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## MegaCli Common Commands and Procedures

Physical Security

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### Introduction

MegaCli commands have presented a number of questions among our users for Cisco's Physical Security. Here is an attempt to explain thier meaning and uses.

*See also: Cisco VSM RAID Viewer*

### General Parameters

- Adapter parameter -aN

The parameter -aN (where N is a number starting with zero or the string ALL) specifies the adapter ID. If you have only one controller it's safe to use ALL instead of a specific ID, but you're encouraged to use the ID for everything that makes changes to your RAID configuration.

- Physical drive parameter -PhysDrv [E:S]

For commands that operate on one or more pysical drives, the -PhysDrv [E:S] parameter is used, where E is the enclosure device ID in which the drive resides and S the slot number (starting with zero). You can get the enclosure device ID using **MegaCli -EncInfo -aALL**. The E:S syntax is also used for specifying the physical drives when creating a new RAID virtual drive (see 5).

- Virtual drive parameter -Lx

The parameter -Lx is used for specifying the virtual drive (where x is a number starting with zero or the string all).

Running the executable can be accomplished by:

```
shell> /opt/MegaRAID/MegaCli/MegaCli <cmd>
```

or

```
shell> cd /opt/MegaRAID/MegaCli
```

```
shell> ./MegaCli <cmd>
```

## Gather information

- Controller information

```
MegaCli -AdpAllInfo -aALL
```

```
MegaCli -CfgDsply -aALL
```

```
MegaCli -adpeventlog -getevents -f lsi-events.log -a0 -nolog
```

- Enclosure information

```
MegaCli -EncInfo -aALL
```

- Virtual drive information

```
MegaCli -LDInfo -Lall -aALL
```

- Physical drive information

```
MegaCli -PDList -aALL
```

```
MegaCli -PDInfo -PhysDrv [E:S] -aALL
```

- Battery backup information (Cisco MSPs do not have the battery backup unit installed, but in case yours has one)

```
MegaCli -AdpBbuCmd -aALL
```

- Check Battery backup warning on boot. If this is enabled on an MSP, it will require manual intervention every time the system boots

```
MegaCli -AdpGetProp BatWarnDsbl -a0
```

## Controller management

- Silence active alarm

```
MegaCli -AdpSetProp AlarmSilence -aALL
```

- Disable alarm

```
MegaCli -AdpSetProp AlarmDsbl -aALL
```

- Enable alarm

```
MegaCli -AdpSetProp AlarmEnbl -aALL
```

- Disable battery backup warning on system boot

```
MegaCli -AdpSetProp BatWarnDsbl -a0
```

- Change the adapter rebuild rate to 60%:

```
MegaCli -AdpSetProp {RebuildRate -60} -aALL
```

## Virtual drive management

- Create RAID 0, 1, 5 drive

```
MegaCli -CfgLdAdd -r(0|1|5) [E:S, E:S, ...] -aN
```

- Create RAID 10 drive

```
MegaCli -CfgSpanAdd -r10 -Array0[E:S,E:S] -Array1[E:S,E:S] -aN
```

- Remove drive

```
MegaCli -CfgLdDel -Lx -aN
```

## Physical drive management

- Set state to offline

```
MegaCli -PDOffline -PhysDrv [E:S] -aN
```

- Set state to online

```
MegaCli -PDOnline -PhysDrv [E:S] -aN
```

- Mark as missing

```
MegaCli -PDMarkMissing -PhysDrv [E:S] -aN
```

- Prepare for removal

```
MegaCli -PdPrpRmv -PhysDrv [E:S] -aN
```

- Replace missing drive

```
MegaCli -PdReplaceMissing -PhysDrv [E:S] -ArrayN -rowN -aN
```

The number N of the **Array** parameter is from the "Span Reference:" line you get using **MegaCli -CfgDsply -aALL**, minus the 0x0 part. For VSM systems it's normally 0. The number N of the **row** parameter is the Physical Disk in that span or array starting with zero (it can be but is not always the physical disk's slot!).

- Rebuild drive - Drive status should be "Firmware state: Rebuild"

```
MegaCli -PDRbld -Start -PhysDrv [E:S] -aN
```

```
MegaCli -PDRbld -Stop -PhysDrv [E:S] -aN
```

```
MegaCli -PDRbld -ShowProg -PhysDrv [E:S] -aN
```

```
MegaCli -PDRbld -ProgDsply -physdrv [E:S] -aN
```

- Clear drive

```
MegaCli -PDClear -Start -PhysDrv [E:S] -aN
```

```
MegaCli -PDClear -Stop -PhysDrv [E:S] -aN
```

```
MegaCli -PDClear -ShowProg -PhysDrv [E:S] -aN
```

- Bad to good

```
MegaCli -PDMakeGood -PhysDrv[E:S] -aN
```

Changes drive in state Unconfigured-Bad to Unconfigured-Good.

## Hot spare management

- Set global hot spare

```
MegaCli -PDHSP -Set -PhysDrv [E:S] -aN
```

- Remove hot spare

```
MegaCli -PDHSP -Rmv -PhysDrv [E:S] -aN
```

- Set dedicated hot spare

```
MegaCli -PDHSP -Set -Dedicated -ArrayN,M,... -PhysDrv [E:S] -aN
```

Walkthrough: Rebuild a Drive that is marked 'Foreign' when Inserted:

- Bad to good

```
MegaCli -PDMakeGood -PhysDrv [E:S] -aALL
```

- Clear the foreign setting

```
MegaCli -CfgForeign -Clear -aALL
```

- Set global hot spare

```
MegaCli -PDHSP -Set -PhysDrv [E:S] -aN
```

Walkthrough: Change/replace a drive

1. Set the drive offline, if it is not already offline due to an error

```
MegaCli -PDOffline -PhysDrv [E:S] -aN
```

2. Mark the drive as missing

```
MegaCli -PDMarkMissing -PhysDrv [E:S] -aN
```

3. Prepare drive for removal

```
MegaCli -PDPrpRmv -PhysDrv [E:S] -aN
```

4. Change/replace the drive

5. If you're using hot spares then the replaced drive should become your new hot spare drive

```
MegaCli -PDHSP -Set -PhysDrv [E:S] -aN
```

6. In case you're not working with hot spares, you must re-add the new drive to your RAID virtual drive and start the rebuilding

```
MegaCli -PdReplaceMissing -PhysDrv [E:S] -ArrayN -rowN -aN
```

```
MegaCli -PDRbld -Start -PhysDrv [E:S] -aN
```

Gathering Standard logs

On every instance of a hard drive problem with an MSP server, we need to run the following commands to have any information about the problem:

```
shell> rm -f MegaSAS.log
```

```
shell> /opt/MegaRAID/MegaCli/MegaCli -adpallinfo -a0
```

```
shell> /opt/MegaRAID/MegaCli/MegaCli -encinfo -a0
```

```
shell> /opt/MegaRAID/MegaCli/MegaCli -ldinfo -lall -a0
```

```
shell> /opt/MegaRAID/MegaCli/MegaCli -pdlist -a0
```

```
shell> /opt/MegaRAID/MegaCli/MegaCli -adpeventlog -getevents -f lsi-events.log -a0 -nolog
```

```
shell> /opt/MegaRAID/MegaCli/MegaCli -fwtermlog -dsply -a0 -nolog > lsi-fwterm.log
```