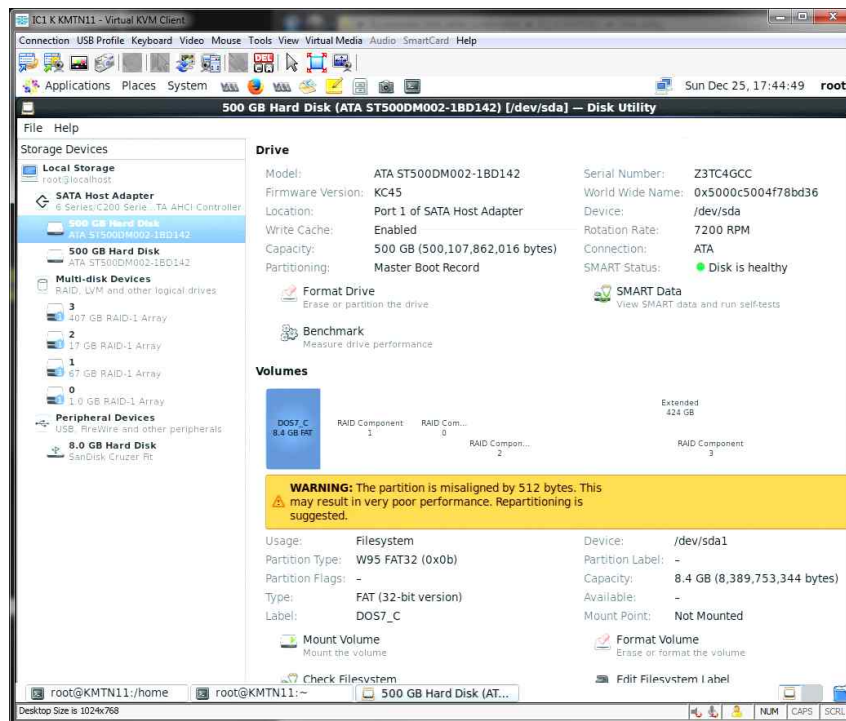


Terabyte software Image for Linux를 사용하여 IC computer의 HDD를 SSD로 교체

1. Windows에서 Terabyte software를 설치해 Booting USB 생성
2. HDD를 교체할 컴퓨터의 /home 디렉터리를 tar로 묶고 외부장치에 백업(USB, DTS 등)
home 경로에서 tar cvf 파일명.tar 경로이름
(ex> data 폴더를 묶을 경우: tar cvf data.tar data)
(ex> DTS로 백업할 경우: scp -rP 7774 home.tar kmtnet@192.168.1*.241:/STORAGE_4TB)
3. HDD를 교체할 컴퓨터의 disk utility에 들어가 파티션 정보 확인



FAT	RAID 0	RAID 1	Extended	
			RAID 2	RAID 3
/dev/sda#	/dev/sda#	/dev/sda#	/dev/sda#	/dev/sda#
/dev/sdb#	/dev/sdb#	/dev/sdb#	/dev/sdb#	/dev/sdb#
DOS 영역	/boot	/	swap	/home

위 표와 같이 md0, md1, md2, md3, md4의 정보 확인 후, 디스크 넘버와 경로를 반드시 적어둘 것.

4. su를 입력해 관리자 모드로 진입 후, /home 디렉터리 unmount

vi /etc/fstab에서 swap과 /home 마운트 관련 디렉터리 부분을 주석처리(앞부분에 # 삽입)

```

root@KMTN11:/home
File Edit View Search Terminal Help

#
# /etc/fstab
# Created by anaconda on Tue Feb 25 08:52:01 2014
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
UUID=8926dc22-e71d-4623-8726-306e75711283 / ext4 defaults 1 1
UUID=0eaeda73-bdc3-43a2-94a2-8140e00e2b79 /boot ext4 defaults 1 2
#UUID=0b56a977-7912-4426-b9b4-2f6471c00899 /home ext4 defaults 1 2
#UUID=c4215d9f-8a27-411b-8996-b594878f9db9 swap swap defaults 0 0
tmpfs /dev/shm tmpfs defaults 0 0
devpts /dev/pts devpts gid=5,mode=620 0 0
sysfs /sys sysfs defaults 0 0
proc /proc proc defaults 0 0

```

5. swap 기능 중지 후 재부팅

swapoff /dev/md# - swap 파티션 번호

shutdown -r now

6. 재부팅 후 df를 입력해 /home과 swap이 나오지 않는지 확인

```

root@KMTN11:~
File Edit View Search Terminal Help

[root@KMTN11 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/md1         62G   23G   36G   39% /
tmpfs            1.9G   4.0K   1.9G    1% /dev/shm
/dev/md0         985M    74M   861M    8% /boot
/dev/sdc1        2.0G   934M  1020M   48% /media/144B-14DE
[root@KMTN11 ~]#

```

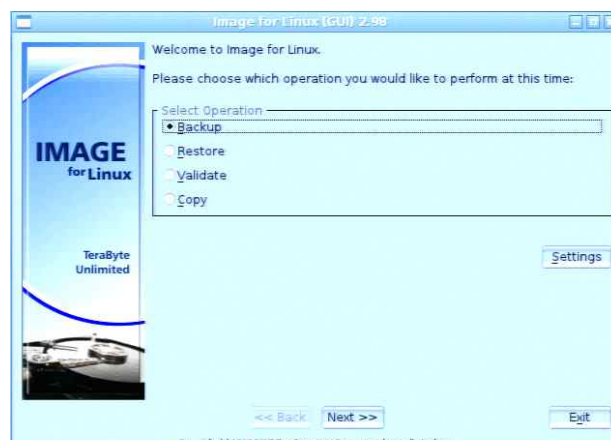
7. 이상이 없으면 shutdown -h now로 리눅스 종료

8. 원본 디스크 2개 중 한 개를 제거. 이때 디스크가 어떤 위치에서 어떤 케이블에 연결되어 있었는지 반드시 표기한다.

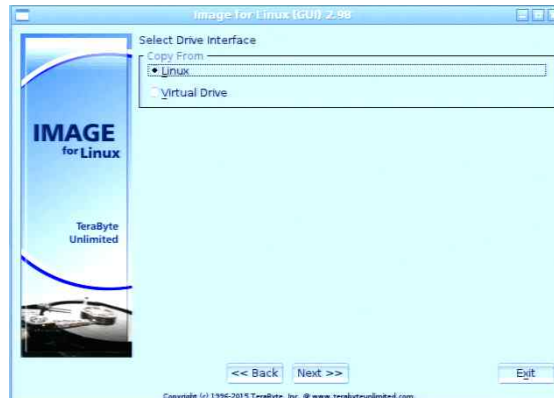
9. 원본 디스크 1개를 제거한 위치에 교체할 디스크를 장착

10. 생성해 놓은 Terabyte software Image for Linux USB를 연결하고 부팅 순서를 변경해 USB로 부팅

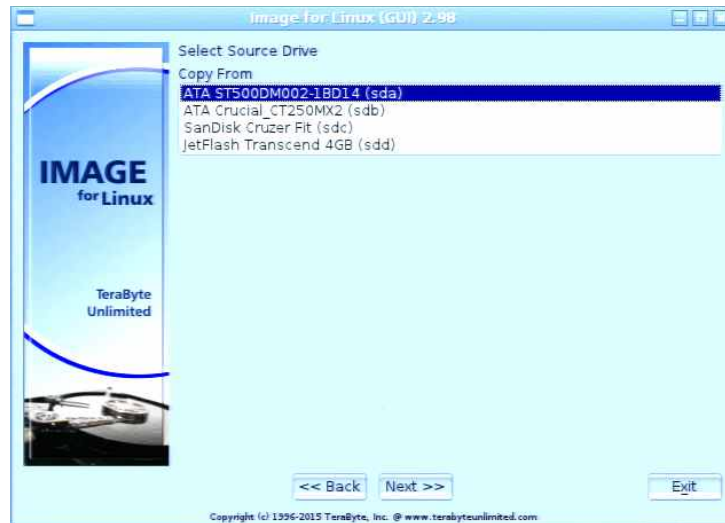
11. Image for Linux가 실행되면 복사 선택



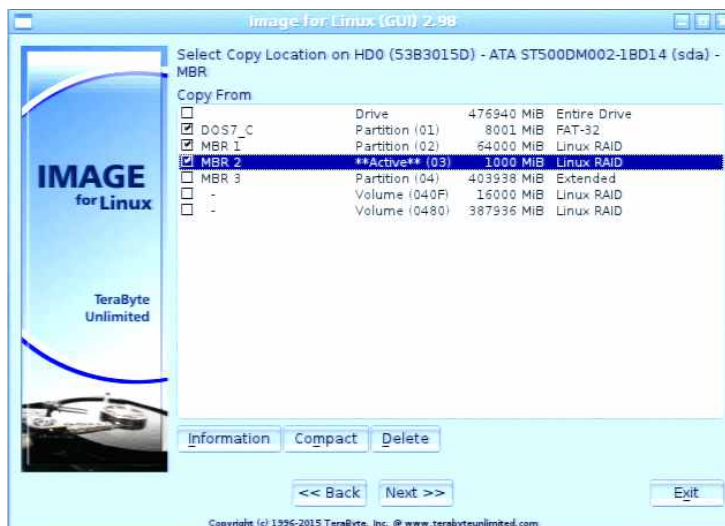
12. 복사할 인터페이스인 Linux 선택



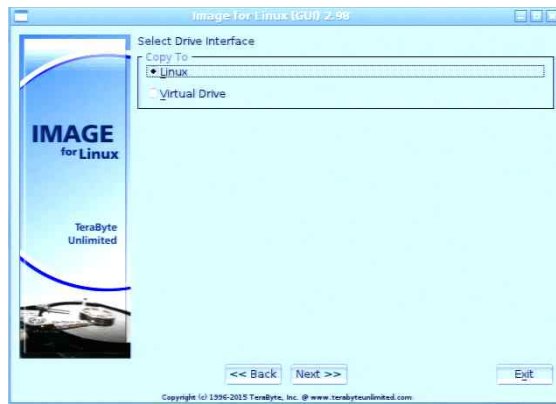
13. 복사할 디스크 원본 선택



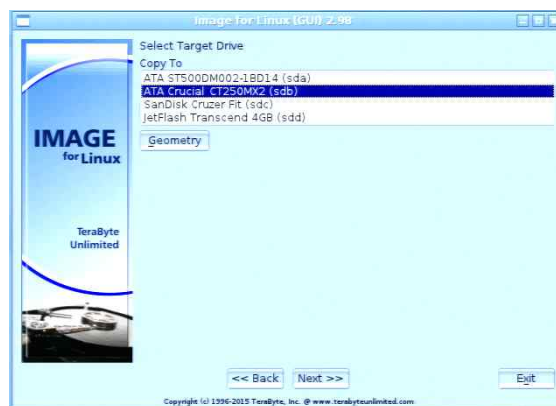
14. 복사할 RAID 파티션 선택. Disk utility에서 적어둔 파티션 정보를 보고 선택



15. 대상 디스크의 인터페이스인 Linux 선택



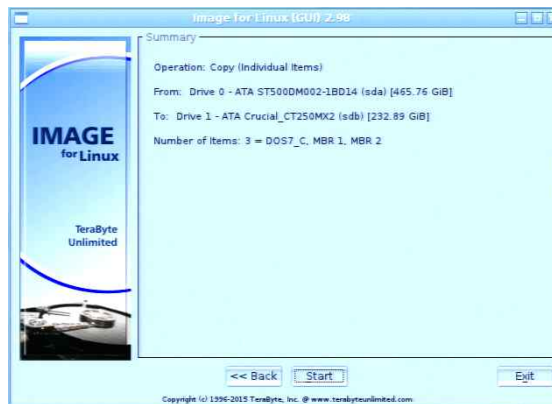
16. 파일을 복사해 넣을 디스크 선택



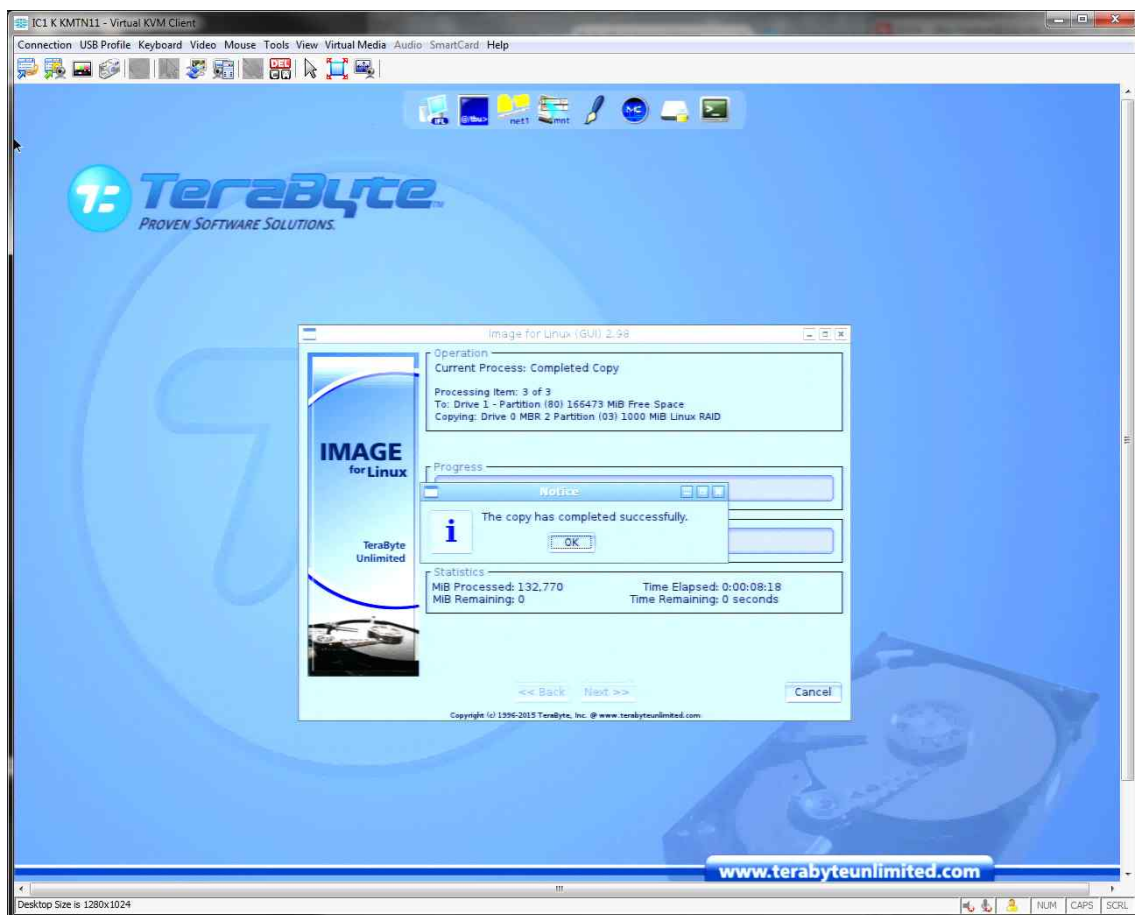
17. 복사옵션 선택 - default 선택 값 사용



18. 복사할 디스크 정보에 대해 나오면 확인하고 시작



19. 복사가 완료되면 OK 클릭해 복사 종료



20. 화면 상단의 터미널 아이콘을 눌러 shutdown -h now 명령어를 입력해 시스템 종료

21. 시스템 종료 후, Terabyte USB 제거 및 원본 디스크 제거

22. 새로운 디스크로 부팅 후 터미널에서 su를 입력해 root 모드 진입

23. fdisk /dev/sda 실행

24. command (m for help):에서 n 입력 후 엔터

```

root@KMTN11:~
File Edit View Search Terminal Help
[root@KMTN11 ~]# fdisk /dev/sda

The device presents a logical sector size that is smaller than
the physical sector size. Aligning to a physical sector (or optimal
I/O) size boundary is recommended, or performance may be impacted.

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: 250.1 GB, 250059350016 bytes
255 heads, 63 sectors/track, 30401 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk identifier: 0x53b3015d

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1             1          1020      8193118+   b   W95 FAT32
Partition 1 does not start on physical sector boundary.
/dev/sda2           1021          9179      65536000    fd   Linux raid autodetect
/dev/sda3             *          9179          9307      1024000    fd   Linux raid autodetect

Command (m for help): n
Command action
  e   extended
  p   primary partition (1-4)

```

25. command action e와 p 설명이 나오면 Extended 파티션을 먼저 생성해야 하므로 e 입력 후 엔터

```

Command action
  e   extended
  p   primary partition (1-4)
e
Selected partition 4
First cylinder (9307-30401, default 9307): █

```

26. First cylinder에서 엔터 (기본값 입력됨)

27. Last cylinder에서 엔터 (기본값 입력됨)

28. command (m for help): p 입력해 파티션 확인

```

Command action
  e   extended
  p   primary partition (1-4)
e
Selected partition 4
First cylinder (9307-30401, default 9307):
Using default value 9307
Last cylinder, +cylinders or +size{K,M,G} (9307-30401, default 30401):
Using default value 30401

Command (m for help): p

Disk /dev/sda: 250.1 GB, 250059350016 bytes
255 heads, 63 sectors/track, 30401 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk identifier: 0x53b3015d

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1             1          1020      8193118+   b   W95 FAT32
Partition 1 does not start on physical sector boundary.
/dev/sda2           1021          9179      65536000    fd   Linux raid autodetect
/dev/sda3             *          9179          9307      1024000    fd   Linux raid autodetect
/dev/sda4            9307         30401     169441984+   5   Extended

Command (m for help): █

```

29. swap과 /home으로 사용할 파티션도 모두 생성 후 p 입력해 파티션 확인
swap 생성 시 last cylinder값은 +16192M으로 설정


```
root@KMTN11:~  
File Edit View Search Terminal Help  
First cylinder (9307-30401, default 9307):  
Using default value 9307  
Last cylinder, +cylinders or +size{K,M,G} (9307-30401, default 30401): +16192M  
  
Command (m for help): n  
First cylinder (11372-30401, default 11372):  
Using default value 11372  
Last cylinder, +cylinders or +size{K,M,G} (11372-30401, default 30401):  
Using default value 30401  
  
Command (m for help): p  
  
Disk /dev/sda: 250.1 GB, 250059350016 bytes  
255 heads, 63 sectors/track, 30401 cylinders  
Units = cylinders of 16065 * 512 = 8225280 bytes  
Sector size (logical/physical): 512 bytes / 4096 bytes  
I/O size (minimum/optimal): 4096 bytes / 4096 bytes  
Disk identifier: 0x53b3015d  
  
   Device Boot      Start         End      Blocks   Id  System  
/dev/sda1             1          1020       8193118+    b   W95 FAT32  
Partition 1 does not start on physical sector boundary.  
/dev/sda2             1021          9179       65536000    fd   Linux raid autodetect  
/dev/sda3              *          9179          9307       1024000    fd   Linux raid autodetect  
/dev/sda4             9307         30401      169441984+    5   Extended  
/dev/sda5             9307         11371      16583476+    83   Linux  
Partition 5 does not start on physical sector boundary.  
/dev/sda6            11372         30401      152858445    83   Linux  
Partition 6 does not start on physical sector boundary.  
  
Command (m for help):
```

30. command (m for help): t 입력 후 엔터

31. 파티션 넘버 선택 (swap과 /home으로 사용할 파티션에 대해서만 작업), Hex code 입력하는 곳에서 fd 입력 후 엔터 - fd가 Linux raid autodetect 파티션임을 지정하는 것임

```
Command (m for help): t  
Partition number (1-6): 5  
Hex code (type L to list codes): fd  
Changed system type of partition 5 to fd (Linux raid autodetect)  
  
Command (m for help): t  
Partition number (1-6): 6  
Hex code (type L to list codes): fd  
Changed system type of partition 6 to fd (Linux raid autodetect)  
  
Command (m for help):
```

32. command (m for help): wq 입력 후 엔터

```
Command (m for help): p  
  
Disk /dev/sda: 250.1 GB, 250059350016 bytes  
255 heads, 63 sectors/track, 30401 cylinders  
Units = cylinders of 16065 * 512 = 8225280 bytes  
Sector size (logical/physical): 512 bytes / 4096 bytes  
I/O size (minimum/optimal): 4096 bytes / 4096 bytes  
Disk identifier: 0x53b3015d  
  
   Device Boot      Start         End      Blocks   Id  System  
/dev/sda1             1          1020       8193118+    b   W95 FAT32  
Partition 1 does not start on physical sector boundary.  
/dev/sda2             1021          9179       65536000    fd   Linux raid autodetect  
/dev/sda3              *          9179          9307       1024000    fd   Linux raid autodetect  
/dev/sda4             9307         30401      169441984+    5   Extended  
/dev/sda5             9307         11371      16583476+    fd   Linux raid autodetect  
Partition 5 does not start on physical sector boundary.  
/dev/sda6            11372         30401      152858445    fd   Linux raid autodetect  
Partition 6 does not start on physical sector boundary.  
  
Command (m for help): wq
```

33. fdisk /dev/sda를 다시 실행하여 p로 생성된 파티션 확인. 만약 새로 생성된 파티션이 보이지 않는다면 리눅스를 리부팅 한 후 다시 확인. 이렇게 해도 파티션이 안 보인다면 Extended 파티션 생성 및 저장한 후 리부팅, /dev/sda5 파티션 생성하고 저장한 후 리부팅, /dev/sda6 파티션 생성하고 저장한 후 리부팅 해 볼 것. 이때

Hex code도 fd로 함께 입력해 줄 것.

34. 파티션이 모두 삭제된 나머지 SSD를 컴퓨터에 설치하고 부팅

35. 부팅 후, 파티션 정보 확인

fdisk /dev/sda

command (m for help): p

```
root@KMTN11:~  
File Edit View Search Terminal Help  
[root@KMTN11 ~]# fdisk /dev/sda  
  
The device presents a logical sector size that is smaller than  
the physical sector size. Aligning to a physical sector (or optimal  
I/O) size boundary is recommended, or performance may be impacted.  
  
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: 250.1 GB, 250059350016 bytes  
255 heads, 63 sectors/track, 30401 cylinders  
Units = cylinders of 16065 * 512 = 8225280 bytes  
Sector size (logical/physical): 512 bytes / 4096 bytes  
I/O size (minimum/optimal): 4096 bytes / 4096 bytes  
Disk identifier: 0x53b3015d  
  
   Device Boot      Start         End      Blocks   Id  System  
/dev/sda1            1          1020      8193118+    b   W95 FAT32  
Partition 1 does not start on physical sector boundary.  
/dev/sda2           1021          9179      65536000    fd   Linux raid autodetect  
/dev/sda3             9179          9307       1024000    fd   Linux raid autodetect  
/dev/sda4             9307         30401     169441984+    5   Extended  
/dev/sda5             9307         11371     16583476+    fd   Linux raid autodetect  
Partition 5 does not start on physical sector boundary.  
/dev/sda6           11372         30401     152858445    fd   Linux raid autodetect  
Partition 6 does not start on physical sector boundary.  
  
Command (m for help): █
```

36. 이미 작업했던 파티션도 모두 살아있는지 확인한 후, 나머지 SSD의 파티션 정보도 확인함

fdisk /dev/sdb

command (m for help): p

```
[root@KMTN11 ~]# fdisk /dev/sdb  
  
The device presents a logical sector size that is smaller than  
the physical sector size. Aligning to a physical sector (or optimal  
I/O) size boundary is recommended, or performance may be impacted.  
  
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/sdb: 250.1 GB, 250059350016 bytes  
255 heads, 63 sectors/track, 30401 cylinders  
Units = cylinders of 16065 * 512 = 8225280 bytes  
Sector size (logical/physical): 512 bytes / 4096 bytes  
I/O size (minimum/optimal): 4096 bytes / 4096 bytes  
Disk identifier: 0x191d0f40  
  
   Device Boot      Start         End      Blocks   Id  System  
  
Command (m for help): q  
  
[root@KMTN11 ~]# █
```

37. 추가 장착한 SSD에 파티션이 없음을 확인하면 두 개 SSD의 파티션을 일치시켜야 함 RAID 1같은 경우 동일한 파티션 또는 디스크를 사용해야 함

파티션을 완벽하게 복제하기 위해 다음 명령어를 입력

`sfdisk -d /dev/sda | sfdisk -f /dev/sdb` 를 실행시키면 `/dev/sda`의 파티션을 `/dev/sdb`으로 복제함

```
[root@KMTN11 ~]# sfdisk -d /dev/sda | sfdisk -f /dev/sdb
Warning: extended partition does not start at a cylinder boundary.
DOS and Linux will interpret the contents differently.
Checking that no-one is using this disk right now ...
OK

Disk /dev/sdb: 30401 cylinders, 255 heads, 63 sectors/track
Old situation:
Units = cylinders of 8225280 bytes, blocks of 1024 bytes, counting from 0

   Device Boot Start      End  #cyls   #blocks  Id System
/dev/sdb1             0         0         0         0  0 Empty
/dev/sdb2             0         0         0         0  0 Empty
/dev/sdb3             0         0         0         0  0 Empty
/dev/sdb4             0         0         0         0  0 Empty
New situation:
Units = sectors of 512 bytes, counting from 0

   Device Boot  Start      End  #sectors  Id System
/dev/sdb1             63  16386299   16386237  b  W95 FAT32
/dev/sdb2             16388096 147460095  131072000  fd  Linux raid autodetect
/dev/sdb3 * 147460096 149508095    2048000  fd  Linux raid autodetect
/dev/sdb4             149508096 488392064  338883969  5  Extended
/dev/sdb5             149508159 182675111    33166953  fd  Linux raid autodetect
/dev/sdb6             182675175 488392064  305716890  fd  Linux raid autodetect
Warning: partition 2 does not start at a cylinder boundary
Successfully wrote the new partition table
Re-reading the partition table ...

If you created or changed a DOS partition, /dev/foo7, say, then use dd(1)
to zero the first 512 bytes: dd if=/dev/zero of=/dev/foo7 bs=512 count=1
(See fdisk(8).)
[root@KMTN11 ~]#
```

38. 명령을 실행한 후 리부팅

39. `/dev/md0` 과 `/dev/md1`은 raid 구조가 살아있지만 1개의 디스크로 작동하고 있음. 그러므로 추가한 SSD의 파티션을 추가하여 정상적인 RAID 기능을 할 수 있도록 해야 하므로 RAID 설정

```
# mdadm --detail /dev/md0
```

```
# mdadm --detail /dev/md1
```

위 명령을 실행하면 아래와 같은 메시지가 나옴. `/dev/sda3`은 active sync상태이지만 `/dev/sdb3`은 removed 상태

```

root@KMTN11:~
File Edit View Search Terminal Help

  Number  Major  Minor  RaidDevice State
    0      8      3      0    active sync  /dev/sda3
    1      0      0      1    removed

[root@KMTN11 ~]# mdadm --detail /dev/md1
/dev/md1:
  Version : 1.1
  Creation Time : Tue Feb 25 13:45:51 2014
  Raid Level : raid1
  Array Size : 65503104 (62.47 GiB 67.08 GB)
  Used Dev Size : 65503104 (62.47 GiB 67.08 GB)
  Raid Devices : 2
  Total Devices : 1
  Persistence : Superblock is persistent

  Intent Bitmap : Internal

  Update Time : Sun Dec 25 20:45:17 2016
  State : active, degraded
Active Devices : 1
Working Devices : 1
Failed Devices : 0
Spare Devices : 0

    Name : localhost.localdomain:1
    UUID : 9dce4c01:868ea420:34aa6b62:bc43350b
    Events : 109378

  Number  Major  Minor  RaidDevice State
    0      8      2      0    active sync  /dev/sda2
    1      0      0      1    removed

[root@KMTN11 ~]#

```

40. md0, md1에 대한 RAID 복구 및 rebuild 작업 수행

mdadm --manage /dev/md0 --add /dev/sdb#

mdadm --manage /dev/md1 --add /dev/sdb#

#는 detail에서 나온 파티션 넘버

```

[root@KMTN11 ~]# mdadm --manage /dev/md0 --add /dev/sdb3
mdadm: added /dev/sdb3
[root@KMTN11 ~]# mdadm --manage /dev/md1 --add /dev/sdb2
mdadm: added /dev/sdb2
[root@KMTN11 ~]#

```

41. 삭제한 RAID 파티션을 새로 만들어야 함.

mdadm --create /dev/md# --level=1 --raid-device=2 /dev/sda# /dev/sdb#

mdadm --create /dev/md# --level=1 --raid-device=2 /dev/sda# /dev/sdb#

아래와 같은 메시지가 나타나며 중간에 y를 입력하면 파티션이 생성됨.

```

[root@KMTN11 ~]# mdadm --create /dev/md2 --level=1 --raid-device=2 /dev/sda5 /dev/sdb5
mdadm: Note: this array has metadata at the start and
may not be suitable as a boot device. If you plan to
store '/boot' on this device please ensure that
your boot-loader understands md/v1.x metadata, or use
--metadata=0.90
Continue creating array? y
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md2 started.
[root@KMTN11 ~]#

```

```

root@KMTN11:~
File Edit View Search Terminal Help
Spare Devices : 0

      Name : localhost.localdomain:1
      UUID : 9dce4c01:868ea420:34aa6b62:bc43350b
      Events : 109378

      Number   Major   Minor   RaidDevice State
      0         8       2         0   active sync  /dev/sda2
      1         0       0         1   removed

[root@KMTN11 ~]# mdadm --manage /dev/md0 --add /dev/sdb3
mdadm: added /dev/sdb3
[root@KMTN11 ~]# mdadm --manage /dev/md1 --add /dev/sdb2
mdadm: added /dev/sdb2
[root@KMTN11 ~]# mdadm --create /dev/md2 --level=1 --raid-device=2 /dev/sda5 /dev/sdb5
mdadm: Note: this array has metadata at the start and
may not be suitable as a boot device. If you plan to
store '/boot' on this device please ensure that
your boot-loader understands md/v1.x metadata, or use
--metadata=0.90
Continue creating array? y
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md2 started.
[root@KMTN11 ~]# mdadm --create /dev/md3 --level=1 --raid-device=2 /dev/sda6 /dev/sdb6
mdadm: Note: this array has metadata at the start and
may not be suitable as a boot device. If you plan to
store '/boot' on this device please ensure that
your boot-loader understands md/v1.x metadata, or use
--metadata=0.90
Continue creating array? y
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md3 started.
[root@KMTN11 ~]#

```

만약 mdadm: Cannot open/.....: Device or resource busy) 에러가 나오는 경우 - SSD에 파티션 정보가 남아있어 충돌되는 경우임

- a. cat /proc/mdstat 으로 md# 상태 확인
- b. mdadm --misc --stop /dev/md# 으로 남아있는 파티션 삭제
- c. cat /proc/mdstat 으로 md# 파티션 정보가 없어졌는지 확인

42. swap 파티션인 /dev/md#의 swap 기능을 활성화

mkswap /dev/md#

```

[root@KMTN11 ~]# mkswap /dev/md2
mkswap: /dev/md2: warning: don't erase bootbits sectors
on whole disk. Use -f to force.
Setting up Swapspace version 1, size = 16575164 KiB
no label, UUID=a69a3a23-50bf-47ba-8a02-d01c81ca4e5c
[root@KMTN11 ~]#

```

43. /home 디렉터리 파티션인 /dev/md#은 ext4 파일시스템으로 포맷

mkfs.ext4 /dev/md#

```

root@KMTN11:~
File Edit View Search Terminal Help
mkswap: /dev/md2: warning: don't erase bootbits sectors
on whole disk. Use -f to force.
Setting up swapspace version 1, size = 16575164 KiB
no label, UUID=a69a3a23-50bf-47ba-8a02-d01c81ca4e5c
[root@KMTN11 ~]# mkfs.ext4 /dev/md3
mke2fs 1.41.12 (17-May-2010)
/dev/md3 alignment is offset by 512 bytes.
This may result in very poor performance, (re)-partitioning suggested.
Discarding device blocks: done
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=1 blocks, Stripe width=0 blocks
9551872 inodes, 38181824 blocks
1909091 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=4294967296
1166 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
    4096000, 7962624, 11239424, 20480000, 23887872

Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

This filesystem will be automatically checked every 21 mounts or
180 days, whichever comes first.  Use tune2fs -c or -i to override.
[root@KMTN11 ~]#

```

44. 새로 생성한 파티션을 부팅 시 자동으로 마운트 하도록 설정

```
# blkid | grep md#
```

```
# blkid | grep md#
```

를 입력해 UUID 값을 얻음

```

[root@KMTN11 ~]# blkid | grep md2
/dev/md2: UUID="a69a3a23-50bf-47ba-8a02-d01c81ca4e5c" TYPE="swap"
[root@KMTN11 ~]# blkid | grep md3
/dev/md3: UUID="415357d6-5672-4090-86ce-f459691c6363" TYPE="ext4"
[root@KMTN11 ~]#

```

45. /etc/fstab 파일에 주석처리 한 부분의 UUID 값을 위에서 얻은 값으로 치환

```

root@KMTN11:~
File Edit View Search Terminal Help
#
# /etc/fstab
# Created by anaconda on Tue Feb 25 08:52:01 2014
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
UUID=8926dc22-e71d-4623-8726-306e75711283 / ext4 defaults 1 1
UUID=0eaeda73-bdc3-43a2-94a2-8140e00e2b79 /boot ext4 defaults 1 2
UUID=415357d6-5672-4090-86ce-f459691c6363 /home ext4 defaults 1 2
UUID=a69a3a23-50bf-47ba-8a02-d01c81ca4e5c swap swap defaults 0 0
tmpfs /dev/shm tmpfs defaults 0 0
devpts /dev/pts devpts gid=5,mode=620 0 0
sysfs /sys sysfs defaults 0 0
proc /proc proc defaults 0 0

```

46. vi /etc/mdadm.conf 파일에서 UUID 값을 치환

