

Requirements and General Information

DELL's PowerEdge RAID Controller (PERC) is a special LSI Logic SAS/SATA RAID Controller and thus the LSI management utility called MegaCli also works for this controller. For older controllers like PERC4 and PERC3 please refer to <http://linux.dell.com/storage.shtml> (keyword DellMgr).

MegaCli is available for Linux, DOS, Windows, Netware and Solaris.

You can get it from LSI's website (search for MegaRAID SAS) or download it here: http://www.lsi.com/support/downloads/megaraid/miscellaneous/linux/1.01.40_Linux_Cli.zip. Inside the ZIP file you'll find an RPM archive which contains the MegaCli and MegaCli64 binaries (will be installed to /opt/MegaRAID/MegaCli).

MegaCli conventions

Adapter parameter -aN

The parameter -aN (where N is a number starting with zero or the string ALL) specifies the PERC5/i 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 physical 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 -EnclInfo -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).

Gather information

Adapter information

MegaCli -AdpAllInfo -aALL

Configuration information

MegaCli -CfgDsply -aALL

Events Information

MegaCli -AdpEventLog -GetEvents -f events.log -aALL && cat events.log

Enclosure information

MegaCli -EnclInfo -aALL

Virtual drive information

MegaCli -LDInfo -Lall -aALL

Physical drive list

MegaCli -PDLlist -aALL

Physical drive list

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

Battery backup information

MegaCli -AdpBbuCmd -aALL

Controller management

Silence active alarm

MegaCli -AdpSetProp AlarmSilence -aALL

Disable alarm

MegaCli -AdpSetProp AlarmDsbl -aALL

Enable alarm

MegaCli -AdpSetProp AlarmEnbl -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

Rebuild drive start

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

Rebuild drive stop

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

Rebuild drive progress

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

Clear drive start

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

Clear drive stop

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

Clear drive progress

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

Bad to good

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

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: 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

Please Note

This emergency cheat sheet is not exhaustive, but it should be sufficient in most cases.
For a complete reference either call
MegaCli -h
or refer to the manual at:
http://www.lsi.com/files/docs/techdocs/storage_stand_prod/sas/mr_sas_sw_ug.pdf (Chapter 3 – MegaRAID Command Tool).

Credits

This content has been taken from
<http://tools.rapidsoft.de/perc/perc-cheat-sheet.html> with sincere thanks to the author for distilling the information into a usable format.
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