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Identify failed disk in Linux RAID

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📄 10-06-2011   **# 1**

Loic Domaigne   .ıll   244, 25
Registered User

Identify failed disk in Linux RAID

Good Evening,

2 years ago, I set up an Ubuntu file-server for a friend, who is a photograph amateur. Basically, the server offers a software RAID-5 that can be accessed remotely from a MAC. Unfortunately, I didn't labeled the hard drives (i.e. which physical drive corresponds to the /dev/sdX device).

Now a drive has failed, and the RAID-5 is at risk. I needed to find out which physical drive we have to replace, before we can rebuild the array. I have summed up below the procedure I'd follow. It would be great if some Linux software RAID connaisseur could review it. The more eyeballs, the better; and beside Linux RAID are quite new land for me.

1. stop raid system
```
# umount /dev/md1
# mdadm -S /dev/md1
```

2. Unplug one by one the hard drives. Looks in dmesg failure events for /dev/sdX. That way the mapping between the physical disk and the device /dev/sdX is step-by-step revealed.

3. Replace the failed disk, and partition it accordingly to what is expected.

4. Rebuild the mirror with the new disk
- get UUID with `mdadm -query`
- assemble array with that new disk: `mdadm --assemble /dev/md -u XXX`
- update /etc/mdadm.conf: `mdadm --detail --scan >> /etc/mdadm.conf`

You find below detailed information about the server set-up.

TIA,
Lo�c

The setup:

Ubuntu server, 6 SATA Hard drives /dev/sda ... /dev/sdf

Each Drives (X=a..f) are partitioned as followed:
```
/sdX1 type Linux Partition
/sdX2 type swap
/sdX3 type extended
/sdX5 type RAID
```

The server has 2 software Raids:
```
/dev/md0 RAID1 /sda1 and /sdb1
/dev/md1 RAID5 /sda5, /sdb5, /sdc5, /sdd5, /sde5, /sdf5
```

The OS is located on /dev/md0, only application data are located on /dev/md1

The Failure:

A Fail event had been detected on md device /dev/md1.
It could be related to component device /dev/sdd5.
The /proc/mdstat file currently contains the following:

```
Personalities : [linear] [multipath] [raid0] [raid1] [raid6] [raid5] [raid4] [raid10]
md1 : active raid5 sde5[4] sdc5[2] sdd5[6](F) sdf5[5] sdb5[1] sda5[0]
9636429120 blocks level 5, 64k chunk, algorithm 2 [6/5] [UUU_UU]

md0 : active raid1 sdb1[1] sda1[0]
20506816 blocks [2/2] [UU]
```

unused devices: <none>

10-08-2011

admin_xor   ..ul
Registered User

452, 80

Well I cannot help you determine what exact physical drive got corrupted; but, I surely can help you figure out which drive in the RAID array is faulty.

It's simple. there are a lot of ways to do this:

Code:

```
mdadm --detail /dev/md1 | grep faulty
```

or,

Code:

```
dmesg | grep -i "disk failure"
```

For Linux RAID, I always consult http://raid.wiki.kernel.org/

Hope this helps!

11-01-2011

Loic Domaigne   ..ul
Registered User

244, 25

Gidday,

just for the record - The procedure to find the physical faulty disk worked. Only step 4. was not correct

Quote:

> 4. Rebuild the mirror with the new disk

The rebuild has been triggered simply with:

Code:

```
# mdadm --manage /dev/md1 /dev/sdd5
```

(disk /dev/sdd had failed, and partition 5 was part of the md1 array)

HTH,
Lo�c

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1. Solaris

Failed to identify flash rom on Sunfire V240 running Solaris 10

Hi Guys, I have performed OBP & ALOM upgrade on V240 system. One of my system, running Solaris 10, having issue to identify flash rom during ALOM 1.6.10 version upgrade (OBP upgraded to latest one). May I know what the reason of this error and how can I fix it so I can upgrade ALOM using...

2. Solaris

Patching on Raid 0 Disk

Dear All , We need to do patching on one Solaris Server , where we have raid 0 configured. What is the process to patch a Server if RAID 0 (Concat/Stripe) is there. Below is the sample output. # metadb flags first blk block count a m pc luo 16 ...

3. Shell Programming and Scripting

Identify failed file transfers during SFTP

Hi All, I have a pretty demanding requirement for an SFTP script I have been trying to put together. I have nearly 100 files (all with the names staring with T_PROD) generated in my local server daily. I need to transfer each of these files to

4. AIX

RAID 10 Failed Drive Swap

I am new to the AIX operating system and am seeking out some advice. We recently have had a drive go bad on our AIX server that is in a RAID 10 array. We have a replacement on the way. I was wondering what the correct steps are to swap out this drive. Does the server need to be powered off? Or can...

5. Filesystems, Disks and Memory

Failed raid 1 partition cannot re-add

I found out that the raid 1 was degraded: # cat /proc/mdstat Personalities : md3 : active raid1 sda5 sdb5 1822445428 blocks super 1.0 md2 : active raid1 sda3(F) sdb3 1073741688 blocks super 1.0 md1 : active raid1 sda2 sdb2 524276 blocks super 1.0 md0 : active raid1 sda1...

6. Linux

how to identify the raid type on Linux?

Hi any idea on why I am getting this? /sbin/mdadm --detail /dev/md0 mdadm: md device /dev/md0 does not appear to be active. thanks.

7. AIX

how to identify the raid type on aix

hi how to identify the raid type on aix? thx

8. AIX

to identify failed pv

Hi friends,.... am sindhiya, i have joined as AIX level 1 support. help me to identify the failed pv in vg which has some 4 physical volumes?

9. Solaris

Upgrade disk in RAID 1

I need to upgrade 2 x 73 GB disk and replace with 2 x 146 GB disk in sun v240. These disks contain boot and swap files These are mirrored disks with RAID 1 I am trining to create the correct procedure. So far the procedure I have is as follows: # metastat State: Okay ...

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