

# 知 H3C R4900 G2服务器Red Hat Enterprise Linux 6 update 7系统使用Arcconf 工具配置Raid等操作

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## H3C R4900 G2服务器配置环境

操作系统: Redhat 6.7

硬盘: 600GB \* 2

阵列配置: Bay 2硬盘创建Simple Volume; Bay 3未创建

阵列卡型号及模式: Raid 1000; Raid Expose RAW

### 1、Arcconf工具安装, 执行命令: rpm -ivh <files name>

```
[root@localhost rpm]#
[root@localhost rpm]# rpm -ivh Arcconf-1.09-21746.x86_64.rpm
Preparing... ##### [100%]
package Arcconf-1.09-21746.x86_64 is already installed
[root@localhost rpm]#
```

### 2、Linux系统下查看当前阵列及硬盘配置情况, 执行命令: arcconf getconfig。该命令可以查看到阵列卡模式、芯片、硬盘位置、温度、缓存大小等基本信息。

```
[root@localhost Desktop]#
[root@localhost Desktop]# arcconf getconfig

Usage: GETCONFIG <Controller#> [AD | LD [LD#] | PD | MC | CN | [AL]] [nologs]
=====

Prints controller configuration information.

Option AD : Adapter information only
          LD : Logical device information only
          LD# : Optionally display information about the specified logical device
          PD : Physical device information only
          MC : maxCache 3.0 information only
          CN : Connector information for the adapter
          AL : All information (optional)
[root@localhost Desktop]#
[root@localhost Desktop]#
[root@localhost Desktop]#
[root@localhost Desktop]# arcconf getconfig 1 pd
Controllers found: 1
```

### 1) 配置阵列需要确认硬盘位置, 通过getconfig命令可以确认到Bay 3 channel ID: 0 3。

```
Device #0
Device is a Hard drive
State : Online
Block Size : 512 Bytes
Supported : Yes
Programmed Max Speed : SAS 12.0 Gb/s
Transfer Speed : SAS 12.0 Gb/s
Reported Channel,Device(T:L) : 0,2(2:0)
Reported Location : Enclosure 0, Slot 2(Connector 0)
Reported ESD(T:L) : 2,0(0:0)
Vendor : HGST
Model : HUC156060CSS200
Firmware : A703
Serial number : 0XHL0HTP
World-wide name : 5000CCA059592063
Reserved Size : 956312 KB
Used Size : 571391 MB
Unused Size : 1 MB
Total Size : 572325 MB
Write Cache : Disabled (write-through)
FRU : None
S.M.A.R.T. : No
S.M.A.R.T. warnings : 0
Power State : Full rpm
Supported Power States : Full rpm,Powered off
SSD : No
Temperature : 37 C/ 98 F
```

### 3、初始化硬盘设置, 当前配置环境, 执行命令: arcconf task start 1 device 0 3 initialize。其中数字1表示控制器位置; 0 3为硬盘channel id。

```
[root@localhost Desktop]#
[root@localhost Desktop]# arccnf task start 1 device 0 3 initialize
Controllers found: 1
Initializing Channel 0, Device 3 will erase its metadata, the section
where all the logical device definition data is stored

Are you sure you want to continue?
Press y, then ENTER to continue or press ENTER to abort: y
```

Initializing Channel 0, Device 3.

Command completed successfully.

4. 创建新的阵列，当前配置执行命令：arccnf create 1 logicaldrive max volume 0 3

数字1表示控制器位置；max表示硬盘容量最大值，或者输入当前硬盘未使用容量，查看配置信息的时候可以查看到硬盘容量。例如此实验硬盘unused size: 571392，默认单位MB，也可以自行设置大小；volume表示raid级别，本实验只有一块硬盘只能做简单卷；0 3表示需要创建阵列硬盘位置。

```
[root@localhost Desktop]#
[root@localhost Desktop]# arccnf create 1 logicaldrive max volume 0 3
Controllers found: 1

Do you want to add a logical device to the configuration?
Press y, then ENTER to continue or press ENTER to abort: y

Creating logical device: LogicalDrv 1

Command completed successfully.
```

5. 查看阵列，执行命令：arccnf getconfig 1 ld. Logical device number 1为新创建阵列。

```
Logical device number 1
-----
Logical device name      : LogicalDrv 1
Block Size of member drives : 512 Bytes
RAID level               : Simple volume
Unique Identifier       : 35A9C7AE
Status of logical device : Optimal
Size                    : 571382 MB
Parity space            : NA
Read-cache setting      : Enabled
Read-cache status       : On
Write-cache setting     : Enabled
Write-cache status      : On
Partitioned             : No
Bootable                : No
Failed stripes          : No
Power settings          : Disabled
Interface Type          : SAS
-----
Logical device segment information
-----
Segment 0                : Present (Controller:1,Enclosure:0,Slot:3)           0XHKMWPX
```

6. 删除阵列，执行命令：arccnf delete 1 logicaldrive 1. 两个1分别表示控制器位置和logical device number。可同时删除多个阵列，例如：arccnf delete 1 logicaldrive 1 2. logicaldrive 1和logicaldrive 2即可被删除。

```
[root@localhost Desktop]# arccnf delete 1 logicaldrive 1 2
Controllers found: 1

WARNING: All data and partitions on the logical devices will be deleted.

Press y, then ENTER to continue or press ENTER to abort: y
```

Command completed successfully.

7. 创建热备，使用命令：arccnf setstate.

1) 全局热备，执行命令：arccnf setstate 1 device 0 3 hsp. 本实验条件不满足但可以创建。

```
[root@localhost Desktop]# arccnf setstate 1 device 0 3 hsp
Controllers found: 1
One or more existing logical devices cannot be protected by this spare.
This global hot spare will only protect logicals whose member block size is 512 Bytes.
```

Command completed successfully.

```
[root@localhost Desktop]#
```

2) 执行命令：arccnf getconfig 1 al, 查看全局热备已经添加成功。

```

Device #1
Device is a Hard drive
State : Global Hot-Spare
Block Size : 512 Bytes
Supported : Yes
Programmed Max Speed : SAS 12.0 Gb/s
Transfer Speed : SAS 12.0 Gb/s
Reported Channel,Device(T:L) : 0,3(3:0)
Reported Location : Enclosure 0, Slot 3(Connector 0)
Reported ESD(T:L) : 2,0(0:0)
Vendor : HGST
Model : HUC156060CSS200
Firmware : A703
Serial number : 0XHKMWXP
World-wide name : 5000CCA059587213
Reserved Size : 956312 KB
Used Size : 571392 MB

```

3) 专有热备, 执行命令: `arcconf setstate 1 device 0 3 hsp logicaldrive 0`, 专有热备对比全局热备, 需要添加对应的logicaldrive number。因为硬件条件不满足, 本实验无法创建专有热备。

```

[root@localhost Desktop]# arcconf setstate 1 device 0 3 hsp logicaldrive 0
Controllers found: 1
The candidate spare cannot protect logical device 0, invalid target RAID level (Simple_volume).

Command aborted.
[root@localhost Desktop]# _

```

4) 移除热备盘, 执行命令: `arcconf setstate 1 device 0 3 rdy`.

```

[root@localhost Desktop]#
[root@localhost Desktop]# arcconf setstate 1 device 0 3 rdy
Controllers found: 1

Command completed successfully.
[root@localhost Desktop]#

```

8、硬盘设置为直通模式, 命令: `arcconf uninit 1 0 3`。如果要取消直通模式, 使用硬盘初始化命令即可。

```

[root@localhost Desktop]#
[root@localhost Desktop]# arcconf uninit 1 0 3
Controllers found: 1

```

```

Command completed successfully.
[root@localhost Desktop]# █

```

1) 通过命令: `arcconf getconfig 1 al`, 查询结果已经显示直通模式。

```

Device #1
Device is a Hard drive
State : Raw (Pass Through)
Block Size : 512 Bytes
Supported : Yes
Programmed Max Speed : SAS 12.0 Gb/s
Transfer Speed : SAS 12.0 Gb/s
Reported Channel,Device(T:L) : 0,3(3:0)
Reported Location : Enclosure 0, Slot 3(Connector 0)
Reported ESD(T:L) : 2,0(0:0)
Vendor : HGST
Model : HUC156060CSS200
Firmware : A703
Serial number : 0XHKMWXP
World-wide name : 5000CCA059587213
Reserved Size : 0 KB
Total Size : 572325 MB
Write Cache : Disabled (write-through)
FRU : None
S.M.A.R.T. : No
S.M.A.R.T. warnings : 0
Power State : Full rpm
Supported Power States : Full rpm,Powered off
SSD : No
Temperature : 35 C/ 95 F

```

9、更改控制器模式, 执行命令: `arcconf setcontrollermode`。当前使用的是默认的RAID-Expose RAW, 更改成Hide RAW模式。

```

[root@localhost Desktop]# arcconf SETCONTROLLERMODE 1 3
Controllers found: 1

```

```

Command completed successfully.
[root@localhost Desktop]# █

```

1) 执行命令: `arcconf getconfig 1`, 查看已经更改成功。HBA卡模式无法在线更改, 需要删除阵列后才操作。

```
[root@localhost Desktop]# arccconf getconfig 1
Controllers found: 1
```

-----  
Controller information  
-----

```
Controller Status           : Optimal
Controller Mode             : RAID (Hide RAW)
Channel description         : SAS/SATA
Controller Model            : PM8060-RAID
Controller Serial Number    : 24DE6000
Controller World Wide Name  : 5487ADAF24DE6000
```

10、扩容、阵列迁移，执行命令：arccconf modify。因为当前配置不满足，本次操作无法迁移。

```
[root@localhost Desktop]# arccconf modify 1 from 0 to 512 max 0 0 2 0 3
```

```
Controllers found: 1
The requested target RAID Level is not a supported reconfiguration target.
```

Command aborted.

```
[root@localhost Desktop]# arccconf modify 1 from 0 to 512 max 0 0 2 0 3 noprompt
```

```
Controllers found: 1
The requested target RAID Level is not a supported reconfiguration target.
```

Command aborted.

```
[root@localhost Desktop]# arccconf modify
```

```
Usage: MODIFY <Controller#> FROM <LogicalDrive#>
      TO [Options] <Size> <RAID#> <Channel# ID#> [Channel# ID#] ... [noprompt] [nologs]
=====
```

Morphs a logical device FROM one RAID level TO another (RAID Level Migration).  
Expands a logical device FROM original TO one with larger capacity (OnLine Capacity Expansion).

Options: Additional creation specifiers.  
┆ Stripesize <STRIPE>: Optional parameters for specifying a stripe size.  
STRIPE is specified in kilobytes.  
16, 32, 64, 128, 256, 512 and 1024 are supported.  
Legs <LEG>: Optional parameters for specifying number of legs.  
LEG is the number of legs for RAID level 50 or 60.  
RAID 50/60: 2 - 16 legs, 3 - 16 drives/leg, 48 drives max.  
Init\_Priority <PRIORITY>: Initialization Priority for modification.  
Valid options are: HIGH, MED, or LOW.  
Size: Size of the logical device in megabytes.  
Use MAX to set size to all available space.  
Raid#: Raid level for the new logical device.  
0, 1, 10, 5, 5EE, 6, and SIMPLE\_VOLUME are supported.

Note: For RAID1->SV, CHANNEL# & DRIVE# parameters are ignored.