write back, write through, or always write back.

Input example:

```
storcli2 /c0/v0 set wrccache=wt
```

storcli2 /cx/vx set Unmap=<On|Off>

This command unmaps the volume.

NOTE

The unmap capability is not supported on NVMe VDs.

storcli2 /cx/vx set wsUnmap=<On|Off>

This command unmaps the volume.

NOTE

The wsunmap command stands for write same unmap. When wsunmap is set, the host can unmap the unused LBAs and also initialize their contents during the unmap.

storcli2 /cx/ex/sx set resume current

This command resumes an ongoing current process. You can run this command only when an operation is running on a drive.

Input example:

```
storcli2 /c0/e25/s4 set resume current
```

Volume Initialization Commands

The StorCLI2 utility supports the following commands to initialize volumes:

```
storcli2 /cx/vx show init
storcli2 /cx/vx start init [full][Force]
storcli2 /cx/vx stop init
```

NOTE

If the volume has user data, you must use the `force` option to initialize the volume.

A volume with a valid MBR and partition table is considered to contain user data.

The detailed description for each command follows.

storcli2 /cx/vx show init

This command shows the initialization progress of a volume in percentage.

The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli2 /c0/v2 show init
```

storcli2 /cx/vx start init [full]

This command starts the initialization of a volume. The default initialization type is fast initialization. If the `full` option is specified, full initialization of the volume starts.

Input example:

```
storcli2 /cx/vx start init full
```

storcli2 /cx/vx stop init

This command stops the initialization of a volume. A stopped initialization cannot be resumed.

Input example:

```
storcli2 /c0/v0 stop init
```

Volume Erase Commands

The StorCLI2 utility supports the following commands to erase volumes:

```
storcli2 /cx/vx start erase type=simple|normal|thorough[patternA=<val>] [patternB=<val>] [deletevd] [force]
storcli2 /cx/vx show erase
```

The detailed description for each command follows.

Table 22: Drive Erase Types

Options	Description
simple	Single pass, single pattern write.
normal	Three pass, three pattern write.

Options	Description
thorough	Nine pass, repeats the normal write three times.
patternA	8-bit binary value. Erases pattern A to overwrite the data.
patternB	8-bit binary value. Erases pattern B to overwrite the data.

NOTE

The pattern specified by the user is used to overwrite the user data in the volume. The pattern should be in binary format. The [deletevd][force] option, when specified, deletes the volume after erase completion.

storcli2 /cx/vx start erase type=simple|normal|thorough[patternA=<val>] [patternB=<val>] [deletevd][force]

This command starts the data erase operation on the specified volume.

Input example:

```
storcli2 /c0/v0 start
```

storcli2 /cx/vx show erase

This command shows the status of the erase operation on the volume.

Input example:

```
storcli2 /c0/v0 show erase
```

Volume Consistency Check Commands

The StorCLI2 utility supports the following commands for volume consistency checks:

```
storcli2 /cx/vx suspend cc
storcli2 /cx/vx resume cc
storcli2 /cx/vx show cc|consistencycheck
storcli2 /cx/vx start cc [force]
storcli2 /cx/vx stop cc
```

NOTE

If enclosures are used to connect the drives to the controller, specify the IDs in the command.

The detailed description for each command follows.

storcli2 /cx/vx suspend cc

This command suspends an ongoing consistency check process. You can resume the consistency check at a later time. You can run this command only on a volume that has a consistency check operation running.

Input example:

```
storcli2 /c0/v4 suspendcc
```

storcli2 /cx/vx resume cc

This command resumes a suspended consistency check operation. You can run this command on a volume that has a suspended consistency check operation.

Input example:

```
storcli2 /c0/v4 resume cc
```

storcli2 /cx/vx show cc|consistencycheck

This command shows the progress of the consistency check operation in percentage.

The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli2 /c0/v5 show cc|consistencycheck
```

storcli2 /cx/vx start cc force

This command starts a consistency check operation for a volume. Typically, a consistency check operation is run on an initialized volume. Use the `force` option to run a consistency check on an uninitialized drive.

Input example:

```
storcli2 /c0/v4 start cc
```

storcli2 /cx/vx stop cc

This command stops a consistency check operation. You can run this command only for a volume that has a consistency check operation running.

Input example:

```
storcli2 /c0/v4 stop cc
```

NOTE

You cannot resume a stopped consistency check process.

Background Initialization Commands

The StorCLI2 utility supports the following commands for background initialization:

```
storcli2 /cx/vx resume bgi
storcli2 /cx /vx set autobgi=<on|off>
storcli2 /cx /vx show bgi
storcli2 /cx/vx stop bgi
storcli2 /cx/vx suspend bgi
```

The detailed description for each command follows.

storcli2 /cx/vx resume bgi

This command resumes a suspended background initialization operation.

Input example:

```
storcli2 /c0/v0 resume bgi
```

storcli2 /cx/vx set autobgi=<on|off>

This command sets the auto background initialization setting for a volume to on or off.

Input example:

```
storcli2 /c0/v0 set autobgi=on
```

storcli2 /cx/vx show bgi

This command shows the background initialization progress on the specified volume in percentage.

The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli2 /c0/v0 show bgi
```

storcli2 /cx/vx stop bgi

This command stops a background initialization operation.

Input example:

```
storcli2 /c0/v4 stop bgi
```

storcli2 /cx/vx suspend bgi

This command suspends a background initialization operation. You can run this command only for a volume that is currently initialized.

Input example:

```
storcli2 /c0/v4 suspendbgi
```

Volume Expansion Commands

The StorCLI2 utility supports the following commands for volume expansion:

```
storcli2 /cx/dx expand
storcli2 /cx/vx expand drives=[e:]s|[e:]s-x|[e:]s-x,y]
storcli2 /cx/vx expand [percent=<xx>] [expandVdAndArray]
storcli2 /cx/vx show oce
storcli2 /cx/vx show ocedriveinfo
storcli2 /cx/vx show expansion
```

The detailed description for each command follows.

storcli2 /cx/dx expand

This command expands the drive group.

Input example:

```
storcli2 /c0/d25 expand
```

storcli2 /cx/vx expand drives=[e:]s|[e:]s-x|[e:]s-x,y]

This command expands a volume by adding new drives to the specified volume.

```
storcli2 /c0/v25 expand drives=42:1
```

storcli2 /cx/vx expand [percent=<xx>][expandVdAndArray]

This command expands the volume to the fullest amount of free space available.

Input example:

```
storcli2 /c0/v25 expand percent=10
```

storcli2 /cx/vx show oce

This command displays expansion information on the volume.

Input example:

```
storcli2 /c0/v25 show oce
```

storcli2 /cx/vx show ocedriveinfo

This command displays information on the volume.

Input example:

```
storcli2 /c0/v25 show ocedriveinfo
```

storcli2 /cx/vx show expansion

This command shows the expansion information.

Input example:

```
storcli2 /c0/v25 show expansion
```

Foreign Configuration Commands

NOTE

In all of the following commands, provide the security key in a file with `security key <key>` as a space separated key value pair. Specify the filename using the `file=filename` option in this command.

The StorCLI2 utility supports the following commands to view, import, and delete foreign configurations:

```
storcli2 /cx/fall del|delete {[securitykey =xxx] [keyid =xxx]}|file=filename
storcli2 /cx/fall import [preview] {[securitykey =xxx] [keyid=xxx]}|file=filename
storcli2 /cx/fall show [all] {[securityKey =xxx] [keyid =xxx]}|file=filename
```

NOTE

Provide the security key when importing a locked foreign configuration created in a different machine that is encrypted with a security key.

The detailed description for each command follows.

storcli2 /cx/fall del|delete {[securityKey = xxx] [keyid = xxx]}|file=filename

This command deletes the foreign configuration of a controller. Input the security key if the controller is secured.

Input example:

```
storcli2 /c0/fall delete
```

storcli2 /cx/fall import [preview] {[securityKey = xxx] [keyid = xxx]}file=filename

This command imports the foreign configurations of a controller. The `preview` option shows a summary of the foreign configuration before importing it.

Input example:

```
storcli2 /c0/fall import
```

storcli2 /cx/fall show [all] {[securityKey = xxx] [keyid = xxx]}file=filename

This command shows the summary of the entire foreign configuration for a particular controller. The `all` option shows all the information of the entire foreign configuration.

Input example:

```
storcli2 /c0/fall show all
```

Function Profile Command

Displays the list of function profiles supported on the controller and allows the user to change a profile ID specified as follows.

Commands:

```
storcli2 /c0 show functionprofile
storcli2 /c0 set functionprofile profileid=<val>
```

Sample Output:

```
storcli2 /c0 show functionprofile
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
Function Profile Information :
=====
```

ProfileID	IsCurrent	IsRequested	IsDefault	Selectable	SelectableWithForce	DMHI	FuncType	MinCtrlFuncs
MaxCtrlFuncs	StartFuncID	MaxQueues/Vector						
0	Yes	No	Yes	Yes	Yes	Enabled MPI		4
	0		256					4

kekinfo Command

Displays the controller KEK information.

Command:

```
storcli2 /cx show kekinfo
```

Sample Output:

```
storcli2 /c0 show kekinfo
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
KEK and HMAC salt management Details :
=====
Total Number of Key Slots = 8
Number of Key Slots Used = 1
```

kekerekey Command

Rekeys the KEK or HMAC.

Command:

```
storcli2 /cx set kekerekey
```

Sample Output:

```
storcli2 /c0 set kekerekey
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = KEK and HMAC salt updated successfully
```

debuginfo Command

Displays the controller Debug information.

Command:

```
storcli2 /cx show debuginfo
```

Sample Output:

```
storcli2 /c0 show debuginfo
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
Debug state and Port Details :
=====
Debug Status = Enabled
Debug enabled since last reset = Yes
Debug enabled in this device lifetime = No
Debug authorization method = Disabled
```

```
Hardware Debug Port States :
=====
MDIO Port = Enabled
SRK JTAG Port = Enabled
```

```
Manufacturing JTAG Port = Enabled
Serial Debug Port = Enabled
I2C Slave Port = Enabled
PCIe Diagnostic Port = Enabled
MDIO Data Path = Enabled
CoreSight JTAG Port = Enabled
CoreSight Device = Enabled
Non-secure invasive debug = Enabled
Non-secure non-invasive debug = Enabled
Secure invasive debug = Enabled
Secure non-invasive debug = Enabled
Global TestMux = Enabled
Global PTRACE Buffer Read = Enabled
```

Show Autoassign Command

Displays the current auto assign policy information of the controller.

Command:

```
storcli2 /cx show autoassign
```

Sample Output:

```
storcli2 /c0 show autoassign
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None

Function Auto Assign Information :
=====
Auto Assign Policy = Supervisor
Default Auto Assign Policy = Supervisor
Supported Auto Assign Policy = Unassigned, Supervisor, Weighted Round Robin
Supported Immediate Auto Assign Policy = Supervisor, Weighted Round Robin
```

Set Autoassign Command

Sets the current auto assign policy to user requested settings. With immediate user can Sets auto assign policy of the controller on user provided list of drives or VDs.

Weighted Round Robin

In weighted round robin, the assignments operates as follows: Assign any unassigned JBOD/VD to a PF based on:

1. Number of devices (JBOD and LD) currently assigned each PF (Choose a PF with lowest count of devices assigned).
2. Select one of the following options:
 - a. Use Round Robin if there are more than one qualified PF with same lowest assignment count
 - b. Scan from PF0 to PFmax.

Command:

```
storcli2 /cx set autoassign option = unassigned | supervisor | WRR
storcli2 /cx set autoassign immediate option=<supervisor|WRR> <[drives= e:s|e:x-y|all] | [vd=x,x-y|all]>
```

Sample Output:

```
storcli2 /c5 set autoassign option=wrr
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
Set Auto Assign info :
=====
```

```
-----
Operation                                Result
-----
Auto Assign Policy-Weighted Round Robin Success
-----
```

Set Autoassign factory Command

Sets the autoassign policy to default autoassigning policy.

Command:

```
storcli2 /cx set autoassign option = unassigned | supervisor | WRR
storcli2 /cx set autoassign immediate option=<supervisor|WRR> <[drives= e:s|e:x-y|all] | [vd=x,x-y|all]>
```

Sample Output:

```
storcli2 /c5 set autoassign option=wrr
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = None
```

```
Set Auto Assign info :
=====
```

```
-----
Operation                                Result
-----
Auto Assign Policy-Weighted Round Robin Success
-----
```

Set Factory Repurpose Command

Sets the factory repurpose on the selected controller(s). This controller repurpose operation will go back to the factory settings by removing all data and settings. Controller should not have any configuration or secured JBOD PDs when using this repurpose operation.

Command:

```
storcli2 /cx set factory repurpose
```

Sample Output:

```
storcli2 /c0 set factory repurpose
CLI Version = 008.0016.0000.0000 July 29, 2025
Operating system = Linux5.14.0-427.13.1.el9_4.x86_64
Controller = 0
Status = Success
Description = Please reboot the system for the changes to take effect. Set Factory repurpose Successful.
```

Drive Group Commands

This section describes the drive group commands.

NOTE

The drive group index changes based on the topology changes because the index will be assigned based on VD persistent Id.

Drive Group Commands

The StorCLI2 utility supports the following drive group commands:

```
storcli2 /cx/dx show
storcli2 /cx/dx show all
storcli2 /cx/dx set security=on
storcli2 /cx/dx expand
```

storcli2 /cx/dx show

This command shows the topology information of the drive group.

Input example:

```
storcli2 /c0/d0 show
```

storcli2 /cx/dx show all

This command shows the drive and the volume information for the drive group.

Input example:

```
storcli2 /c0/d0 show all
```

storcli2 /cx/dx set security=on

This command enables security on the specified drive group.

Input example:

```
storcli2 /c0/d0 set security=on
```

storcli2 /cx/dx expand

This command expands the drive group with the available free space.

Input example:

```
storcli2 /c0/d0 expand
```

Controller Power Savings Commands

The StorCLI2 utility supports the following commands to change the dimmer switch settings.

NOTE

SSDs are not considered for the power save option.

You can use the following combinations for the Dimmer Switch commands:

```
storcli2 /cxset ps=OFF type=UG|HS|all|
storcli2 /cxset ps=ON type=UG|HS [properties]
storcli2 /cxset ps [properties]
```

The following table describes the power-saving options.

Table 23: Power Savings Input Options

Option	Value Range	Description
ps	on off	Turns the power save option on.
type	UG : Unconfigured HS : Hot spare all : Unconfigured and hot spare drives	Specifies the type of drives for which the power save feature is applicable. Note: The power save is only activated for unconfigured drives and hot spare drives, but not for configured drives.
properties	SpinDownTime : 30-1440, in minutes SpinUpEnclDriveCount : Value 0 to 255 SpinUpEnclDelay : Valid time in seconds	The number of idle minutes before the device spins-down or stops. The maximum number of drives within an enclosure to spin-up (start) at one time. Specifies the delay of spin-up groups within an enclosure in seconds.

storcli2 /cx show power save (ps)

This command shows the current power save setting for the controller.

Input example:

```
storcli2 /c0 show ps
```

Enclosure Commands

The StorCLI2 utility supports the following enclosure commands:

```
storcli2 /cx/ex show
storcli2 /cx/ex show all
storcli2 /cx/ex show phyerrorcounters
storcli2 /cx/ex download file=filepathmode=5|7|E|F [activatenow][chunksize=<val>][buffer=<val>]
```

The detailed description for each command follows.

storcli2 /cx/ex show all

This command shows all enclosure information, which includes general enclosure information, enclosure inquiry data, a count of enclosure elements, and information about the enclosure elements.

Input example:

```
storcli2 /c0/e25 show all
```

storcli2 /cx/ex show phyerrorcounters

This command displays the enclosure `phyerrorcounters` information.

Input example:

```
storcli2 /c0/e25 show phyerrorcounters
```

NOTE

This command is only supported for expanders and managed PCI switch topologies.

storcli2 /cx/ex download file=<filepath> mode=5|7|E|F [activatenow] [chunksize=<val>] [bufferid=<val>]

This command flashes the firmware with the file specified at the command line. The enclosure performs an error check after the operation. The following option can be used with the enclosure firmware download command.

The mode options specify the SCSI write buffer mode. The description follows:

- 5 – The entire drive firmware file is downloaded at once.
- 7 – The drive firmware is downloaded in chunks of 32 KB.
- Mode E – Downloads the microcode and defers the activation.
- Mode F – Activates the deferred microcode and allows you to issue this command to all devices in a safe manner.

Input example:

```
storcli2 /c0/e25 download file=c:\file2.bin mode 7
```

Controller Phy Commands

The StorCLI2 utility supports the following controller phy commands:

```
storcli2 /cx/px show [phytype=sas|pcie]
storcli2 /cx/px show all [phytype=sas|pcie]
storcli2 /cx/px set saslinkspeed=6|12|22.5
storcli2 /cx/px set pcielinkspeed=2.5|5|8|16|32
storcli2 /cx/px set state=on|off [phytype=sas|pcie]
```

The detailed description for each command follows.

storcli2 /cx/px show [phytype=sas|pcie]

This command displays the SAS and PCIe phy information. If `phytype` is not provided, the system displays both SAS and PCIe phy information.

Input example:

```
storcli2 /c0/p0 show
```

storcli2 /cx/px|pall show all

This command displays the detailed SAS and PCIe phy information including SAS and PCIe `phyerrorcounters` information. If `phytype` is not provided, the system displays both SAS and PCIe phy information.

Input example:

```
storcli2 /c0/p0 show all
```

storcli2 /cx/px set saslinkspeed=6|12|22.5

This command sets the user provided linkspeed on a particular phy. The possible SAS speeds are 6 GB/s, 12 GB/s, and 22.5 GB/s.

Input example:

```
storcli2 /c0/p0 set saslinkspeed=6
```

storcli2 /cx/px set pcielinkspeed=2.5|5|8|16|32

This command sets the provided link speed on a particular PCIe link. All the phys belonging to a particular link should be provided. The possible PCIe speeds are 2.5 GT/s, 5 GT/s, 8 GT/s, 16 GT/s, and 32 GT/s.

Input example:

```
storcli2 /c0/p0 set pcielinkspeed=16
```

storcli2 /cx/px set state=on|off [phytype=sas|pcie]

This command sets the SAS and PCIe phy to on or off. If the phytype is not provided, change both the SAS and PCIe states.

Input example:

```
storcli2 /c0/p0 set state=on|off phytype=sas
```

NOTE

To enable or disable a specific phy and the phy that belongs to a specific PCIe link, all the phy numbers which belong to the respective PCIe link must be provided. The SAS side must be enabled or disabled on all phys inside a single PCIe link. For example, if a phy contained within a x4 PCIe link is requested to be enabled/disabled, the request should contain all the respective phy numbers to enable/disable all four phys in that PCIe link.

Energy Pack Commands

The StorCLI2 utility supports the following energy pack commands:

```
storcli2 /cx/epshow [all]  
storcli2 /cx/epset autolearnmode=<val>
```

The detailed description for each command follows.

storcli2 /cx/ep show [all]

This command shows the information of the energy pack that is connected to the controller.

Input examples:

```
storcli2 /c0/ep show  
storcli2 /c0/ep show all
```

NOTE

Beginning a manual learn and scheduling a learn cycle are not supported. A learn is triggered internally by the controller.

storcli2 /cx/ep set autolearnmode=<val>

This command sets AutoLearnMode on an energy pack.

The possible values for autolearnmode include:

- 0 – Auto
- 1 – Disabled
- 2 – Warning

Input example:

```
storcli2 /c0/ep set autolearnmode=0
```

PCIe Storage Interface Commands

The PCIe Storage Interface is the fundamental interface that connects peripheral devices to the host processor and through a memory controller to the memory architecture in the system. The PCIe interface communicates over one or more lanes that consist of one transmit and one receive serial interface for each lane.

Use Case	Behavior
Retrieve SAS phy information.	Phy information for all the Backend SAS phys is transferred to the host through MR8_DCMD_SAS_CONFIG_PHY_CONNECTIONS_GET. This excludes phys that are disabled in NVDATA.
Max phy speed change on an individual SAS phy.	• The maximum speed at which the phy can operate is updated on the corresponding backend SAS phy through MR8_DCMD_SAS_CONFIG_LINK_SPEED_SET. • An event MR8_EVT_SAS_PHY_LINK_SPEED_UPDATED is posted indicating phy speed is updated. • Speed updates on UBM attached phys is not allowed. • A Controller reset is required for changes to become active.
Retrieve PCIe lane information.	Phy information for all the Backend PCIe phys is transferred to the host through MR8_DCMD_PCIE_CONFIG_LANE_CONNECTIONS_GET. This excludes phys that are disabled in NVDATA.
Max link speed change on PCIe phys.	• All the backend PCIe phys associated with a PCIe link are updated with the same speed provided by the host through MR8_DCMD_PCIE_CONFIG_LINK_SPEED_SET. • All the phys that are associated with the link must be provided as input to the DCMD. • No event is posted. • Link speed update on UBM attached phys is not allowed. • A controller reset is required for changes to become active.
Disable SAS phys.	• SAS protocol on all the phys corresponding to a PCIe link will be disabled. • All the phys associated with the wide port must be updated at the same time. • No event is logged. • Phy speed update is not allowed when a phy is disabled.
Enable SAS phys.	• SAS protocol on all the phys corresponding to a PCIe link will be enabled • All the phys associated with the wide port must be updated as part of the same request. • No event will be logged on the same.

Use Case	Behavior
Disable PCIe phys.	- PCIe protocol on all the phys corresponding to a PCIe link can be disabled through updating the config pages. - No event will be logged on the same. - PHY speed update is not allowed when a phy is disabled.
Enable PCIe phys.	- PCIe protocol on all the phys corresponding to a PCIe link can be enabled through updating the config pages. - No event will be logged on the same.
Retrieve PCIe lane mapping information.	PCIe lane to link mapping information is transferred to the host through MR8_DCMD_PCIE_CONFIG_LANE_MAPPING_GET.
Update PCIe lane mapping information.	PCIe lane to link mapping information is updated through MR8_DCMD_PCIE_CONFIG_LANE_MAPPING_SET.

Logging Commands

The StorCLI2 utility supports the following commands to generate and maintain log files:

```
storcli2 /cx show events [ [type= <blocking|nonblocking|sincereboot|sinceshutdown|includedeleted|
lastAcknowledged|latest=x|ccincon vd=<vd persistent id> >] filter=<info|warning|critical|fatal>
file=<filepath> ]
storcli2 /sasx show events [ [type= <blocking | nonblocking | sincereboot| sinceshutdown| includedeleted|
latest=x| ccincon vd=<vd persistent id>] filter=< info | warning | critical | fatal > file=<filepath> ]
lastAcknowledged
storcli2 /cx show termlog file=<filepath>
storcli2 /cx show eventseqinfo
storcli2 /cx ack events seqnum=<sequence-number>
```

The detailed description for each command follows.

storcli2 /cx show events [[type= <blocking | nonblocking | sincereboot| sinceshutdown | includedeleted | lastAcknowledged | latest=x | ccincon vd=<vd persistent id> >] filter=< info | warning | critical | fatal > file=<filepath>] storcli2 /sasx show events [[type= <blocking | nonblocking | sincereboot| sinceshutdown| includedeleted|latest=x | ccincon vd=<vd persistent id>] filter=< info | warning | critical | fatal > file=<filepath>]

This command gets the event log entry details. The information that is shown consists of the total number of entries available at the firmware side since the last clear and the details of each entry of the error log.

Table 24: Show Events Input Options

Option	Description
blocking	Retrieves the blocking events.
lastAcknowledged	Blocking boot events since the last acknowledged event.
nonblocking	Retrieves the nonblocking events.
latest	If any events exist, this option dumps the latest <i>x</i> number of events. The event data includes deleted events.
ccincon	Dumps, if any CC errors are logged on a VD.
sincereboot	Dumps all the events since the last adapter reboot.
sinceshutdown	Dumps all the events since the last controller shutdown.

Option	Description
includedeleted	Dumps all events, including deleted events.
filter	Dumps all events, including deleted events. severity levels: - info : Informational message. No user action is necessary. - warning : Some component may be close to a failure point. - critical : A component has failed, but the system has not lost data. - fatal : A component has failed, and data loss has occurred or may occur.
file	The file that collects all of the events. The number of events in the file output is the total number of events that are the same or greater than the requested class.

Input example:

```
storcli2 /c0 show events file=C:\Users\brohan\test\eventreports
```

NOTE

The command output for this command cannot be JSON-formatted.

storcli2 /cx show eventseqinfo

This command shows the history of log files generated.

Input example:

```
storcli2 /c0 show eventseqinfo
```

storcli2 /cx ack events seqnum=<sequence-number>

This command is used to acknowledge blocking events.

Input example:

```
storcli2 /c0 ack events seqnum=1
```

storcli2 /cx show termlog file=<filepath>

This command retrieves the controller termlog and appends the log to a specified file.

Input example:

```
storcli2 /c0 show termlog file=termlogC0.log
```

Automated Drive Configurations

The StorCLI2 utility supports the following automated drive configuration commands:

```
storcli2 /cxshow autoconfig
storcli2 /cxset autoconfig factory
storcli2 /cxset autoconfig primary option=UGood|JBOD|SecureJBOD|R0|SecureR0|ROWB|SecureROWB
storcli2 /cxset autoconfig secondary option=UGood|JBOD|SecureJBOD|R0|SecureR0|ROWB|SecureROWB
storcli2 /cx/cx set autoconfig immediate option=JBOD|SecureJBOD|R0|SecureR0|ROWB|SecureROWB drives= all |e:s|
e:s-x|e:s-x,y> =JBOD|SecureJBOD|R0|SecureR0|ROWB|SecureROWB drives= all | <e:s|e:s-x|e:s-x,y> [noautoassign]
```

The detailed description for each command follows.

storcli2 /cx show autoconfig

This command lets you view the automatic drive policy.

Input example:

```
storcli2 /c0 show autoconfig
```

storcli2 /cx set autoconfig factory

This command sets the current autoconfiguration to factory settings.

Input example:

```
storcli2 /c0 set autoconfig factory
```

storcli2 /cx set autoconfig primary option=UGood|JBOD|SecureJBOD|R0|SecureR0|ROWB|SecureROWB

This command sets the primary autoconfiguration of the controller.

Input example:

```
storcli2 /c0 set autoconfig primary option=jbod
```

storcli2 /cx set autoconfig secondary option=UGood|JBOD|SecureJBOD|R0|SecureR0|ROWB|SecureROWB

This command sets the secondary autoconfiguration of the controller. A secondary autoconfiguration is required when the primary autoconfiguration option is a single-drive R0, the controller already has maximum number of volumes configured, the maximum number of RAID drives has been reached, or the maximum number of arrays have been created. In this scenario, when a new drive is inserted, the firmware checks if the secondary autoconfiguration can be applied. Another scenario is if the primary autoconfiguration is a JBOD and secondary auto config is a secure JBOD. If the drives are secured SED drives, the secondary autoconfiguration option is applied

NOTE

If the primary autoconfiguration is a JBOD and the secondary autoconfiguration is a secure JBOD, if the drives are secured SED drives, the secondary autoconfiguration option is applied.

Input example:

```
storcli2 /c0 set autoconfig secondary option=jbod
```

storcli2 /cx set /cx set autoconfig immediate option=JBOD|SecureJBOD|R0|SecureR0|R0WB|SecureR0WB drives= all | <e:s|e:s-x|e:s-x,y>

This command sets the autoconfiguration of the controller immediately. This command applies the autoconfigure option that is specified in the arguments on the unconfigured drives present in the system. This command does not change the primary or secondary autoconfig option of the adapter.

Input example:

```
storcli2 /c0 set autoconfig immediate option=jbod
```

Frequently Used Tasks

The following commands are frequently used in StorCLI2:

Displaying the Version of the StorCLI2 Utility

The following command displays the version of the command line tool:

```
storcli2 v
```

Displaying the StorCLI2 Utility Help

The following command displays the StorCLI2 utility help:

```
storcli2 h
```

Help appears for all the StorCLI2 tool commands.

NOTE

To retrieve the list of commands supported by a specific controller, use the command `storcli2 /c0 ?`,
" ... /c1 ?". The generic ... /cx ? command lists all available commands in Storcli2.

Displaying System Summary Information

The following command displays the summary of all the controller information:

```
storcli2 -show [all]
```

Displaying Free Space in a Controller

The following command displays the free space available in the controller:

```
storcli2 /cx show freespace
```

Adding Volumes

The following command creates a volume:

```
storcli2 /cx add vd r[0|1|5|6|10|50|60]  
[Size=<VD1_Sz>,<VD2_Sz>,...|remaining|all] [name=<VDNAME1>,...]  
drives=e:s|e:s-x|e:s-x,y,e:s-x,y,z [PDperArray=x] [secure]  
[pdcache=on|off|default] [ps=default|none]  
[WT|WB|AWB] [nora|ra] [unmap] [wsunmap]  
[Strip=<64|256>] [AfterVd=X]  
[hotspare=e:s|e:s-x|e:s-x,y]  
[cachebypass=None|All|64|128|256|512|1024] [init=0|1|2] [NoAutoBGI] [cachebypass=None|All|64|128|256|512|  
1024] [init=0|1|2] [NoAutoBGI] [ReusePersistentid] [noautoassign]  
storcli2 /cx add vd each r0 [name=<VDNAME1>,...] [drives=e:s|e:s-x|e:s-x,y]  
[secure] [pdcache=on|off|default] [ps=default|none]  
[WT|WB|AWB] [nora|ra] [unmap] [wsunmap] [Strip=<64|256>]  
[cachebypass=None|All|64|128|256|512|1024] [init=0|1|2] [NoAutoBGI] [ReusePersistentid] [noautoassign]
```

The following inputs can be used when adding volumes:

- The controller in which the volumes are created.
- The RAID type of the volumes.

The supported RAID types are 0, 1, 5, 6, 10, 50, and 60.

- The size of each volume.
- The drives that create the volumes.

Drives = *e:s|e:s-x|e:s-x,y*

Where:

- *e* specifies the enclosure ID.
 - *s* represents the slot in the enclosure.
 - *e:s-ex* is the range conventions used to represent slots *s* to *x* in the enclosure *e*.
 - The physical drives per array.
- The physical drives per array can be set to a particular value.
- The `secure` option creates security-enabled drives.
 - The `PDcache` option can be set to `on` or `off`.
 - The `dimmerswitch` is the power save policy. It can be set to `default` or `automatic *`, `none`, `maximum(max)`, or `MaximumWithoutCaching(maxnocache)`.
 - The `wt` option disables write back.
 - The `nora` option disables read ahead.
 - The `cached` option enables the cached memory.
 - The `strip` option sets the strip size.
- It can take the values 64 and 256.

NOTE

The supported strip size can vary from a minimum of 64 KB to 1 MB for MegaRAID controllers, and only 64 KB for Integrated MegaRAID controllers.

- The `AfterVdX` option creates the volumes in the adjacent free slot next to the specified volumes.

NOTE

The * indicates default values used in the creation of the volumes. If values are not specified, the default values are taken.

Example: `/cx add vd type=r1 drives=0:10-15 WB strip=64`

This command creates a RAID volume of RAID 1 type from drives in slots 10 to slot 15 in enclosure 0. The strip size is 64 KB.

Setting the Cache Policy in a Volume

The following command sets the write cache policy of the volume:

```
storcli2 /cx/v(x/all) set wrcache=wt|wb|awb
```

The command sets the write cache to write back, write through, or always write back.

Displaying Volume Information

The following command displays the volume information for all the volumes in the controller:

```
storcli2 /cx/v(x/all) show
```

Deleting Volumes

The following command deletes volumes:

```
storcli2 /cx/v(x|all) del
```

The following inputs are required when deleting a volume:

- The controller on which the volume or volumes is present.
- The volumes that must be deleted; or you can delete all the volumes on the controller using the `vall` option.

Flashing Controller Firmware

The following command is used to flash the controller firmware.

```
storcli2 /cx download file=<filepath> [noverchk] [activatenow]
```

NOTE

The command output for this command cannot be JSON formatted.

StorCLI to StorCLI2 Command Conversion

The following table provides a conversion of StorCLI to StorCLI2 commands.

Table 25: StorCLI to StorCLI2 Command Conversion

StorCLI Command	StorCLI2 Command
Help Commands	
storcli -h -help h help	storcli2 h help
storcli -v -version v version	storcli2 v version
System Commands	
storcli show	storcli2 show
storcli show all	storcli2 show all
storcli show file = <>	storcli2 show file=<>
storcli show ctrlcount	storcli2 show ctrlcount
—	storcli2 get rtdump
Enclosure Commands	
storcli2 /cx/ex show	storcli2 /cx/ex show
storcli2 /cx/ex show all	storcli2 /cx/ex show all
storcli /cx/ex download src=<filepath> [forceActivate] [mode=5 7] [bufferid=<val>]	storcli2 /cx/ex download file=<filepath> mode=5 7 E F [activatenow] [chunksize=<val>] [bufferid=<val>]
storcli /cx/ex download src=<filepath> mode=e [offline] [forceActivate] [delay=<val>] [bufferid=<val>]	
storcli /cx/ex download src=<filepath> mode=f [offline] [delay=<val>] [bufferid=<val>]	
storcli /cx/ex show status [extended]	storcli2 /cx/ex show status
storcli /cx/ex show phyerrorcounters	storcli2 /cx/ex show phyerrorcounters
Disk Group	
storcli /cx/dx set security=on	storcli2 /cx/dx set security=on
storcli /cx/dx show [all]	storcli2 /cx/dx show [all]
—	storcli2 /cx/dx expand
storcli /cx/dall show cachecade	—
storcli /cx/dall show mirror	—
storcli /cx/dall split mirror	—
storcli /cx/dx set hidden=on off	—
storcli /cx/dall add mirror src=<val> [force]	—
storcli /cx/dx set transport=on off [EDHSP=on off] [SDHSP=on off]	—
Foreign Configuration Level Commands	

StorCLI Command	StorCLI2 Command
storcli2 /cx/fall show [all] [securityKey = xxx]	storcli2 /cx/fall show [all] {[securityKey = xxx] [keyid = xxx]} file=filename
storcli2 /cx/fall del delete [securityKey = xxx]	storcli2 /cx/fall del delete {[securityKey = xxx] [keyid = xxx]} file=filename
storcli2 /cx/fall import [preview] [securityKey = xxx]	storcli2 /cx/fall import [preview] {[securityKey = xxx] [keyid = xxx]} file=filename
Controller Firmware Download and Restart Commands	
storcli /cx download file=<filepath> [noverchk] [noreset] [forcehcb]	storcli2 /cx download file=<filepath> [activationtype=online offline] [noverchk]
storcli /cx download file=<filepath> [fwtype=<val>] [ResetNow] [nosigchk] [noverchk] [force]	
storcli /cx download efibios file=<filepath>	
storcli /cx download cpld file=<filepath>	
storcli /cx download psoc file=<filepath>	
storcli /cx download bios file=<filepath>	
storcli /cx download fcode file=<filepath>	
storcli /cx erase nvram	—
storcli /cx erase fwbackup	—
storcli /cx erase bootservices	—
storcli /cx erase all [excludemfg] [file=filename]	—
storcli /cx erase perconfpag	—
storcli /cx erase mpb	—
storcli /cx restart	storcli2 /cx reset
Drive Commands	
storcli /cx[/ex]/sx show	storcli2 /cx[/ex]/sx show
storcli /cx[/ex]/sx show all	storcli2 /cx[/ex]/sx show all [noosdrivename]
storcli /cx[/ex]/sx start rebuild	storcli2 /cx[/ex]/sx start rebuild
storcli /cx[/ex]/sx stop rebuild	storcli2 /cx[/ex]/sx stop rebuild
storcli /cx[/ex]/sx suspend rebuild	storcli2 /cx[/ex]/sx suspend rebuild
storcli /cx[/ex]/sx resume rebuild	storcli2 /cx[/ex]/sx resume rebuild
storcli /cx[/ex]/sx show rebuild	storcli2 /cx[/ex]/sx show rebuild
storcli /cx[/ex]/sx show poh [ignoreselftest]	storcli2 /cx[/ex]/sx show poh [ignoreselftest]
storcli /cx[/ex]/sx show smart	storcli2 /cx[/ex]/sx show smart
storcli /cx[/ex]/sx start copyback target=e:s	storcli2 /cx/ex/sx start replacedrive target=e:s
storcli /cx[/ex]/sx stop copyback	storcli2 /cx/ex/sx stop replacedrive
storcli /cx[/ex]/sx suspend copyback	storcli2 /cx/ex/sx suspend replacedrive
storcli /cx[/ex]/sx resume copyback	storcli2 /cx/ex/sx resume replacedrive
storcli /cx[/ex]/sx reset phyerrorcounters	storcli2 /cx[/ex]/sx reset phyerrorcounters
storcli /cx[/ex]/sx reset errorcounters type = 1 2	—

StorCLI Command	StorCLI2 Command
storcli /cx[/ex]/sx show copyback	storcli2 /cx/ex/sx show replacedrive
storcli /cx[/ex]/sx show patrolread	storcli2 /cx[/ex]/sx show patrolread
storcli /cx[/ex]/sx show phyerrorcounters	storcli2 /cx[/ex]/sx show phyerrorcounters
storcli /cx[/ex]/sx show errorcounters	—
storcli /cx[/ex]/sx start initialization	storcli2 /cx/ex/sx start clear
storcli /cx[/ex]/sx stop initialization	storcli2 /cx/ex/sx stop clear
storcli /cx[/ex]/sx show initialization	storcli2 /cx/ex/sx show clear
storcli /cx[/ex]/sx start locate	storcli2 /cx[/ex]/sx start locate
storcli /cx[/ex]/sx stop locate	storcli2 /cx[/ex]/sx stop locate
storcli /cx[/ex]/sx show securitykey keyid	storcli2 /cx[/ex]/sx show securitykey keyid
storcli /cx/ex/sx add hotsparedrive [DGs=<N 0,1,2...>] [enclaffinity] [nonreversible]	storcli2 /cx/ex/sx add hotspare [DGs=<N 0,1,2...>] [enclaffinity]
storcli /cx[/ex]/sx delete hotsparedrive	storcli2 /cx[/ex]/sx delete hotspare
storcli /cx/ex/sx spindown	storcli2 /cx/ex/sx start prepformv1
storcli /cx/ex/sx spinup	storcli2 /cx/ex/sx undo prepformv1
storcli /cx[/ex]/sx set online	storcli2 /cx/ex/sx set online
storcli /cx[/ex]/sx set offline	storcli2 /cx/ex/sx set offline
storcli /cx[/ex]/sx set missing	storcli2 /cx/ex/sx set missing
storcli /cx[/ex]/sx set jbod	storcli2 /cx/ex/sx set JBOD [< security=on [cryptoerase] force >]
storcli /cx[/ex]/sx set security=on	storcli2 /cx[/ex]/sx set security=on
storcli /cx[/ex]/sx set good [force]	storcli2 /cx/ex/sx set good [force]
—	storcli2 /cx/ex/sx set bad [force]
—	storcli2 /cx/ex/sx set failed
storcli /cx[/ex]/sx insert dg=A array=B row=C	storcli2 /cx/ex/sx insert dg=A span=B row=C
storcli /cx[/ex]/sx download src=<filepath> [satabridge] [mode= 5 7] [parallel [force]]	storcli2 /cx/ex/sx download file=<filepath> mode=5 7 E [activatenow] F [chunksize=<val>]
storcli /cx[/ex]/sx download src=<filepath> mode= E [offline] [activatenow [delay=<val>]]	
storcli /cx[/ex]/sx downloadmode= F [offline] [delay=<val>]	
storcli /cx[/ex]/sx secureerase [force]	storcli2 /cx/ex/sx start erase type=reprovision [force]
storcli /cx/ex/sx start erase [simple normal thorough standard threepass crypto] [patternA=<val>] [patternB=<val>]	storcli2 /cx[/ex]/sx start erase [simple normal thorough standard threepass crypto] [patternA=<val>] [patternB=<val>]
storcli /cx[/ex]/sx stop erase	storcli2 /cx[/ex]/sx stop erase
storcli /cx[/ex]/sx show erase	storcli2 /cx[/ex]/sx show erase
storcli /cx[/ex]/sx show repair	storcli2 /cx show driveRecoveryInfo
storcli /cx[/ex]/sx start repair [force]	storcli2 /cx/ex/sx start recovery [force]
storcli /cx[/ex]/sx stop repair	storcli2 /cx/ex/sx stop recovery

StorCLI Command	StorCLI2 Command
storcli /cx[/ex]/sx show dpmstat type = HIST LCT RA EXT [logfile=[filename]]	storcli2 /cx/ex/sx show DPM type = HIST LCT RA EXT
storcli /cx delete dpmstat type = Hist LCT RA EXT All	storcli2 /cx delete DPM
storcli /cx/ex/sx show jbod	—
storcli /cx/ex/sx show jbod all	—
storcli /cx/ex/sx del jbod [force]	—
storcli /cx/ex/sx set bootdrive=<on off>	—
—	storcli2 /cx/ex/sx show smartinformation
—	storcli2 /cx/ex/sx set smartstate=on/off
—	storcli2 /cx/ex/sx start smartselftest
—	storcli2 /cx/ex/sx stop smartselftest
Volume Commands	
storcli /cx add vd r[0 1 5 6 10 50 60] [Size=<VD1_Sz>,<VD2_Sz>,... remaining all] [name=<VDNAME1>,...] drives=e:s e:s-x e:s-x,y,e:s-x,y,z [PDperArray=x] [SED] [pdcache=on off default] [ps=default none] [WT WB AWB] [nora ra] [unmap] [wsunmap] [Strip=<64 256>] [AfterVd=X] [hotspare = e:s e:s-x e:s-x,y] [cachebypass=None All 64 128 256 512 1024] [init=0 1 2] [NoAutoBGI] [ReuseTargetID]	storcli2 /cx add vd r[0 1 5 6 10 50 60] [Size=<VD1_Sz>,<VD2_Sz>,... remaining all] [name=<VDNAME1>,...] drives=e:s e:s-x e:s-x,y,e:s-x,y,z [PDperArray=x] [secure [cryptoerase]] [pdcache=on off default] [ps=default none] [WT WB AWB] [nora ra] [unmap] [wsunmap] [Strip=<64 256>] [AfterVd=X] [hotspare = e:s e:s-x e:s-x,y] [cachebypass=None All 64 128 256 512 1024] [init=0 1 2] [NoAutoBGI] [ReusePersistentid] [noautoassign]
storcli /cx add vd each r0 [name=<VDNAME1>,...] [drives=e:s e:s-x e:s-x,y][SED] [pdcache=on off default][pi] [DimmerSwitch(ds)=default automatic(auto) none maximum(max) MaximumWithoutCaching(maxnocache)][WT WB AWB] [nora ra] [direct cached] [EmulationType=0 1 2][Strip=<8 16 32 64 128 256 512 1024>] [ExclusiveAccess][Cbsize=0 1 2 Cbmode=0 1 2 3 4 7] [unmap]	storcli2 /cx add vd each r0 [name=<VDNAME1>,...] drives=e:s e:s-x e:s-x,y [secure] [pdcache=on off default] [ps=default none] [WT WB AWB] [nora ra] [unmap] [wsunmap] [Strip=<64 256>] [cachebypass=None All 64 128 256 512 1024] [init=0 1 2] [NoAutoBGI] [ReusePersistentid] [noautoassign]
storcli /cx add VD cachecade r[0 1 10] drives = [e:]s [e:]s-x [e:]s- x,y [WT WB] [assignvds = 0,1,2]	—
storcli /cx/vx del [cachecade] [discardcache] [force]	storcli2 /cx/vx del [discardcache] [force]
storcli /cx/vx set ssdcaching=on off	—
storcli /cx/vx set hidden=on off	—
storcli /cx/vx show expansion	storcli2 /cx/vx show expansion
—	storcli2 /cx/vx show ocedriveinfo
storcli /cx/vx expand Size=<xx> [expandarray]	storcli2 /cx/vx expand [percent=<xx>] [expandVdAndArray] storcli2 /cx/vx expand drives=[e:]s [e:]s-x [e:]s-x,y]
storcli /cx/vx set emulationType=0 1 2	—
storcli /cx/vx set cbsize=0 1 2 cbmode=0 1 2 3 4 7	storcli2 /cx/vx set cachebypass=None All 64 128 256 512 1024
storcli /cx/vx set wrcache=WT WB AWB	storcli2 /cx/vx set wrcache=WT WB AWB
storcli /cx/vx set rdcache=RA NoRA	storcli2 /cx/vx set rdcache=RA NoRA
storcli /cx/vx set iopolicy=Cached Direct	—
storcli /cx/vx set accesspolicy=RW RO Blocked RmvBlkd	—

StorCLI Command	StorCLI2 Command
storcli /cx/vx set pdcache=On Off Default	storcli2 /cx/vx set pdcache=On Off Default
storcli /cx/vx set name=<NameString>	storcli2 /cx/vx set name=<NameString>
storcli /cx/vx set HostAccess=ExclusiveAccess SharedAccess	—
storcli /cx/vx set ds=Default Auto None Max MaxNoCache	storcli2 /cx/vx set ps=Default None
storcli /cx/vx set autobgi=On Off	storcli2 /cx/vx set autobgi=On Off
storcli /cx/vx set pi=Off	—
storcli /cx/vx show	storcli2 /cx/vx show
storcli /cx/vx show all [logfile[=filename]]	storcli2 /cx/vx show all [noosdrivename] [logfile[=filename]]
storcli /cx/vx show init	storcli2 /cx/vx show init
storcli /cx/vx show cc	storcli2 /cx/vx show cc
storcli /cx/vx show erase	storcli2 /cx/vx show erase
storcli /cx/vx show migrate	—
storcli /cx/vx show bgi	storcli2 /cx/vx show bgi
storcli /cx/vx start init [Full] [Force]	storcli2 /cx/vx start init[Full][Force]
storcli /cx/vx start erase [simple normal thorough standard] [patternA=<val>] [patternB=<val>]	storcli2 /cx/vx start erase type=simple normal thorough [patternA=<val>] [patternB=<val>] [deletevd] [force]
storcli /cx/vx start cc [Force]	storcli2 /cx/vx start cc
storcli /cx/vx start migrate type=raidx [option=add remove drives=[e:]s [e:]s-x [e:]s-x,y] [Force]	—
storcli /cx/vx stop init	storcli2 /cx/vx stop init
storcli /cx/vx stop erase	storcli2 /cx/vx stop erase
storcli /cx/vx stop cc	storcli2 /cx/vx stop cc
storcli /cx/vx stop bgi	storcli2 /cx/vx stop bgi
storcli /cx/vx suspend cc	storcli2 /cx/vx suspend cc
storcli /cx/vx suspend bgi	storcli2 /cx/vx suspend bgi
storcli /cx/vx resume cc	storcli2 /cx/vx resume cc
storcli /cx/vx resume bgi	storcli2 /cx/vx resume bgi
—	storcli2 /cx/vx suspend init
—	storcli2 /cx/vx resume init
storcli /cx/vx delete preservedcache [force]	storcli2 /cx/vx delete preservedcache [force]
storcli /cx/vx del [discardcache] [force]	storcli2 /cx/vx del [discardcache] [force]
storcli /cx/vx set bootdrive=<on off>	—
storcli /cx/vx show BBMT	storcli2 /cx/vx show BBMT
storcli /cx/vx delete BBMT	storcli2 /cx/vx delete BBMT
—	storcli2 /cx/vx suspend current
—	storcli2 /cx/vx resume current
—	storcli2 /cx/vx suspend oce
—	storcli2 /cx/vx resume oce

StorCLI Command	StorCLI2 Command
—	storcli2 /cx/vx show oce
storcli /cx/vx set Unmap=<On Off>	storcli2 /cx/vx set Unmap=<On Off> [wsunmap=<On Off>]
—	storcli2 /cx/vx set wsunmap=<On Off>
Security and Premium Features Commands	
storcli /cx set securitykey < =xxxxxxx [passphrase=xxxx] [keyid=xxx] file=filename >	storcli2 /cx set security { securitykey = xxxx [passphrase = xxxx] [keyid = xxxx] } file = filename
—	storcli2 /cx set security passphrase=<key>
storcli /cx set securitykey < keyid=xxx file=filename >	storcli2 /cx set security rekey { oldsecuritykey = xxxx securitykey = xxxx [passphrase = xxxx] [keyid = xxxx] } file = filename
storcli /cx set securitykey < =xxxxxxx [passphrase=xxxx] [keyid=xxx] file=filename >	
storcli /cx show securitykey keyid	storcli2 /cx show security keyid
storcli /cx compare securitykey <=xxxxxxxxx file=filename>	—
storcli /cx delete securitykey	storcli2 /cx delete security securitykey
storcli /cx show aso	storcli2 /cx show aso
storcli /cx set aso key=<key value> preview	storcli2 /cx set aso key=<key value>preview
storcli /cx set aso key=<key value>	storcli2 /cx set aso key=<key value>
storcli /cx set aso transfertovault	—
storcli /cx set aso rehostcomplete	—
storcli /cx set aso deactivatetrialkey	storcli2 /cx set aso deactivatetrialkey
—	storcli2 /cx set security rekey { securitykey = xxxx [passphrase = xxxx] [keyid = xxxx] } file = filename
—	storcli2 /cx set security rekey useEKMS { oldsecuritykey=xxxx } file = filename
—	storcli2 /cx set security useekms
—	storcli2 /cx set security rekey useekms
—	storcli2 /cx show security spdm
storcli /cx show security spdm slotgroup=xx slot=yy	storcli2 /cx show security spdm slotgroup=xx slot=yy
storcli /cx export security spdm slotgroup=xx slot=yy subject=subjectfile file=filename	storcli2 /cx export security spdm slotgroup=xx slot=yy subject=subjectfile file=filename
storcli /cx import security spdm slotgroup=xx slot=yy file=filename [seal]	storcli2 /cx import security spdm slotgroup=xx slot=yy file=filename
storcli /cx set security spdm slotgroup=xx slot=yy invalidate [force]	storcli2 /cx set security spdm slotgroup=xx slot=yy invalidate [force]
storcli /cx get security spdm slotgroup=xx slot=yy file=filename	storcli2 /cx get security spdm slotgroup=xx slot=yy file=filename
storcli /cx show ugoodsecurity	storcli2 /cx show ugoodsecurity
Snapdump Commands	
storcli /cx show snapdump	storcli2 /cx show snapdump
storcli /cx set snapdump state=on off	—

StorCLI Command	StorCLI2 Command
storcli /cx set snapdump [savecount=<value> delayocr=<value>]	—
storcli /cx get snapdump [id=[all <value> file=<fileName>]] [norttdump]	storcli2 /cx get snapdump < all id= <dump-id> > [norttdump]
storcli /cx delete snapdump [force]	storcli2 /cx delete snapdump [force]
—	storcli2 /cx get snapdump ondemand [ExtTty pf=x-y,z][force] [norttdump]
—	storcli2 /cx get snapdump ondemand debugfile=<filename> [norttdump]
—	storcli2 /cx delete snapdump enhanced
Auto Configuration Commands	
storcli /cx show autoconfig	storcli2 /cx show autoconfig
—	storcli2 /cx set autoconfig factory
storcli /cx set autoconfig [= < none R0 [immediate] JBOD > [usecurrent]] [[sesmgmt=on off] [secured=on off] [multipath=on off] [multiinit=on off] [discardpinnedcache=<Val>] [failPDOnReadME=on off] [Lowlatency=low off]]	storcli2 /cx set autoconfig primary option=UGood JBOD SecureJBOD R0 SecureR0 R0WB SecureR0WB
	storcli2 /cx set autoconfig secondary option=UGood JBOD SecureJBOD R0 SecureR0 R0WB SecureR0WB
	storcli2 /cx set autoconfig immediate option=JBOD SecureJBOD R0 SecureR0 R0WB SecureR0WB drives= all <e:s e:s-x e:s-x,y> [noautoassign]
Controller Properties Display Commands	
storcli /cx show events [[type= <sincereboot sinceshutdown includedeleted latest=x ccincon vd=<0,1,...>] [filter=<[info], [warning],[critical],[fatal]>] [file=<filepath>] [logfile=<filename>]]	storcli2 /cx show events [[type= <blocking nonblocking sincereboot sinceshutdown includedeleted lastAcknowledged latest=x ccincon vd=<vd persistent id> >] filter=<info warning critical fatal> file=<filepath>]
storcli /cx show eventloginfo	storcli2 /cx show eventseqinfo
storcli /cx show termlog [type=config contents] [logfile=<filename>]	—
storcli /cx show sesmonitoring	—
storcli /cx show failpdonsmarterror	storcli2 /cx show failonsmarterror
storcli /cx show freespace	storcli2 /cx show freespace
storcli /cx show cc consistencycheck	storcli2 /cx show cc consistencycheck
storcli /cx show ocr	storcli2 /cx show ocr
storcli /cx show sesmultipathcfg	storcli2 /cx show sesmultipathcfg
storcli /cx show	storcli2 /cx show
storcli /cx show all [logfile=<filename>]	storcli2 /cx show all [logfile=<filename>]
storcli /cx show preservedcache	storcli2 /cx show preservedcache
storcli /cx show bootdrive	—
storcli /cx show bootwithpinnedcache	storcli2 /cx show bootwithpreservedcache
storcli /cx show activityforlocate	—
storcli /cx show copyback	storcli2 /cx show replacedrive

StorCLI Command	StorCLI2 Command
storcli /cx show jbod	—
storcli /cx show autorebuild	storcli2 /cx show autorebuild
storcli /cx show cachebypass	—
storcli /cx show usefdeonlyencrypt	—
storcli /cx show prcorrectunconfiguredareas	storcli2 /cx show prcorrectunconfiguredareas
storcli /cx show batterywarning	storcli /cx show energypackwarning
storcli /cx show abortconerror	storcli2 /cx show abortconerror
storcli /cx show ncq	—
storcli /cx show configautobalance	—
storcli /cx show maintainpdfailhistory	storcli2 /cx show maintainpdfailhistory
storcli /cx show restorehotspare	—
storcli /cx show bios	storcli2 /cx show bootmode
storcli /cx show alarm	—
storcli /cx show deviceorderbyfirmware	—
storcli /cx show foreignautoimport	—
storcli /cx show directpdmapping	—
storcli /cx show rebuildrate	storcli2 /cx show rebuildrate
storcli /cx show loadbalancemode	—
storcli /cx show eghs	storcli2 /cx show es storcli2 /cx show esSMARTER
storcli /cx show cacheflushint	—
storcli /cx show prrate	storcli2 /cx show prrate
storcli /cx show ccrate	storcli2 /cx show ccrate
storcli /cx show bgirate	storcli2 /cx show bgirate
storcli /cx show dpm	storcli2 /cx/ex/sx show DPM type = HIST LCT RA EXT
storcli /cx show sgpioforce	—
storcli /cx show reconrate	storcli2 /cx show ocrate
storcli /cx show spinupdrivecount	storcli2 /cx show spinupdrivecount
storcli /cx show wbsupport	—
storcli /cx show spinupdelay	storcli2 /cx show spinupdelay
storcli /cx show coercion	storcli2 /cx show coercionmode
storcli /cx show limitMaxRateSATA	—
storcli /cx show HDDThermalPollInterval	—
storcli /cx show SSDThermalPollInterval	—
storcli /cx show smartpollinterval	storcli2 /cx show smartpollinterval
storcli /cx show eccbucketsize	storcli2 /cx show eccbucketsize
storcli /cx show eccbucketleakrate	storcli2 /cx show eccbucketleakrate

StorCLI Command	StorCLI2 Command
storcli /cx show backplane	—
storcli /cx show perfmode	—
storcli /cx show perfmodevalues	—
storcli /cx show pi	—
storcli /cx show time	storcli2 /cx show time
storcli /cx show ds	storcli2 /cx show ps
storcli /cx show safeid	storcli2 /cx show ASO
storcli /cx show rehostinfo	—
storcli /cx show pci	storcli2 /cx show pci
storcli /cx show ASO	storcli2 /cx show ASO
storcli /cx show linkconfig	—
storcli /cx show securitykey keyid	storcli2 /cx show securitykey keyid
storcli /cx show patrolRead	storcli2 /cx show patrolRead
storcli /cx show powermonitoringinfo	—
storcli /cx show ldlimit	—
storcli /cx show badblocks	—
storcli /cx show dequeuelog file=<filepath>	—
storcli /cx show maintenance	—
storcli /cx show personality	storcli2 /cx show personality
storcli /cx show profile	—
storcli /cx show jbodwritecache	—
storcli /cx show immediateio	—
storcli /cx show driveactivityled	—
storcli /cx show unmap	storcli2 /cx show unmap
storcli /cx show pdfailevents [lastoneday] [lastseqnum=<val>] [file=<filepath>]	—
storcli /cx show pdfaileventoptions	storcli2 /cx show pdfaileventoptions
storcli get rttDump	storcli2 get rttDump
storcli /cx show AliLog [logfile=<filename>]	storcli /cx show AliLog [logfile=<filename>]
storcli /cx show flushwriteverify	—
storcli /cx show largeQD	—
storcli /cx show assemblynumber	—
storcli /cx show tracernumber	—
storcli /cx show boardname	—
storcli /cx show sasadd	—
storcli /cx show vpd	storcli2 /cx show vpd
storcli /cx show htbparams	—

StorCLI Command	StorCLI2 Command
storcli /cx start dpm	storcli2 /cx start DPM [delay=<val>] [maxconcurrentpd =<value>] drives=e:s e:s-x e:s-x,y
storcli /cx stop dpm	storcli2 /cx stop DPM
—	storcli2 /cx show smartpollintervaljbod
storcli /cx show failedNvmeDevices	storcli2 /cx show driverecoveryinfo
—	storcli2 /cx show name
—	storcli2 /cx show CacheOffloadEncType
—	storcli2 /cx show maintainjbodfailhistory
—	storcli2 /cx show jbodesesgmt
—	storcli2 /cx show BaseEnclLevel
—	storcli2 /cx show pdtemppoll
—	storcli2 /cx show fwjbodsecurity
—	storcli2 /cx show hostjbodsecurity
—	storcli2 /cx show smartpoll
—	storcli2 /cx show drivewceforrebuild
—	storcli2 /cx show maintainpdfailhistory
—	storcli2 /cx show prcorrectunconfiguredareas
—	storcli2 /cx show smartpollinterval
—	storcli2 /cx show esSMARTer
—	storcli2 /cx show exposeencldevice
—	storcli2 /cx get DPM status
—	storcli2 /cx show datalosswarning
—	storcli2 /cx get DPM config
—	storcli2 /cx delete activation offline
—	storcli2 /cx get activation status
—	storcli2 /cx show unusabledriveinfo
storcli /cx show perst	storcli2 /cx show perst
storcli /cx show refClk	storcli2 /cx show refClk
—	storcli2 show pdspindownatshutdown
—	storcli2 show eidretentiontime
Controller Properties Set Commands	
storcli /cx set termlog=on off offthisboot	—
storcli /cx set sesmonitoring=on off	—
storcli /cx set failpdonsmarterror=on off	storcli2 /cx set failpdonsmarterror=on off

StorCLI Command	StorCLI2 Command
storcli /cx set consistencycheck cc[=off seq conc] [delay=value] [starttime=yyyy/mm/dd hh] [excldevd=x-y,z none]	storcli2 /cx set cc consistencycheck=off storcli2 /cx set cc consistencycheck=on starttime=<yyyy/mm/dd hh> exectfrequency hours days weeks=<value> storcli2 /cx set cc consistencycheck [starttime=<yyyy/mm/dd hh>] [exectfrequency hours days weeks=<value>] [maxvd=<value>] [excldevd=x-y,z none]] storcli2 /cx set cc consistencycheck=on storcli2 /cx set cc consistencycheck factory
storcli /cx set ocr=<on off>	storcli2 /cx set ocr=<on off> type=<all auto>
storcli /cx set sesmultipathcfg=<on off>	storcli2 /cx set sesvpdassociation=<lun targetport>
storcli /cx set bootwithpinnedcache=<on off>	storcli2 /cx set bootwithpinnedcache=<on off>
storcli /cx set activityforlocate=<on off>	—
storcli /cx set copyback=<on off> type=ctrl smartssd smarthdd all	storcli2 /cx set replacedrive=<on off> type=ctrl smartssd smarthdd all
storcli /cx set jbod=<on off> [force]	—
storcli /cx set autorebuild=<on off>	storcli2 /cx set autorebuild=<on off>
storcli /cx set ldlimit=<default max>	—
storcli /cx set cachebypass=<on off>	—
storcli /cx set usefdeonlyencrypt=<on off>	—
storcli /cx set prcorrectunconfiguredareas=<on off>	storcli2 /cx set prcorrectunconfiguredareas=<on off>
storcli /cx set cachebypass=<on off>	storcli2 /cx set cachebypass=<on off>
storcli /cx set batterywarning=<on off>	storcli2 /cx set energypackwarning=<on off>
storcli /cx set abortconerror=<on off>	storcli2 /cx set abortconerror=<on off>
storcli /cx set ncq=<on off>	—
storcli /cx set configautobalance=<on off>	—
storcli /cx set maintainpdfailhistory=<on off>	storcli2 /cx set maintainpdfailhistory=<on off>
storcli /cx set restorehotspare=<on off>	—
storcli /cx set bios [state=<on off>] [Mode=<SOE PE IE SME>] [abs=<on off>] [DeviceExposure=<value>]	storcli2 /cx set bootmode=COE/SMOE
storcli /cx set alarm=<on off silence>	—
storcli /cx set deviceorderbyfirmware=<on off>	—
storcli /cx set foreignautoimport=<on off>	—
storcli /cx set refClk = 0 1 2	storcli /cx set perst=0 1 2 storcli2 /cx set perst=<0-3>
storcli /cx set directpdmapping=<on off>	—
storcli /cx set rebuildrate=<value>	storcli2 /cx set rebuildrate=<value>
storcli /cx set loadbalancemode=<on off>	—
storcli /cx set eghs [state=<on off>] [eug=<on off>] [smarter=<on off>]	storcli2 /cx set es=<on off> ghs ug storcli2 /cx set esSMARTer=on off
storcli /cx set cacheflushint=<value>	—
storcli /cx set prrate=<value>	storcli2 /cx set prrate=<value>

StorCLI Command	StorCLI2 Command
storcli /cx set ccrate=<value>	storcli2 /cx set ccrate=<value>
storcli /cx set bgirate =<value>	storcli2 /cx set bgirate =<value>
storcli /cx set dpm =<on off>	—
storcli /cx set sgpioforce =<on off>	—
storcli /cx set supportssdpatrolread =<on off>	storcli2 /cx set supportssdpatrolread =<on off>
storcli /cx set reconrate=<value>	storcli2 /cx set ocrate=<value>
storcli /cx set spinupdrivecount=<value>	storcli2 /cx set spinupdrivecount=<value>
storcli /cx set spinupdelay=<value>	storcli2 /cx set spinupdelay=<value>
storcli /cx set coercion=<value>	storcli2 /cx set coercion=<value>
storcli /cx set limitMaxRateSATA=on off	—
storcli /cx set HDDThermalPollInterval=<value>	—
storcli /cx set SSDThermalPollInterval=<value>	—
storcli /cx set smartpollinterval=<value>	storcli2 /cx set smartpollinterval=<value> pdtype=Internal External
storcli /cx set eccbucketsize=<value>	storcli2 /cx set eccbucketsize=<value>
storcli /cx set eccbucketleakrate=<value>	storcli2 /cx set eccbucketleakrate=<value>
storcli /cx set backplane mode=<value> expose=<on off>	storcli2 /cx set exposeencdevice =<on off>
storcli /cx set perfmode=<value> [maxflushlines=<value> numiostorder=<value>]	—
storcli /cx set pi [state=<on off>] [import=<on off>]	—
storcli /cx set time=<yyyymmdd hh:mm:ss systemtime>	storcli2 /cx set time=systemtime
storcli /cx set ds=OFF type=1 2 3 4	storcli2 /cx set ps=OFF type= UG HS all
storcli /cx set ds=ON type=1 2 [properties]	storcli2 /cx set ps=ON type= UG HS [SpinDownTime=30-1440] [SpinUpEncDrvCnt=<val>] [SpinUpEncDelay=<val>]
storcli /cx set ds=ON type=3 4 DefaultLdType=<val> [properties]	—
storcli /cx set ds [properties]	storcli2 /cx set ps=ON type= UG HS [SpinDownTime=30-1440] [SpinUpEncDrvCnt=<val>] [SpinUpEncDelay=<val>]
storcli /cx set factory defaults	storcli2 /cx set factory defaults
storcli /cx set linkconfig [conname=cx,cy] configid=<val>	—
storcli /cx set patrolread [= [[on mode=<auto manual>]] off]] [starttime=< yyyy/mm/dd hh>] [maxconcurrentpd =<value>] [includessds=<on onlymixed off>] [includessds=<on onlymixed off>] [includessds=<on onlymixed off>] [uncfgareas=on off]] [delay = <value>] [excludevd=x-y,z none]	storcli2 /cx set pr patrolread=off storcli2 /cx set pr patrolread=on starttime=<yyyy/mm/dd hh> execfrequency hours days weeks=<value> storcli2 /cx set pr patrolread [starttime=<yyyy/mm/dd hh>] [execfrequency hours days weeks=<value>] [maxconcurrentpd =<value>] [includessds=<on off>] [excludevd=x-y,z none] storcli2 /cx set pr patrolread=on storcli2 /cx set pr patrolread factory
storcli /cx set maintenance mode=normal nodevices	—
storcli /cx set personality=RAID HBA JBOD	storcli2 /cx set personality id=<personality-id> [force]
storcli /cx set profile profileid=<id>	—
storcli /cx set jbodwritecache=on off default	—

StorCLI Command	StorCLI2 Command
storcli /cx set immediateio=<on off>	—
storcli /cx set largeiosupport=<on off>	—
storcli /cx set unmap=<on off>	—
storcli /cx set driveactivityled=<on off>	—
—	storcli2 /cx ack events seqnum=<sequence-number>
storcli /cx set pdfaileventoptions [detectionType=<val>] [correctiveaction=<val>] [errorThreshold=<val>]	storcli2 /cx set pdfaileventoptions [detectionType=<val>] [correctiveaction=<val>] [errorThreshold=<val>]
storcli /cx set assemblynumber= xxxx	—
storcli /cx set config file=<fileName>	—
storcli /cx set flushwriteverify=<on off>	—
storcli /cx set largeQD=<on off>	—
storcli /cx set debug type=<value> option=<value> [level=<value in hex>]	—
storcli /cx set debug reset all	—
storcli /cx set tracernumber= xxxx	—
storcli /cx set sasadd = xxxx [devicename] [methodport]	—
storcli /cx set sasaddhi = xxxxsasaddlow = xxxxx [devicename] [methodport]	—
storcli /cx set updatevpd file=<filepath>	—
storcli /cx set htbparams=off	—
storcli /cx set htbparams [= on] maxsize=<value> minsize=<value> decrementsize=<value>	—
—	storcli2 /cx set bootmode=COE SMOE
storcli /cx start diag [duration=<val>]	storcli2 /cx start diag [duration=<val>]
storcli /cx start dpm	—
storcli /cx start patrolread	storcli2 /cx start patrolread
storcli /cx stop patrolread	storcli2 /cx stop patrolread
—	storcli2 /cx set nvcacherekey
storcli /cx flasherase	storcli2 /cx start nvcacheerase
storcli /cx stop dpm	storcli2 /cx stop DPM
storcli /cx set sasaddress=xxxxxxxx	—
storcli /cx compare bios ver =<bios version>	—
storcli /cx compare fwprodid ver =<fw product id version>	—
storcli /cx compare ssid ver =<ssid version>	—
storcli /cx compare firmware ver =<firmware version>	—
storcli /cx erase nvram	—
storcli /cx erase fwbackup	—
storcli /cx erase bootservices	—

StorCLI Command	StorCLI2 Command
storcli /cx erase all [excludemfg] [file=filename]	—
storcli /cx erase perconfpag	—
storcli /cx erase mpb	—
—	storcli2 /cx set drivewceforrebuild=<on off>
—	storcli2 /cx set BaseEnclLevel=<val>
—	storcli2 /cx set CacheOffloadEncType=<val>
—	storcli2 /cx set name=<name>
—	storcli2 /cx set DPM [duration=<val>] [raFactor=<value>]
—	storcli2 /cx set maintainjbodfailhistory=<on off>
—	storcli2 /cx set jbodsesmgmt=<on off>
—	storcli2 /cx set pdtemppoll=<on off>
—	storcli2 /cx set pdtemppoll state=on off pdtype=raid jbod
—	storcli2 /cx set fwjbodsecurity=<on off>
—	storcli2 /cx set hostjbodsecurity=<on off>
—	storcli2 /cx set smartpoll=<on off> pdtype=RAID JBOD
—	storcli2 /cx spinup drives= <e:s e:s-x e:s-x,y>
—	storcli2 /cx set datalosswarning=<on off>
—	storcli2 /cx set pdspindownatshutdown [type=direct expander] { [sashdd=<on off>] [sasssd=<on off>] [satahdd=<on off>] [satassd=<on off>] [nvMESSd=<on off>] }
—	storcli2 /cx set pdspindownatshutdown [type=direct switch] nvMESSd=<on off>
—	storcli2 /cx set eidretentiontime=<0-255> transport=<i2c pcie>
Image Upload Commands	
storcli /cx get vpd file=<fileName>	—
storcli /cx get config file=<fileName>	—
storcli /cx get bios file=<filename>	storcli2 /c0 get component type=<val> [location=<val>] file=<filepath>
storcli /cx get firmware file=<filename>	
storcli /cx get mpb file=<filename>	
storcli /cx get fwbackup file=<filename>	
storcli /cx get nvdata file=<filename>	
storcli /cx get flash file=<filename>	—
PHY Commands	
storcli /cx/px show	storcli2 /cx/px show [phytype=sas pcie]
storcli /cx/px show phyerrorcounters	storcli2 /cx/px show all [phytype=sas pcie]
storcli /cx/px show all	storcli2 /cx/px set saslinkspeed=6 12 22.5
storcli /cx/px set linkspeed=0 1.5 3 6 12	storcli2 /cx/px set pcielinkspeed=2.5 5 8 16 storcli2 /cx/px set pcielinkspeed=2.5 5 8 16

StorCLI Command	StorCLI2 Command
storcli /cx/px set state=on off	storcli2 /cx/px set state=on off [phytype=sas pcie]
storcli /cx/px reset [hard]	—
storcli /cx/px compare linkspeed=<speed>	—
Energy Pack Commands	
storcli /cx/bbu show	storcli2 /cx/ep show
storcli /cx/bbu show all	storcli2 /cx/ep show all
storcli /cx/bbu show status	—
storcli /cx/bbu show properties	—
storcli /cx/bbu show learn	—
storcli /cx/bbu show gasgauge Offset=xxxx Numbytes=n	—
storcli /cx/bbu start learn	—
storcli /cx/bbu show modes	—
storcli /cx/bbu set [learnDelayInterval=<val> bbuMode=<val> learnStartTime=[DDD HH off] autolearnmode=<val> powermode=sleep writeaccess=sealed]	storcli2 /cx/ep set autolearnmode=<val>
storcli /cx/cv show	storcli2 /cx/ep show
storcli /cx/cv show all	storcli2 /cx/ep show all
storcli /cx/cv show status	—
storcli /cx/cv show learn	—
storcli /cx/cv start learn	—

Support and Other Resources

Accessing Hewlett Packard Enterprise Support

For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

<http://www.hpe.com/assistance>

To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

<http://www.hpe.com/support/hpesc>

Information to collect:

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing Updates

Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

To download product updates:

Hewlett Packard Enterprise Support Center

www.hpe.com/support/hpesc

Hewlett Packard Enterprise Support Center: Software downloads

www.hpe.com/support/downloads

My HPE Software Center

www.hpe.com/support/softwaredepot

To subscribe to eNewsletters and alerts:

www.hpe.com/support/e-updates

To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center More Information on Access to Support Materials page:

www.hpe.com/support/AccessToSupportMaterials

NOTE

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Customer Self Repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website: www.hpe.com/support/selfrepair

Remote Support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

- **HPE Get Connected**
www.hpe.com/services/getconnected
- **HPE Proactive Care Services**
www.hpe.com/services/proactivecare
- **HPE Proactive Care Service: Supported Products List**
www.hpe.com/services/proactivecaresupportedproducts
HPE Proactive Care Advanced Service: Supported Products List
www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care Customer Information

- **Proactive Care Central**
www.hpe.com/services/proactivecarecentral
- **Proactive Care Service Activation**
www.hpe.com/services/proactivecarecentralgetstarted

Warranty Information

To view the warranty for your product or to view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* reference document, go to the Enterprise Safety and Compliance website:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional warranty information

- **HPE ProLiant and x86 Servers and Options**
www.hpe.com/support/ProLiantServers-Warranties
- **HPE Enterprise Servers**
www.hpe.com/support/EnterpriseServers-Warranties
- **HPE Storage Products**
www.hpe.com/support/Storage-Warranties
- **HPE Networking Products**
www.hpe.com/support/Networking-Warranties

Regulatory Information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation Feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (docsfeedback@hpe.com). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

Revision History

Version 1.0, February 16, 2026

Initial document release.

MegaRAID8 Reference Information

ATTENTION

This information is for reference only and must be removed before publishing the StorCLI2 User Guide.

Components and Features

RAID levels describe a system for ensuring the availability and redundancy of the data that is stored on large disk subsystems. The following subsections describe the components of RAID drive groups and RAID levels.

Table 26: RAID Feature Support Information

Feature	9760 eHBA Profile	RAID Personality (Maximum Support)
Maximum Logical Drives	4	16 non-single-drive RAID 0 and 64 single-drive RAID 0
RAID Levels	RAID 0, RAID 1, RAID 1E_RLQ0 ^a	RAID 0, RAID 1, RAID 1E_RLQ0, RAID 5, RAID 6, RAID 1E0_RLQ0 ¹ , RAID 50, RAID 60
Hot Spare	4 global hot spare (GHSP) and emergency hot spare	64 GHSP, 64 dedicated hot spare, and emergency hot spare
Copyback	No	Yes
Online Capacity Expansion	No	Yes
RAID Level Migration	No	No
Maximum Spans	1	8
Maximum VDs per Array (Slice LDs)	4	16
Maximum PDs per Array	32	32
Write Back LD	No	Yes
Patrol Read	Yes	Yes
Consistency Check	Yes	Yes
Rebuild	Yes	Yes
VD Initialization	Yes	Yes
PD Clear/Erase	Yes	Yes
LDBBM	102 entries, 65535 (64K) LBA count per entry	2048 entries, 65535 (64K) LBA count per entry
Read Ahead (supported for HDD VDs for MR8.7 and later)	No	No

Viewing and Managing Virtual Drive Properties and Options

The following dialog appears when you select **Advanced** from the **Virtual Drive** dialog. The **Virtual Drive Properties** dialog shows the rest of the options that are visible when you scroll down.

a. R00 is not supported for MegaRAID8. All span and PDs per span count combinations are not supported. Use the MR8_DCMD_CFG_SPAN_LIST_GET DCMD to find the supported counts. Firmware rejects unsupported combinations.

NOTE

The properties and options that are shown in the dialog apply to the currently selected virtual drive. To manage properties for a different virtual drive, press **Esc** until you return to the **Virtual Drive Selection** menu. Select the preferable virtual drive, and navigate back to this dialog.

Figure 1: Advanced Virtual Drive Properties Dialog

The following table describes the virtual drive properties that are listed in this dialog. If a property is not applicable for a specific virtual drive, then the property is suppressed.

Table 27: Virtual Drive Properties

Property	Description
Parity Size	The size of the parity data on the virtual drive.
Strip Size	The size of the stripe that resides on the virtual drive.
Starting Logical Block Addressing (LBA)	The address of the first location of a block of data stored on the virtual drive.
Secured	Indicates whether the virtual drive is secured.
Bad Blocks	Indicates whether the virtual drive has bad blocks.
Data Format for I/O	Indicates the I/O data format (PRP or SGL) the controller uses to send data to the device.

Following the virtual drive properties that are listed in the dialog are virtual drive policies that you can select and change. To change any policy, highlight the field, press **Enter**, and select a value from the popup menu. When you finish changing policy settings, highlight **Apply Changes** at the top or the bottom of the selections and press **Enter**.

Figure 2: Virtual Drive Properties Dialog

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Dashboard View • Main Menu • Advanced...

Current Cache Status No Read Ahead, Write-Back

Access Policy Read/Write

Current Power Save Policy Default

Default Read Cache Policy ☒ No Read Ahead

Default Write Cache Policy ☐ Write-Through ☒ Write-Back ☐ Always Write-Back

Default Power Save Policy ☐ None ☒ Default ☐ T10

Drive Write Cache Policy ☐ Default ☐ Enable ☒ Disable

Disable Background Initialization (BGI) ☐ No ☒ Yes

Current Unmap Capability Enabled

Current Write Same Unmap Capability Enabled

Unmap/Write Same Unmap ☒ Disabled ☐ Enabled

[Apply Changes](#)

Submits the changes made to the entire form.

The following table describes the virtual drive policies.

Table 28: Virtual Drive Policies

Property	Description
Current Cache Status	Displays the current cache policy. The possible values are as follows: • Write-Through The controller sends a data transfer completion signal to the host when the virtual drive has received all of the data and has completed the write transaction to the drive. • Write-Back The controller sends a data transfer completion signal to the host when the controller cache has received all of the data in a drive write transaction. Data is written to the virtual drive in accordance with policies set up by the controller. These policies include the number of dirty and clean cache lines, the number of cache lines available, and the elapsed time from the last cache flush. • Always Write Back
Access Policy	The access policy for the virtual drive. The options are Read/Write , Read Only , and Blocked .
Current Power Save Policy	Displays the current power save policy.
Default Read Cache Policy	Displays the read cache policy for the virtual drive. For any profile, if the drive is an SSD drive, both No Read Ahead and Read Ahead options are displayed. However, No Read Ahead is the default read policy. The possible options are as follows: • Default A virtual drive property that indicates whether the default read policy is Read Ahead or No Read Ahead. • Read Ahead - Permits the controller to read sequentially ahead of the requested data and allows the controller to store the additional data in the cache memory. Here, the controller anticipates that the data is required frequently. Even though the Always Read Ahead policy speeds up the reads for sequential data, but little improvement is seen when accessing the random data. • No Read Ahead - Disables the Always Read Ahead capability of the controller.
Default Write Cache Policy	Displays the default write cache policy of the virtual drive.

Property	Description
Default Power Save Policy	If active, displays the default power save policy.
Drive Write Cache Policy	The drive write cache policy is the disk write cache policy for the individual drives in the virtual drive. The possible values are as follows: • Unchanged • Enable • Disable
Disable Background Initialization (BGI)	Specifies whether background initialization is enabled or disabled. When BGI is enabled, the firmware runs the initialization process in the background. When BGI is disabled, the initialization process does not start automatically and does not run in the background.
Current Unmap Capability	Displays the current unmap capability for the virtual drive. The unmap capability is not supported on NVMe VDs.
Current Write Same Unmap Capability	Displays the current write same unmap capability for the virtual drive.
Unmap	Displays and/or allows you to enable or disable the unmap capability for the virtual drive.
Write Same Unmap	Displays and/or allows you to enable or disable the write same unmap capability for the virtual drive.
Unmap/Write Same Unmap	Displays and/or allows you to enable or disable the unmap/write same unmap capability for the virtual drive.

Prepare to Remove Drives Commands

The StorCLI2 utility supports the following commands to prepare the drive for removal:

```
storcli2 /cx/ex/sx start prepformv1
storcli2 /cx/ex/sx undo prepformv1
```

The detailed description for each command follows.

storcli2 /cx/ex/sx start prepformv1

This command spins down an unconfigured drive and prepares it for removal. The drive state is unchanged.

Input example:

```
storcli2 /cx/e25/s4 start prepformv1
```

storcli2 /cx/ex/sx undo prepformv1

Use this command to undo the prepare drive for removal command.

Input example:

```
storcli2 /c0/e25/s4 undoprepformv1
```

Virtual Drive Consistency Check Commands

The Storage Command Line Interface Tool supports the following commands for virtual drive consistency checks:

```
storcli /cx/vx pause cc
storcli /cx/vx resume cc
storcli /cx/vx show cc
storcli /cx/vx start cc [force]
storcli /cx/vx stop cc
```

NOTE

If enclosures are used to connect the physical drives to the controller, specify the IDs in the command.

The detailed description for each command follows.

storcli /cx/vx pause cc

This command pauses an ongoing consistency check process. You can resume the consistency check at a later time. You can run this command only on a virtual drive that has a consistency check operation running.

Input example:

```
storcli /c0/v4 pause cc
```

storcli /cx/vx resume cc

This command resumes a suspended consistency check operation. You can run this command on a virtual drive that has a paused consistency check operation.

Input example:

```
storcli /c0/v4 resume cc
```

storcli /cx/vx show cc

This command shows the progress of the consistency check operation in percentage.

The estimated time (in minutes) left to complete the operation is also shown.

Input example:

```
storcli /c0/v5 show cc
```

storcli /cx/vx start cc force

This command starts a consistency check operation for a virtual drive. Typically, a consistency check operation is run on an initialized virtual drive. Use the `force` option to run a consistency check on an uninitialized drive.

Input example:

```
storcli /c0/v4 start cc
```

storcli /cx/vx stop cc

This command stops a consistency check operation. You can run this command only for a virtual drive that has a consistency check operation running.

Input example:

```
storcli /c0/v4 stop cc
```

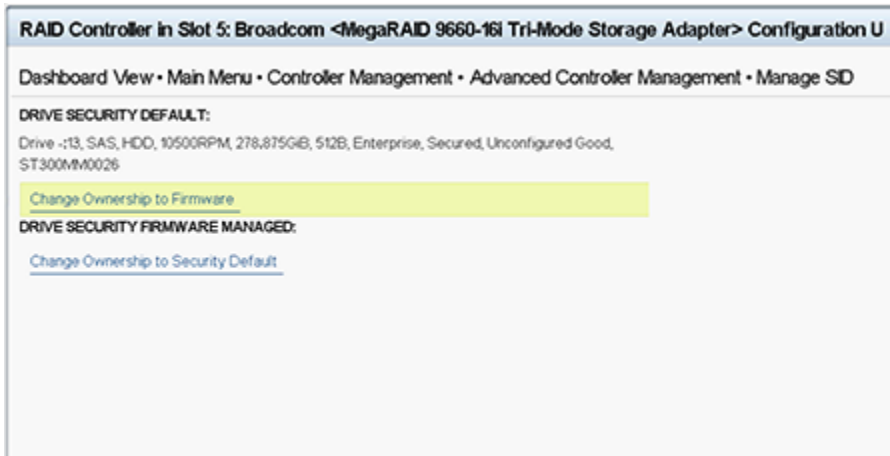
NOTE

You cannot resume a stopped consistency check process.

Managing SID Ownership

The Manage SID Ownership feature allows you to set the SID credentials of SED drives to be managed by MSID or by firmware. For managing the SID ownership, navigate to **Manage SID Ownership** on the **Advanced Controller Management** dialog.

Figure 3: Manage SID



Running a Patrol Read

The following dialog appears when you select **Patrol Read** from the **Advanced Controller Properties** dialog.

Figure 4: Patrol Read Dialog

A patrol read operation scans and resolves potential problems on configured physical drives.

You can set the patrol read properties and start the patrol read operation, or you can start the patrol read without changing the properties:

Follow these steps to set the patrol read properties:

NOTE

You can only view the properties and options that are supported by your controller.

1. To specify a rate for the percentage of system resources dedicated to perform a patrol read operation on configured drives, highlight **Rate**, specify a rate as a numeric value and press **Enter**.
The maximum numeric value that you can enter as the rate is 100.
2. To select a patrol read setting for unconfigured space, highlight , and press **Enter**. Select either **Enabled** or **Disabled** and press **Enter**.
3. Highlight **Apply Changes** and press **Enter**.
The new settings are saved in the controller properties.

To start a patrol read without changing the patrol read properties, follow these steps:

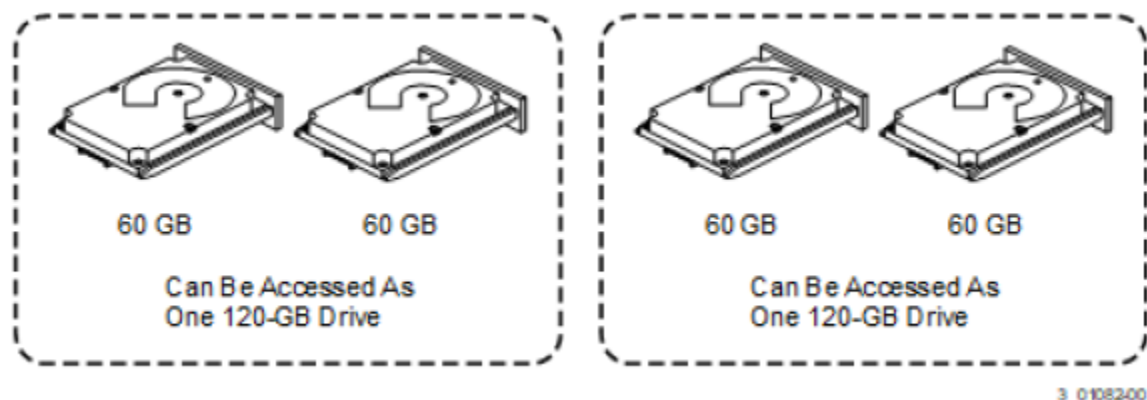
1. Highlight **Start** in the **Patrol Read** dialog and press **Enter**.
2. A message box appears stating that the operation has been successful. Click **OK** to return to the **Patrol Read** dialog.
Suspend and **Stop** are now active.

Disk Spanning

Disk spanning allows multiple drives to function like one big drive. Spanning overcomes lack of disk space and simplifies storage management by combining existing resources or adding relatively inexpensive resources. For example, four 20-GB drives can be combined to appear to the operating system as a single 80-GB drive.

Spanning alone does not provide reliability or performance enhancements. Spanned virtual drives must have the same stripe size and must be contiguous. In the following figure, RAID 1 drive groups are turned into a RAID 10 drive group.

Figure 5: Example of Disk Spanning



Spanning two contiguous RAID 0 virtual drives does not produce a new RAID level or add fault tolerance. It does increase the capacity of the virtual drive and improves performance by doubling the number of spindles.

Spanning for RAID 00, RAID 10, RAID 50, and RAID 60 Drive Groups

The following table describes how to configure RAID 00, RAID 10, RAID 50, and RAID 60 drive groups by spanning. The virtual drives must have the same stripe size and the maximum number of spans is 8. The full drive capacity is used when you span virtual drives; you cannot specify a smaller drive capacity.

Table 29: Spanning for RAID 10, RAID 50, and RAID 60 Drive Groups

Level	Description
00	Configure a RAID 00 by spanning two or more contiguous RAID 0 virtual drives, up to the maximum number of supported devices for the controller.
10	Configure RAID 10 by spanning two or more contiguous RAID 1 virtual drives, up to the maximum number of supported devices for the controller. A RAID 10 drive group supports a maximum of 8 spans. You must use an even number of drives in each RAID virtual drive in the span. The RAID 1 virtual drives must have the same stripe size.
50	Configure a RAID 50 drive group by spanning two or more contiguous RAID 5 virtual drives. The RAID 5 virtual drives must have the same stripe size.
60	Configure a RAID 60 drive group by spanning two or more contiguous RAID 6 virtual drives. The RAID 6 virtual drives must have the same stripe size.

NOTE

In a spanned virtual drive (RAID 10, RAID 50, RAID 60) the span numbering starts from Span 0, Span 1, Span 2, and so on.