

# 增加VM磁盘的大小UCSPM的

## 目录

[简介](#)

[问题](#)

[解决方案](#)

## 简介

本文描述如何增加大小磁盘在运行—UCS Performance Manager的基础虚拟机(UCSPM) VMware ESXi主机的。

## 问题

有时，当UCSPM的根分区变得全双工时，系统不正常运行。一个原因是日志文件由应用程序创建变得太大。

## 解决方案

在您开始前，您必须首先关闭UCSPM虚拟机。然后请连接对与安全壳SSH的ESXi主机CLI并且寻找在数据存储器的vmdk文件。

1. 为了对一个新的指定的长度扩大在当前虚拟机磁盘文件的空间，请输入**vmkfstools** at命令ESXi主机。

```
/vmfs/volumes/datastore/ucspm11.cisco.lab # vmkfstools
--extendvirtualdisk 200G ucspm11.cisco.lab.vmdk
Grow: 100% done.
```

2. 用这些命令检查当前文件系统状态：

```
[root@localhost ~]# df -h
Filesystem                Size      Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root  78G    3.6G   71G   5% /
tmpfs                      7.8G    56K   7.8G   1% /dev/shm
/dev/sda1                   485M    32M   428M   7% /boot
/dev/mapper/VolGroup-lv_home  22G    314M   20G   2% /home
```

```
[root@localhost ~]# fdisk -l /dev/sda
```

```
Disk /dev/sda: 214.7 GB, 214748364800 bytes
255 heads, 63 sectors/track, 26108 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x0007c854
```

Device	Boot	Start	End	Blocks	Id	System
--------	------	-------	-----	--------	----	--------

```
/dev/sda1 *          1          64          512000    83  Linux
Partition 1 does not end on cylinder boundary.
```

```
/dev/sda2          64          13055    104344576    8e  Linux LVM
```

3. 磁盘已经有大容量然而新空间需要分配。创建新的主要的分区。为了执行此任务请输入这五命令：**p**-显示当前分区状态**n**-创建一个新的分区**p**-创建一个主要的分区**3**-分区编号**w**-写入对磁盘的更改

```
[root@localhost ~]# fdisk /dev/sda
```

```
WARNING: DOS-compatible mode is deprecated. It's strongly recommended to
switch off the mode (command 'c') and change display units to
sectors (command 'u').
```

```
Command (m for help): p
```

```
Disk /dev/sda: 214.7 GB, 214748364800 bytes
255 heads, 63 sectors/track, 26108 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x0007c854
```

```
Device Boot      Start         End      Blocks   Id  System
/dev/sda1 *          1           64       512000    83  Linux
Partition 1 does not end on cylinder boundary.
/dev/sda2          64        13055    104344576    8e  Linux LVM
```

```
Command (m for help): n
```

```
Command action
```

```
  e   extended
```

```
  p   primary partition (1-4)
```

```
p
```

```
Partition number (1-4): 3
```

```
First cylinder (13055-26108, default 13055):
```

```
Using default value 13055
```

```
Last cylinder, +cylinders or +size{K,M,G} (13055-26108, default 26108):
```

```
Using default value 26108
```

```
Command (m for help): w
```

```
The partition table has been altered!
```

```
Calling ioctl() to re-read partition table.
```

```
WARNING: Re-reading the partition table failed with error 16:
```

```
Device or resource busy.
```

```
The kernel still uses the old table. The new table will be used at
the next reboot or after you run partprobe(8) or kpartx(8)
```

```
Syncing disks.
```

4. 系统重新启动要求为了应用在分区表上的变化。

```
[root@localhost ~]# shutdown -r now
```

5. 输入fdisk命令为了验证新的分区顺利地创建。

```
[root@localhost ~]# fdisk -l /dev/sda
```

```
Disk /dev/sda: 214.7 GB, 214748364800 bytes
255 heads, 63 sectors/track, 26108 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x0007c854
```

```
Device Boot      Start         End      Blocks   Id  System
```

```

/dev/sda1 *          1          64          512000    83  Linux
Partition 1 does not end on cylinder boundary.
/dev/sda2           64          13055    104344576  8e  Linux LVM
/dev/sda3          13055          26108    104854910  83  Linux

```

## 6. 由创建的分区最近扩大当前卷组(VolGroup)。

```

[root@localhost ~]# vgextend VolGroup /dev/sda3
Volume group "VolGroup" successfully extended

```

**vgdisplay**命令显示关于卷组、总大小和自由物理范围(PE)单元的详细信息。

```

[root@localhost ~]# vgdisplay
--- Volume group ---
VG Name                VolGroup
System ID
Format                 lvm2
Metadata Areas        3
Metadata Sequence No  13
VG Access              read/write
VG Status              resizable
MAX LV                 0
Cur LV                3
Open LV                3
Max PV                 0
Cur PV                3
Act PV                 3
VG Size                209.50 GiB
PE Size                4.00 MiB
Total PE               53632
Alloc PE / Size       27833 / 108.72 GiB
Free PE / Size       25799 / 100.78 GiB
VG UUID                TIm130-WNDC-04jC-wA4q-dnbN-hVxp-iZnwzC

```

## 7. 扩大装载作为根分区的逻辑音量(/dev/mapper/VolGroup-lv\_root)。-l参数指定自由物理范围单元的范围。在本例中，分配PE/大小值从前面的命令是25799。请勿忘掉+此处符号您能否则毁坏系统。

```

[root@localhost ~]# lvextend -l +25799 /dev/mapper/VolGroup-lv_root
Extending logical volume lv_root to 179.99 GiB
Logical volume lv_root successfully resized

```

## 8. 输入这些命令为了验证当前逻辑音量大小和属性卷组的为了发现相关的物理磁盘：

```

[root@localhost ~]# lvdisplay /dev/mapper/VolGroup-lv_root
--- Logical volume ---
LV Path                /dev/VolGroup/lv_root
LV Name                lv_root
VG Name                VolGroup
LV UUID                0cQmLZ-LnBN-5R8B-1LfQ-0F9n-jeIr-S4WGWg
LV Write Access        read/write
LV Creation host, time localhost.localdomain, 2015-03-18 11:39:05 +0000
LV Status              available
# open                 1
LV Size                179.99 GiB
Current LE             46078
Segments               4
Allocation              inherit
Read ahead sectors     auto
- currently set to    256
Block device           253:0

```

```

[root@localhost ~]# vgdisplay -v VolGroup
Using volume group(s) on command line
Finding volume group "VolGroup"
--- Volume group ---
VG Name                VolGroup
System ID
Format                 lvm2

```

Metadata Areas 3  
Metadata Sequence No 14  
VG Access read/write  
VG Status resizable  
MAX LV 0  
Cur LV 3  
Open LV 3  
Max PV 0  
Cur PV 3  
Act PV 3  
VG Size 209.50 GiB  
PE Size 4.00 MiB  
Total PE 53632  
Alloc PE / Size 53632 / 209.50 GiB  
Free PE / Size 0 / 0  
VG UUID TIm130-WNDC-04jC-wA4q-dnbN-hVxp-iZnwzC

--- Logical volume ---

LV Path /dev/VolGroup/lv\_root  
LV Name lv\_root  
VG Name VolGroup  
LV UUID 0cQmLZ-LnBN-5R8B-1LfQ-0F9n-jeIr-S4WGWg  
LV Write Access read/write  
LV Creation host, time localhost.localdomain, 2015-03-18 11:39:05 +0000  
LV Status available  
# open 1  
LV Size 179.99 GiB  
Current LE 46078  
Segments 4  
Allocation inherit  
Read ahead sectors auto  
- currently set to 256  
Block device 253:0

--- Logical volume ---

LV Path /dev/VolGroup/lv\_home  
LV Name lv\_home  
VG Name VolGroup  
LV UUID nMhmiO-1f50-htLI-0YBI-NtfE-JLmt-slzTpJ  
LV Write Access read/write  
LV Creation host, time localhost.localdomain, 2015-03-18 11:39:12 +0000  
LV Status available  
# open 1  
LV Size 21.65 GiB  
Current LE 5542  
Segments 1  
Allocation inherit  
Read ahead sectors auto  
- currently set to 256  
Block device 253:2

--- Logical volume ---

LV Path /dev/VolGroup/lv\_swap  
LV Name lv\_swap  
VG Name VolGroup  
LV UUID E6UQB1-8eqg-o2rS-zg1k-Op4V-lnmu-HU1jrI  
LV Write Access read/write  
LV Creation host, time localhost.localdomain, 2015-03-18 11:39:18 +0000  
LV Status available  
# open 1  
LV Size 7.86 GiB  
Current LE 2012  
Segments 1  
Allocation inherit

```
Read ahead sectors      auto
- currently set to     256
Block device            253:1
```

--- Physical volumes ---

```
PV Name                /dev/sda2
PV UUID                3eUCnc-uvaz-lu4R-uumD-dRnY-JPsH-hxPARW
PV Status              allocatable
Total PE / Free PE    25474 / 0
```

```
PV Name                /dev/sdb
PV UUID                2kcp3I-FL9y-dL6n-ylex-DcDH-Zx1l-Tfx13z
PV Status              allocatable
Total PE / Free PE    2559 / 0
```

```
PV Name                /dev/sda3
PV UUID                Utzlpq-QnVa-lWfl-V20Z-d5eN-JSiz-btHmZN
PV Status              allocatable
Total PE / Free PE    25599 / 0
```

## 9. 在逻辑音量增加后，请通过新的逻辑音量大小放大根文件系统。

```
[root@localhost ~]# resize2fs /dev/mapper/VolGroup-lv_root
resize2fs 1.41.12 (17-May-2010)
Filesystem at /dev/mapper/VolGroup-lv_root is mounted on /; on-line resizing required
old desc_blocks = 5, new_desc_blocks = 12
Performing an on-line resize of /dev/mapper/VolGroup-lv_root to 47183872 (4k) blocks.
The filesystem on /dev/mapper/VolGroup-lv_root is now 47183872 blocks long.
```

文件系统磁盘空间使用情况应该当前显示一个新的延长的大小。

```
[root@localhost ~]# df -h
```

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/mapper/VolGroup-lv_root	178G	3.6G	165G	3%	/
tmpfs	7.8G	56K	7.8G	1%	/dev/shm
/dev/sda1	485M	32M	428M	7%	/boot
/dev/mapper/VolGroup-lv_home	22G	314M	20G	2%	/home