

# TechNote sobre el uso del alto rendimiento del disco

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## Introducción

Este documento describe un procedimiento cuando experimenta una utilización del rendimiento del disco que alcanza el 100% y la necesidad de verificar si se trata de un problema de aplicación o de un problema de hardware, se le requiere ejecutar varios comandos para analizar la situación.

## Prerequisites

### Requirements

No hay requisitos específicos para este documento.

### Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Cisco Unified Computing System (UCS) Series
- Servidores Hewlett-Packard (HP)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Problema: Uso de alto rendimiento de disco

El sistema funciona con lentitud y no es estable. El rendimiento del disco llega al 100%.

# Troubleshoot

La manera rápida y sencilla es acceder a la interfaz web de administración y examinar el estado del hardware de almacenamiento.

Cuando no hay acceso a Cisco Integrated Management Controller (CIMC) administración remota para Unified Computing System (UCS) Series o Integrated Lights-Out (ILO) en servidores HP, puede obtener la información sobre RAID y discos mediante este método:

Para servidores Cisco Unified Computing System (UCS):

Las distribuciones de Debian utilizan un paquete denominado "megacli".

Más información sobre esta herramienta - <http://hwraid.le-vert.net/wiki/LSIMegaRAIDSAS>

Ejemplos de cómo utilizar el comando - <http://www.mostlychris.com/blog/2009/07/29/check-raid-status-with-megacli/>

El paquete para debian puede ser [descargado](#) e instalado.

**Nota:** Se prueba con megacli\_8.07.14-1\_amd64.deb

Para verificar qué controladores de hardware se utilizan, ejecute el comando: **sudo lspci -vv | grep -i RAID**

p. ej.

Controlador de bus RAID 82:00.0: LSI Logic / Symbios Logic **MegaRAID** SAS 2208 [Thunderbolt] (rev 05)

Controlador del núcleo en uso: megaraid\_sas

puede encontrar más información sobre este comando en:

<http://www.cisco.com/c/en/us/support/docs/servers-unified-computing/ucs-c-series-rack-servers/115020-intro-lsi-megacli-00.html>

Ejecutándolo como root, ejecute el comando: **sudo /usr/bin/megacli**

## Cisco Unified Computing System (UCS) Series

Paso 1. Busque los detalles del controlador RAID, ejecute el comando: **lspci -vv | grep -i RAID**.

El controlador RAID es un dispositivo.

```
$ lspci -vv | grep -i RAID
82:00.0 RAID bus controller: LSI Logic / Symbios Logic MegaRAID SAS 2208 [Thunderbolt] (rev 05)
    Kernel driver in use: megaraid_sas
```

```

$ sudo lspci -vv | grep -A60 -i RAID
82:00.0 RAID bus controller: LSI Logic / Symbios Logic MegaRAID SAS 2208 [Thunderbolt] (rev 05)
Subsystem: LSI Logic / Symbios Logic Device 9271
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr+ Stepping- SERR+ FastB2B-
DisINTx+
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR-
INTx-
Latency: 0, Cache Line Size: 64 bytes
Interrupt: pin A routed to IRQ 56
Region 0: I/O ports at f000 [size=256]
Region 1: Memory at fbe60000 (64-bit, non-prefetchable) [size=16K]
Region 3: Memory at fbe00000 (64-bit, non-prefetchable) [size=256K]
Expansion ROM at fbe40000 [disabled] [size=128K]
Capabilities: [50] Power Management version 3
Flags: PMEClk- DSI- D1+ D2+ AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 NoSoftRst+ PME-Enable- DSel=0 DScale=0 PME-
Capabilities: [68] Express (v2) Endpoint, MSI 00
DevCap: MaxPayload 4096 bytes, PhantFunc 0, Latency L0s <64ns, L1 <1us
ExtTag+ AttnBtn- AttnInd- PwrInd- RBE+ FLReset+
DevCtl: Report errors: Correctable- Non-Fatal+ Fatal+ Unsupported-
RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop+ FLReset-
MaxPayload 256 bytes, MaxReadReq 512 bytes
DevSta: CorrErr+ UncorrErr- FatalErr- UnsuppReq+ AuxPwr- TransPend-
LnkCap: Port #0, Speed 8GT/s, Width x8, ASPM L0s, Latency L0 <64ns, L1 <1us
ClockPM- Surprise- LLActRep- BwNot-
LnkCtl: ASPM Disabled; RCB 64 bytes Disabled- Retrain- CommClk+
ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-
LnkSta: Speed 8GT/s, Width x8, TrErr- Train- SlotClk+ DLActive- BWMgmt- ABWMgmt-
DevCap2: Completion Timeout: Range BC, TimeoutDis+
DevCtl2: Completion Timeout: 65ms to 210ms, TimeoutDis-
LnkCtl2: Target Link Speed: 8GT/s, EnterCompliance- SpeedDis-, Selectable De-emphasis: -6dB
Transmit Margin: Normal Operating Range, EnterModifiedCompliance- ComplianceSOS-
Compliance De-emphasis: -6dB
LnkSta2: Current De-emphasis Level: -6dB, EqualizationComplete+, EqualizationPhase1+
EqualizationPhase2+, EqualizationPhase3+, LinkEqualizationRequest+
Capabilities: [d0] Vital Product Data
Unknown small resource type 00, will not decode more.
Capabilities: [a8] MSI: Enable- Count=1/1 Maskable- 64bit+
Address: 0000000000000000 Data&colon; 0000
Capabilities: [c0] MSI-X: Enable+ Count=16 Masked-
Vector table: BAR=1 offset=00002000
PBA: BAR=1 offset=00003000
Capabilities: [100 v2] Advanced Error Reporting
UESta: DLP- SDES- TLP- FCP- CmplttO- CmplttAbrt- UnxCmpltt- RxOF- MalftTLP- ECRC- UnsupReq-
ACSViol-
UEmsk: DLP- SDES- TLP- FCP- CmplttO- CmplttAbrt- UnxCmpltt- RxOF- MalftTLP- ECRC- UnsupReq+
ACSViol-
UESvrt: DLP+ SDES+ TLP- FCP+ CmplttO- CmplttAbrt- UnxCmpltt- RxOF+ MalftTLP+ ECRC- UnsupReq-
ACSViol-
CESta: RxErr- BadTLP- BadDLLP- Rollover- Timeout- NonFatalErr+
CEmsk: RxErr- BadTLP- BadDLLP- Rollover- Timeout- NonFatalErr+
AERCap: First Error Pointer: 00, GenCap- CGenEn- ChkCap- ChkEn-
Capabilities: [1e0 v1] #19
Capabilities: [1c0 v1] Power Budgeting <?>
Capabilities: [190 v1] #16
Capabilities: [148 v1] Alternative Routing-ID Interpretation (ARI)
ARICap: MFVC- ACS-, Next Function: 0
ARICtl: MFVC- ACS-, Function Group: 0
Kernel driver in use: megaraid_sas

```

Paso 2. Comprobando la unidad física y virtual de la serie Unified Computing System (UCS), ejecute el comando: **sudo megacli -linfo -IALL -aAL**.

```
$ sudo megacli -ldinfo -lALL -aALL
```

```
Adapter 0 -- Virtual Drive Information:
```

```
Virtual Drive: 0 (Target Id: 0)
```

```
Name :RAID10_1234
```

```
RAID Level : Primary-1, Secondary-0, RAID Level Qualifier-0
```

```
Size : 1.088 TB
```

```
Sector Size : 512
```

```
Is VD emulated : No
```

```
Mirror Data &colon; 1.088 TB
```

```
State : Optimal
```

```
Strip Size : 64 KB
```

```
Number Of Drives per span:2
```

```
Span Depth : 2
```

```
Default Cache Policy: WriteBack, ReadAdaptive, Direct, No Write Cache if Bad BBU
```

```
Current Cache Policy: WriteThrough, ReadAdaptive, Direct, No Write Cache if Bad BBU
```

```
Default Access Policy: Read/Write
```

```
Current Access Policy: Read/Write
```

```
Disk Cache Policy : Disk's Default
```

```
Encryption Type : None
```

```
PI type: No PI
```

```
Is VD Cached: No
```

```
Exit Code: 0x00
```

Debe comprobar el valor en - **Política de caché actual**

**WriteBack - OK**

**Escritura - BAD**

Este es un ejemplo para lo mismo:

```
$ sudo megacli -ldinfo -lALL -aALL
```

```
Adapter 0 -- Virtual Drive Information:
```

```
Virtual Drive: 0 (Target Id: 0)
```

```
Name :RAID10_1234
```

```
RAID Level : Primary-1, Secondary-0, RAID Level Qualifier-0
```

```
Size : 1.088 TB
```

```
Sector Size : 512
```

```
Is VD emulated : No
```

```
Mirror Data : 1.088 TB
```

```
State : Optimal
```

```
Strip Size : 64 KB
```

```
Number Of Drives per span:2
```

```
Span Depth : 2
```

```
Default Cache Policy: WriteBack, ReadAdaptive, Direct, No Write Cache if Bad BBU
```

```
Current Cache Policy: WriteBack, ReadAdaptive, Direct, No Write Cache if Bad BBU
```

```
Default Access Policy: Read/Write
```

```
Disk Cache Policy : Disk's Default
```

```
Disk Cache Policy : Disk's Default
```

```
Encryption Type : None
```

```
PI type: No PI
```

```
Is VD Cached: No
```

Exit Code: 0x00  
intucell@deb017:/intucell/maintenance\_portal\_6\$

**Paso 3. Verificación de la batería, ejecute el comando: `sudo megacli -AdpBbuCmd -GetBbuStatus -aALL -NoLog`.**

```
$ sudo megacli -AdpBbuCmd -GetBbuStatus -aALL -NoLog
```

BBU status for Adapter: 0

BatteryType: CVPM02  
Voltage: 9849 mV  
Current: 0 mA  
Temperature: 25 C  
Battery State: Optimal  
BBU Firmware Status:

```
Charging Status           : None
Voltage                   : OK
Temperature               : OK
Learn Cycle Requested    : No
Learn Cycle Active       : No
Learn Cycle Status       : OK
Learn Cycle Timeout      : No
I2c Errors Detected     : No
Battery Pack Missing     : No
Battery Replacement required : No
Remaining Capacity Low   : No
Periodic Learn Required  : No
Transparent Learn        : No
No space to cache offload : No
Pack is about to fail & should be replaced : No
Cache Offload premium feature required : No
Module microcode update required : No
```

BBU GasGauge Status: 0x654e

```
Pack energy           : 334 J
Capacitance           : 101
Remaining reserve space : 93
```

Exit Code: 0x00

**Paso 4. Información del disco físico, ejecute el comando: `sudo megacli -AdpAllInfo -aALL`.**

```
$ sudo megacli -AdpAllInfo -aALL
```

Adapter #0

```
=====
                        Versions
                        =====
Product Name       : LSI MegaRAID SAS 9271-8i
Serial No         : SV50206143
FW Package Build  : 23.29.0-0014
```

Mfg. Data

=====  
Mfg. Date : 01/04/15  
Rework Date : 00/00/00  
Revision No : 33B  
Battery FRU : N/A

Image Versions in Flash:

=====  
BIOS Version : 5.47.05.0\_4.16.08.00\_0x06080500  
WebBIOS Version : 6.1-71-e\_71-Rel  
Preboot CLI Version: 05.07-00:##00011  
FW Version : 3.410.05-3484  
NVDATA Version : 2.1406.03-0134  
Boot Block Version : 2.05.00.00-0010  
BOOT Version : 07.26.26.219

Pending Images in Flash

=====  
None

PCI Info

=====  
Controller Id : 0000  
Vendor Id : 1000  
Device Id : 005b  
SubVendorId : 1000  
SubDeviceId : 9271

Host Interface : PCIE

ChipRevision : D1

Link Speed : 0  
Number of Frontend Port: 0  
Device Interface : PCIE

Number of Backend Port: 8

Port	Address
0	74a2e6a2b23600bf
1	0000000000000000
2	0000000000000000
3	0000000000000000
4	0000000000000000
5	0000000000000000
6	0000000000000000
7	0000000000000000

HW Configuration

=====  
SAS Address : 500605b009f61dd0  
BBU : Present  
Alarm : Present  
NVRAM : Present  
Serial Debugger : Present  
Memory : Present  
Flash : Present  
Memory Size : 1024MB  
TPM : Absent  
On board Expander: Absent  
Upgrade Key : Absent  
Temperature sensor for ROC : Present  
Temperature sensor for controller : Absent

ROC temperature : 74 degree Celsius

Settings

=====

Current Time : 7:3:27 2/19, 2016  
Predictive Fail Poll Interval : 300sec  
Interrupt Throttle Active Count : 16  
Interrupt Throttle Completion : 50us  
Rebuild Rate : 30%  
PR Rate : 30%  
BGI Rate : 30%  
Check Consistency Rate : 30%  
Reconstruction Rate : 30%  
Cache Flush Interval : 4s  
Max Drives to Spinup at One Time : 2  
Delay Among Spinup Groups : 12s  
Physical Drive Coercion Mode : 1GB  
Cluster Mode : Disabled  
Alarm : Enabled  
Auto Rebuild : Enabled  
Battery Warning : Enabled  
Ecc Bucket Size : 15  
Ecc Bucket Leak Rate : 1440 Minutes  
Restore HotSpare on Insertion : Disabled  
Expose Enclosure Devices : Enabled  
Maintain PD Fail History : Disabled  
Host Request Reordering : Enabled  
Auto Detect BackPlane Enabled : SGPIO/i2c SEP  
Load Balance Mode : Auto  
Use FDE Only : Yes  
Security Key Assigned : No  
Security Key Failed : No  
Security Key Not Backedup : No  
Default LD PowerSave Policy : Automatic  
Maximum number of direct attached drives to spin up in 1 min : 10  
Auto Enhanced Import : Yes  
Any Offline VD Cache Preserved : No  
Allow Boot with Preserved Cache : No  
Disable Online Controller Reset : No  
PFK in NVRAM : Yes  
Use disk activity for locate : No  
POST delay : 90 seconds  
BIOS Error Handling : Pause on Errors  
Current Boot Mode : Normal

Capabilities

=====

RAID Level Supported : RAID0, RAID1, RAID5, RAID6, RAID00, RAID10, RAID50, RAID60,  
PRL 11, PRL 11 with spanning, SRL 3 supported, PRL11-RLQ0 DDF layout with no span, PRL11-RLQ0  
DDF layout with span  
Supported Drives : SAS, SATA

Allowed Mixing:

Mix in Enclosure Allowed  
Mix of SAS/SATA of HDD type in VD Allowed  
Mix of SAS/SATA of SSD type in VD Allowed

Status

=====

ECC Bucket Count : 0

Limitations

=====

Max Arms Per VD : 32  
Max Spans Per VD : 8

Max Arrays : 128  
Max Number of VDs : 64  
Max Parallel Commands : 1008  
Max SGE Count : 60  
Max Data Transfer Size : 8192 sectors  
Max Strips PerIO : 42  
Max LD per array : 64  
Min Strip Size : 8 KB  
Max Strip Size : 1.0 MB  
Max Configurable CacheCade Size: 0 GB  
Current Size of CacheCade : 0 GB  
Current Size of FW Cache : 866 MB

**Device Present**

=====

**Virtual Drives : 1**  
**Degraded : 0**  
**Offline : 0**  
**Physical Devices : 6**  
**Disks : 4**  
**Critical Disks : 0**  
**Failed Disks : 0**

**Supported Adapter Operations**

=====

Rebuild Rate : Yes  
CC Rate : Yes  
BGI Rate : Yes  
Reconstruct Rate : Yes  
Patrol Read Rate : Yes  
Alarm Control : Yes  
Cluster Support : No  
BBU : Yes  
Spanning : Yes  
Dedicated Hot Spare : Yes  
Revertible Hot Spares : Yes  
Foreign Config Import : Yes  
Self Diagnostic : Yes  
Allow Mixed Redundancy on Array : No  
Global Hot Spares : Yes  
Deny SCSI Passthrough : No  
Deny SMP Passthrough : No  
Deny STP Passthrough : No  
Support Security : No  
Snapshot Enabled : No  
Support the OCE without adding drives : Yes  
Support PFK : Yes  
Support PI : Yes  
Support Boot Time PFK Change : No  
Disable Online PFK Change : No  
Support LDPI Type1 : No  
Support LDPI Type2 : No  
Support LDPI Type3 : No  
PFK TrailTime Remaining : 0 days 0 hours  
Support Shield State : Yes  
Block SSD Write Disk Cache Change: No  
Support Online FW Update : Yes

**Supported VD Operations**

=====

Read Policy : Yes  
Write Policy : Yes  
IO Policy : Yes  
Access Policy : Yes



Disk Cache Policy : Yes  
Reconstruction : Yes  
Deny Locate : No  
Deny CC : No  
Allow Ctrl Encryption: No  
Enable LDBBM : No  
Support Breakmirror : No  
Power Savings : No

#### Supported PD Operations

=====

Force Online : Yes  
Force Offline : Yes  
Force Rebuild : Yes  
Deny Force Failed : No  
Deny Force Good/Bad : No  
Deny Missing Replace : No  
Deny Clear : No  
Deny Locate : No  
Support Temperature : Yes  
NCQ : Yes  
Disable Copyback : No  
Enable JBOD : No  
Enable Copyback on SMART : No  
Enable Copyback to SSD on SMART Error : Yes  
Enable SSD Patrol Read : No  
PR Correct Unconfigured Areas : Yes  
Enable Spin Down of UnConfigured Drives : Yes  
Disable Spin Down of hot spares : No  
Spin Down time : 30  
T10 Power State : No

#### Error Counters

=====

Memory Correctable Errors : 0  
Memory Uncorrectable Errors : 0

#### Cluster Information

=====

Cluster Permitted : No  
Cluster Active : No

#### Default Settings

=====

Phy Polarity : 0  
Phy PolaritySplit : 0  
Background Rate : 30  
Strip Size : 64kB  
Flush Time : 4 seconds  
Write Policy : WB  
Read Policy : Adaptive  
Cache When BBU Bad : Disabled  
Cached IO : No  
SMART Mode : Mode 6  
Alarm Disable : Yes  
Coercion Mode : 1GB  
ZCR Config : Unknown  
Dirty LED Shows Drive Activity : No  
BIOS Continue on Error : 1  
Spin Down Mode : Internal Only  
Allowed Device Type : SAS/SATA Mix  
Allow Mix in Enclosure : Yes  
Allow HDD SAS/SATA Mix in VD : Yes  
Allow SSD SAS/SATA Mix in VD : Yes  
Allow HDD/SSD Mix in VD : No

```

Allow SATA in Cluster           : No
Max Chained Enclosures         : 16
Disable Ctrl-R                 : Yes
Enable Web BIOS                : Yes
Direct PD Mapping              : No
BIOS Enumerate VDs            : Yes
Restore Hot Spare on Insertion : No
Expose Enclosure Devices       : Yes
Maintain PD Fail History       : No
Disable Puncturing            : No
Zero Based Enclosure Enumeration : No
PreBoot CLI Enabled            : Yes
LED Show Drive Activity        : No
Cluster Disable                : Yes
SAS Disable                    : No
Auto Detect BackPlane Enable   : SGPIO/i2c SEP
Use FDE Only                   : Yes
Enable Led Header              : No
Delay during POST              : 0
EnableCrashDump                : No
Disable Online Controller Reset : No
EnableLDBBM                    : No
Un-Certified Hard Disk Drives  : Allow
Treat Single span R1E as R10   : No
Max LD per array               : 64
Power Saving option            : All power saving options are enabled
Default spin down time in minutes: 30
Enable JBOD                    : No
TTY Log In Flash               : Yes
Auto Enhanced Import           : Yes
BreakMirror RAID Support       : No
Disable Join Mirror            : No
Enable Shield State            : No
Time taken to detect CME       : 60s

```

Exit Code: 0x00

**Paso 5. Verificación de consistencia, ejecute el comando: `sudo megacli -ldinfo -lALL -aALL`.**

```
$ sudo megacli -ldinfo -lALL -aALL
```

```

Adapter 0 -- Virtual Drive Information:
Virtual Drive: 0 (Target Id: 0)
Name           :RAID10_1234
RAID Level     : Primary-1, Secondary-0, RAID Level Qualifier-0
Size          : 1.088 TB
Sector Size   : 512
Is VD emulated : No
Mirror Data    &colon; 1.088 TB
State         : Optimal
Strip Size    : 64 KB
Number Of Drives per span:2
Span Depth    : 2
Default Cache Policy: WriteBack, ReadAdaptive, Direct, No Write Cache if Bad BBU
Current Cache Policy: WriteBack, ReadAdaptive, Direct, No Write Cache if Bad BBU
Default Access Policy: Read/Write
Current Access Policy: Read/Write
Disk Cache Policy : Disk's Default
Ongoing Progresses:
  Check Consistency           : Completed 43%, Taken 11 min.
Encryption Type : None
PI type: No PI

```

Is VD Cached: No

Exit Code: 0x00

Paso 6. Configuración del intervalo de comprobación de coherencia, ejecute el comando: **sudo megacli -AdpCcSched -Info -aALL**.

El controlador RAID realiza una verificación de consistencia del RAID cada 7 días. El valor retardo 168 que se muestra aquí es en horas.

```
$ sudo megacli -AdpCcSched -Info -aALL
```

Adapter #0

Operation Mode: Concurrent

**Execution Delay: 168**

**Next start time: 02/20/2016, 03:00:00**

Current State: Active

Number of iterations: 43

Number of VD completed: 0

Excluded VDs : None

Exit Code: 0x00

Paso 7. Obtener el registro de eventos RAID, ejecutar el comando: **sudo megacli -AdpEventLog -GetEvents -f events.log -aALL && cat events.log | más**.

```
$ sudo megacli -AdpEventLog -GetEvents -f events.log -aALL && cat events.log | more
```

Success in AdpEventLog

Exit Code: 0x00

Adapter: 0 - Number of Events : 1404

seqNum: 0x00000002

Seconds since last reboot: 78

Code: 0x0000001e

Class: 0

Locale: 0x20

Event Description: Event log cleared

Event Data&colon;

=====

None

seqNum: 0x00000003

Seconds since last reboot: 78

Code: 0x0000002b

Class: 0

Locale: 0x20

Event Description: Test event: 'Event log adjusted, possibly due Firmware version incompatibility'

Event Data&colon;

=====

String: Event log adjusted, possibly due Firmware version incompatibility

```

seqNum: 0x00000004
Seconds since last reboot: 4
Code: 0x00000000
Class: 0
Locale: 0x20
Event Description: Firmware initialization started (PCI ID 005b/1000/9271/1000)
Event Data&colon;
<Snip>

```

Problemas observados en la interfaz web de Administración integrada de Cisco que observan al controlador de almacenamiento:

Comprobación de la batería

The screenshot shows the 'Battery Backup Unit' tab of the LSI MegaRAID SAS 9271-8i (SLOT-4) configuration page. The interface includes several sections:

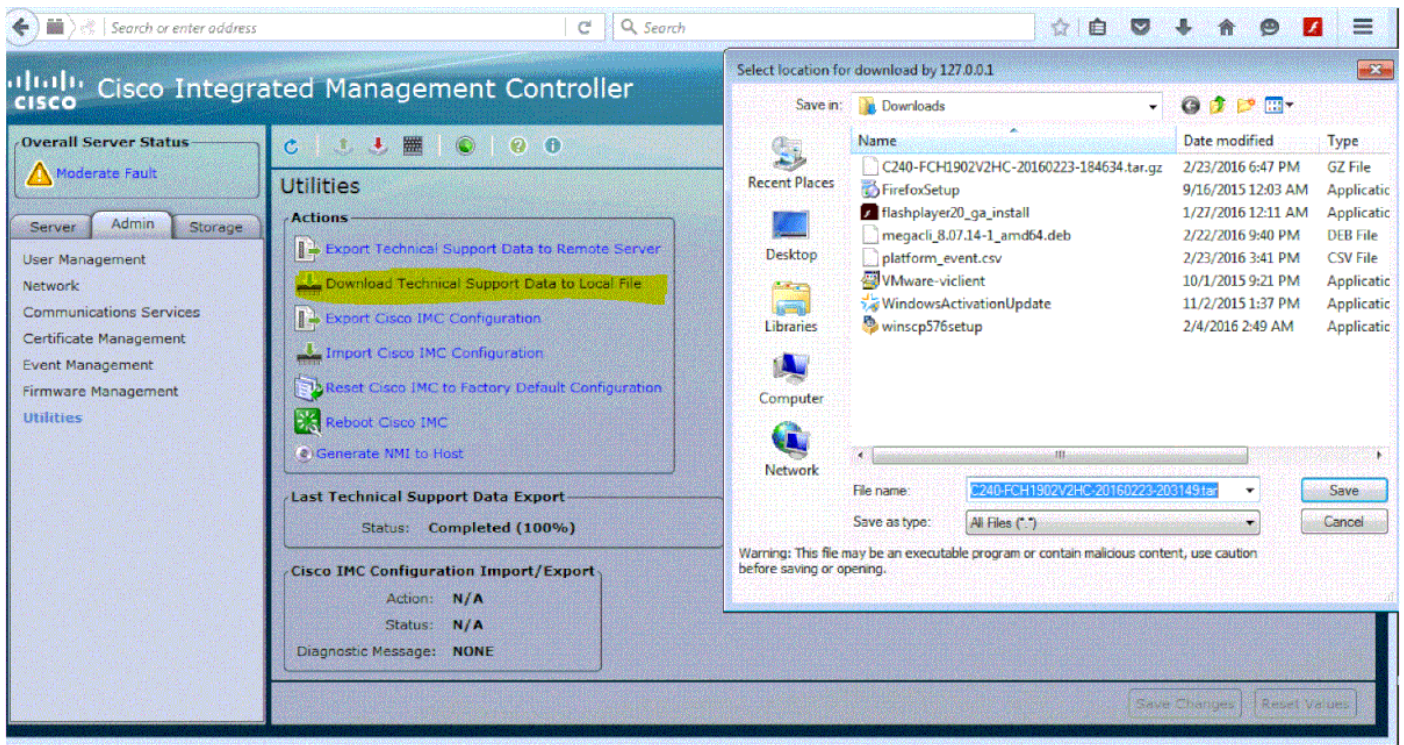
- Actions:**
  - Disable Auto Learn Mode
  - Start Learn Cycle
- General:**
  - Controller: **SLOT-4**
  - Battery Type: **TMM-C SuperCap**
  - Health: **⚠ Moderate Fault**
  - Status: **Learn Cycle Active**
  - Battery Present: **true**
  - Temperature: **24 degrees C**
  - Temperature High: **false**
  - Capacitance: **97 %**
  - Charging Status: **N/A**
- Advanced:**
  - Manufacturer: **LSI**
  - Serial Number: **19365**
  - Date of Manufacture: **2014-10-26**
  - Firmware Version: **25849-03**
  - Design Voltage: **9.411 V**
  - Voltage: **10.415 V**
  - Current: **0.000 A**
  - Design Capacity: **283 Joules**
  - Pack Energy: **357 Joules**
  - Learn Mode: **Auto**
  - Learn Cycle Status: **Active**
  - Learn Cycle Requested: **true**
  - Next Learn Cycle: **2015-11-19 02:39**

**Fault Entries**

<<Newest <Newer **Fault Entries 1 to 2 (2)** Older> Oldest>> Entries Per Page: 50

Time	Severity	Code	DN	Description
2015-11-19T02:07:12	Warning	F1008	sys/rack-unit-1/board/storage-SAS-SLOT-4/vd-0	Storage Virtual Drive 0 Degraded: please check the storage controller, or reset the
2015-11-19T02:05:55	Minor	F0997	sys/rack-unit-1/board/storage-SAS-SLOT-4/raid-ba	Storage Raid Battery SLOT-4 Degraded: please check the battery or the storage cor

Puede guardar el registro para un análisis posterior.



## Hardware Hewlett-Packard (HP)

Para HP hay un paquete especial para Debian que necesita ser instalado para obtener acceso al controlador RAID y a los discos físicos. El paquete se denomina [hpacucli\\_9.40.1-1. amd64.deb](http://downloads.linux.hpe.com/SDR./repo/mcp/debian/pool/non-free/hpacucli_9.40.1-1_amd64.deb)

Paso 1. Instalación:

- Inicie sesión en su sistema Linux con su cuenta privada.
- Descargue el paquete a su sistema Linux: `wget`  
[http://downloads.linux.hpe.com/SDR./repo/mcp/debian/pool/non-free/hpacucli\\_9.40.1-1. amd64.deb](http://downloads.linux.hpe.com/SDR./repo/mcp/debian/pool/non-free/hpacucli_9.40.1-1_amd64.deb)
- comando run: `sudo dpkg -i hpacucli_9.40.1-1. amd64.deb`

Una vez finalizada la instalación, puede trabajar con la manipulación RAID mediante la siguiente herramienta CLI: `hpacucli`

La herramienta permite obtener la información adecuada del controlador RAID, así como cambiar la configuración con los componentes RAID.

Paso 2. Mostrar detalles de configuración del controlador, ejecutar comando: **`hpacucli ctrl all show config detail`**.

```
# hpacucli ctrl all show config detail
```

```
Smart Array P410i in Slot 0 (Embedded)
  Bus Interface: PCI
  Slot: 0
  Serial Number: 50123456789ABCDE
  Cache Serial Number: PACCQ9SY9NUH
  RAID 6 (ADG) Status: Disabled
  Controller Status: OK
  Hardware Revision: C
```

Firmware Version: 2.50  
Rebuild Priority: Medium  
Expand Priority: Medium  
Surface Scan Delay: 15 secs  
Surface Scan Mode: Idle  
Queue Depth: Automatic  
Monitor and Performance Delay: 60 min  
Elevator Sort: Enabled  
Degraded Performance Optimization: Disabled  
Inconsistency Repair Policy: Disabled  
Wait for Cache Room: Disabled  
Surface Analysis Inconsistency Notification: Disabled  
Post Prompt Timeout: 0 secs  
Cache Board Present: True  
Cache Status: OK  
Cache Ratio: 25% Read / 75% Write  
Drive Write Cache: Disabled  
Total Cache Size: 256 MB  
Total Cache Memory Available: 144 MB  
No-Battery Write Cache: Disabled  
Cache Backup Power Source: Batteries  
Battery/Capacitor Count: 1  
Battery/Capacitor Status: OK  
SATA NCQ Supported: True

Array: A

Interface Type: SAS  
Unused Space: 0 MB  
Status: OK  
Array Type: Data

Logical Drive: 1

Size: 136.7 GB  
Fault Tolerance: 1  
Heads: 255  
Sectors Per Track: 32  
Cylinders: 35132  
Strip Size: 128 KB  
Full Stripe Size: 128 KB  
Status: OK  
Caching: Enabled  
Unique Identifier: 600508B1001037383941424344450E00  
Disk Name: /dev/cciss/c0d0  
Mount Points: /boot 243 MB  
OS Status: LOCKED  
Logical Drive Label: A00F9DBE50123456789ABCDEA8A8  
Mirror Group 0:  
    physicaldrive 1I:1:1 (port 1I:box 1:bay 1, SAS, 146 GB, OK)  
Mirror Group 1:  
    physicaldrive 1I:1:2 (port 1I:box 1:bay 2, SAS, 146 GB, OK)  
Drive Type: Data

physicaldrive 1I:1:1

Port: 1I  
Box: 1  
Bay: 1  
Status: OK  
Drive Type: Data Drive  
Interface Type: SAS  
Size: 146 GB  
Rotational Speed: 10000  
Firmware Revision: HPD5

Serial Number: D0A1P9B09YJW0949  
Model: HP EG0146FARTR  
Current Temperature (C): 18  
Maximum Temperature (C): 39  
PHY Count: 2  
PHY Transfer Rate: 6.0Gbps, Unknown

physicaldrive 1I:1:2  
Port: 1I  
Box: 1  
Bay: 2  
Status: OK  
Drive Type: Data Drive  
Interface Type: SAS  
Size: 146 GB  
Rotational Speed: 10000  
Firmware Revision: HPD5  
Serial Number: D0A1P9B09YKM0949  
Model: HP EG0146FARTR  
Current Temperature (C): 17  
Maximum Temperature (C): 47  
PHY Count: 2  
PHY Transfer Rate: 6.0Gbps, Unknown

SEP (Vendor ID PMCSIERA, Model SRC 8x6G) 250  
Device Number: 250  
Firmware Version: RevC  
WWID: 50123456789ABCED  
Vendor ID: PMCSIERA  
Model: SRC 8x6G

**Paso 3. Mostrar estado del controlador, ejecutar el comando: `hpacucli ctrl all show status`.**

```
# hpacucli ctrl all show status

Smart Array P410i in Slot 0 (Embedded)
  Controller Status: OK
  Cache Status: OK
  Battery/Capacitor Status: OK
```

**Paso 4. Mostrar estado físico, ejecutar comando: `hpacucli ctrl slot=0 pd all show status`.**

```
# hpacucli ctrl slot=0 pd all show status

physicaldrive 1I:1:1 (port 1I:box 1:bay 1, 146 GB): OK
physicaldrive 1I:1:2 (port 1I:box 1:bay 2, 146 GB): OK
```

**Paso 5. Mostrar estado lógico, ejecutar comando: `hpacucli ctrl slot=0 ld all show status`.**

```
# hpacucli ctrl slot=0 pd all show status

physicaldrive 1I:1:1 (port 1I:box 1:bay 1, 146 GB): OK
physicaldrive 1I:1:2 (port 1I:box 1:bay 2, 146 GB): OK
```

```
root@deb011:/intucell# hpacucli ctrl slot=0 ld all show status
```

```
logicaldrive 1 (136.7 GB, 1): OK
```

## Solución

A veces, una batería defectuosa en uno de los servidores puede ser la razón. Debería reemplazarlo.

Esto resuelve el problema y reduce el uso del alto rendimiento del disco.