

# 高磁碟效能利用率技術說明

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## 簡介

本文檔描述了以下過程：當您遇到磁碟效能利用率達到100%時，並且需要檢查是應用程式問題還是硬體問題，您需要運行多個命令來分析這種情況。

## 必要條件

### 需求

本文件沒有特定需求。

### 採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 思科整合運算系統(UCS)系列
- 惠普(HP)伺服器

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

## 問題：高磁碟效能利用率

系統運行緩慢且不穩定。您的磁碟效能利用率達到100%。

## 疑難排解

快速而簡單的方法是訪問管理Web介面並檢查儲存硬體狀態。

無法訪問思科整合管理控制器(CIMC)時 對於HP伺服器上的統一計算系統(UCS)系列或整合無人值

守(ILO)的遠端管理，您可以使用以下方法獲取有關RAID和磁碟的資訊：

對於思科統一計算系統(UCS)伺服器：

Debian發行版使用名為「megacli」的軟體包。

有關此工具的更多資訊 — <http://hwraid.le-vert.net/wiki/LSIMegaRAIDSAS>

示例如何使用命令 — <http://www.mostlychris.com/blog/2009/07/29/check-raid-status-with-megacli/>

可以下載並安裝[debian](#)程式包。

**附註：** 使用megacli\_8.07.14-1\_amd64.deb對其進行測試

若要檢查使用的是哪些硬體控制器，請運行命令：`sudo lspci -vv | grep -i RAID`

例如

82:00.0 RAID匯流排控制器：LSI Logic / Symbios Logic MegaRAID SAS 2208 [Thunderbolt] (版本05)

正在使用的核心驅動程式：`megaraid_sas`

有關此命令的更多資訊，請參閱：

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

以root身份運行，運行命令：`sudo /usr/bin/megacli`

## 思科整合運算系統(UCS)系列

步驟1.查詢RAID控制器詳細資訊，運行命令：`lspci -vv | grep -i RAID`。

RAID控制器是裝置。

```
$ 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- TransPnd-
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- CmpltAbrt- UnxCmplt- RxOF- MalfTLP- ECRC- UnsupReq-
ACSViol-
UEMsk: DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF- MalfTLP- ECRC- UnsupReq+
ACSViol-
UESvrt: DLP+ SDES+ TLP- FCP+ CmpltTO- CmpltAbrt- UnxCmplt- RxOF+ MalfTLP+ 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

```

**步驟2.檢查統一計算系統系列(UCS)物理和虛擬驅動器，運行命令：`sudo megacli -ldinfo -lALL -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

**您需要檢查 — 當前快取策略下的值**

**回寫 — 正常**

**直寫 — 錯誤**

以下是相同專案的範例：

```
$ 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$
```

**步驟3.電池檢查，運行命令: 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

#### 步驟4.物理磁碟資訊，運行命令: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

**步驟5.一致性檢查，運行命令: 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

**步驟6.一致性檢查間隔設定，運行命令: sudo megacli -AdpCcSched -Info -aALL。**

RAID控制器每7天執行一次RAID一致性檢查。此處顯示的值延遲168以小時為單位。

```
$ 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

**步驟7.獲取RAID事件日誌，運行命令：sudo megacli -AdpEventLog -GetEvents -f events.log -aALL && cat events.log |更多。**

```
$ 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>
```

檢視儲存控制器的思科整合管理Web介面上出現的問題：

電池檢查

## LSI MegaRAID SAS 9271-8i (SLOT-4)

Controller Info | Physical Drive Info | **Virtual Drive Info** | Battery Backup Unit | Storage Log

**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

可以儲存日誌供以後分析。

Search or enter address Search

### Cisco Integrated Management Controller

Overall Server Status: **Moderate Fault**

Server | Admin | Storage

User Management  
Network  
Communications Services  
Certificate Management  
Event Management  
Firmware Management  
**Utilities**

**Actions**

- Export Technical Support Data to Remote Server
- Download Technical Support Data to Local File**
- Export Cisco IMC Configuration
- Import Cisco IMC Configuration
- Reset Cisco IMC to Factory Default Configuration
- Reboot Cisco IMC
- Generate NMI to Host

**Last Technical Support Data Export**

Status: **Completed (100%)**

**Cisco IMC Configuration Import/Export**

Action: **N/A**  
Status: **N/A**  
Diagnostic Message: **NONE**

Select location for download by 127.0.0.1

Save in: Downloads

Name	Date modified	Type
C240-FCH1902V2HC-20160223-184634.tar.gz	2/23/2016 6:47 PM	GZ File
FirefoxSetup	9/16/2015 12:03 AM	Applicatic
flashplayer20_ga_install	1/27/2016 12:11 AM	Applicatic
megaclic_8.07.14-1_amd64.deb	2/22/2016 9:40 PM	DEB File
platform_event.csv	2/23/2016 3:41 PM	CSV File
VMware-viclient	10/1/2015 9:21 PM	Applicatic
WindowsActivationUpdate	11/2/2015 1:37 PM	Applicatic
winscp576setup	2/4/2016 2:49 AM	Applicatic

File name: C240-FCH1902V2HC-20160223-203149.tar.gz Save Save  
Save as type: All Files (\*.\*) Cancel

Warning: This file may be an executable program or contain malicious content, use caution before saving or opening.

Save Changes Reset Values

## 惠普(HP)硬體

對於HP，有一個用於Debian的特殊包，需要安裝該包才能訪問RAID控制器和物理磁碟。該軟體包名為[hpacucli\\_9.40.1-1\\_amd64.deb](#)

## 步驟1.安裝：

- 使用您的專用帳戶登入到Linux系統。
- 將軟體包下載到您的Linux系統：`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)
- run命令：`sudo dpkg -i hpacucli_9.40.1-1_amd64.deb`

安裝完成後，您可以使用以下CLI工具處理RAID操作：`hpacucli`

該工具允許從RAID控制器獲取適當資訊以及使用RAID元件更改配置。

步驟2.顯示控制器配置詳細資訊，運行命令：`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: PACCC9SY9NUH
  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

**步驟3.顯示控制器狀態，運行命令：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
```

**步驟4.顯示物理狀態，運行命令：** `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
```

**步驟5. 顯示邏輯狀態，運行命令：** `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
```

## 解決方案

有時某個伺服器中的電池故障可能是導致此問題的原因。你應該換掉它。

這解決了問題並降低了高磁碟效能利用率。