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

Applications Places System Mill	🧧 Mar 🛞 🔽 🗟			Sun Dec 25, 17:44:49 Foo
500 <u>500</u>	GB Hard Disk (ATA	ST500DM002-1BD142) [/dev/sda]	— Disk Utility	
Storage Devices	Drive			
The storage	Madali	ATA CTEOODMOOD 180140	Corial Number	73764666
raot@lacalhost	Firmware Version:	KC45	World Wide Name	0x5000c5004f78bd36
G Series/C200 Serie TA AHCI Controller	Location:	Port 1 of SATA Host Adapter	Device:	/dev/sda
500 GB Hard Disk	Write Cache:	Enabled	Rotation Rate:	7200 RPM
500 GB Hard Disk	Capacity:	500 GB (500 107 862 016 bytes)	Connection:	ATA
- ATA ST500DM002-18D142	Partitioning:	Master Boot Record	SMART Status:	Disk is healthy
Multi-disk Devices RAID, UVM and other logical drives 3 3 3	Erase or part	ve Ition the drive	SMART Data View SMART d	ata and run self-tests
2 17 GB RAID-1 Array	Benchmark Measure driv	e performance		
57 GB RAID-1 Array	Volumes			
1 0 GB BAID-1 Array			Extor	heh
Peripheral Devices	DOST C RAID C	amagent: BAID Com	424	GB
USB RreWire and other peripherals B.0 GB Hard Disk SanDisk Cruzer Rt	8.4 GB FAT	1 0 RAID Compon 2	Я	AID Component 3
	WARNING: The may result in suggested.	he partition is misaligned by 512 bytes very poor performance. Repartitioning	s. This is	
	Usage: Fi	ilesystem	Device: /c	iev/sda1
	Partition Type: W	/95 FAT32 (0x0b)	Partition Label: -	
	Partition Flags: -		Capacity: 8	4 GB (8,389,753,344 bytes
	Type: F/	AT (32-bit version)	Available: -	
	Label: D	057_C	Mount Point: N	ot Mounted
	Mount Volue Mount the vo	me Iume	Pormat Volu Erase or form	me at the volume

FAT	raid 0	RAID 1	Exte	nded
/dev/sda <u>#</u>	/dev/sda <u>#</u>	/dev/sda <u>#</u>	RAID 2	RAID 3
/dev/sdb <u>#</u>	/dev/sdb <u>#</u>	/dev/sdb <u>#</u>	/dev/sda <u>#</u>	/dev/sda <u>#</u>
DOS 영역	/boot	/	/dev/sdb <u>#</u>	/dev/sdb <u>#</u>
			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)

2		root@KMTN11:	/home			_ 🗆 🗙
File Edit View	Search Terminal Help					
#						-
# # /etc/fstab						
# Created by ana	conda on Tue Feb 25 08:52	2:01 2014				
#						
# Accessible fil	esystems, by reference, a	are maintained	under '/dev/disk	8		
# See man pages	fstab(5), findfs(8), mour	nt(8) and/or bl	kid(8) for more	info		
#						
JUID=8926dc22-e7	1d-4623-8726-306e75711283	3 /	ext4	defaults	1 1	
JUID=0eaeda73-bd	c3-43a2-94a2-8140e00e2b79	9 /boot	ext4	defaults	12	
#UUID=0b56a977-7	912-4426-b9b4-2f6471c0089	99 /home	ext4	defaults	1 2	
UUID=c4215d9f-8	a27-411b-8996-b594878f9db	o9 swap	swap	defaults	0 0	
tmpfs	/dev/shm	tmpfs	defaults	0 0		
devpts	/dev/pts	devpts	g1d=5,mode=620	0 0		
systs	/sys	systs	defaults	0 0		
proc	/proc	proc	detaults	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	w Searc	h Teri	minal	Help		
[root@KMTN11 -	-]# df -	h				
Filesystem	Size	Used	Avail	Use%	Mounted on	
/dev/md1	62G	23G	36G	39%	1	
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 -	~]#					
100	1990 - 19 70 -					

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 순서 를 변경해 USB로 부팅

11. Image for Linux가 실행되면 복사 선택



12. 복사할 인터페이스인 Linux 선택

	• Linux			
IMAGE for Linux	virtual t	Drive		
TeraByte Unlimited				
100				

13. 복사할 디스크 원본 선택

	Select Source Drive	
	Copy From	
	ATA ST500DM002-1BD14 (sda)	
1	SanDisk Cruzer Fit (sdc)	
	JetFlash Transcend 4GB (sdd)	
IMAGE		
for Linux		
TeraByte		
Unlimited		
2		
		-
	<< Back Next >>	Exit
	Copyright (c) 1556-2015 TeraByte, Inc. @ www.terabyteunlimited.com	

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

	MBR Copy From	cation on HD0 (53B30)	.5D) - AIA SI5	00DM002-18D	14 (sda
		Drive	476940 MiB	Entire Drive	
	MBR 1	Partition (01) Partition (02)	64000 MiB	Linux RAID	
IN A CE	MBR 2	**Active** (03) 1000 MiB	Linux RAID	
IMAGE	MBR 3	Partition (04)	403938 MiB	Extended	
forLinux	남 -	Volume (040F	16000 MiB	Linux RAID	
TeraByte Unlimited					
	Information	Compact Delate			
	Information	compact Delete			

15. 대상 디스크의 인터페이스인 Linux 선택

	limage for Linux (GU)), 2,98 📃 🖬 🕷
	Select Drive Interface Copy To- Units Unit
IMAGE for Linux	
TeraByte Unlimited	
100	
	<< Back Next >> Exit Copyrigits (d) 1996-2015 Temilities, Inc. @ www.temilities.com

16. 파일을 복사해 넣을 디스크 선택

		ليالنا لتا
	Select Target Drive Copy To ATA:STS00DN002-18D14 (sda) ATA:Grouped CT250MX2 (sdb) SanDisk Cruzer Fit (sdc) JetFlash Transcend 4G6 (sdd)	
IMAGE for Linux	Geometry	
TeraByte Unlimited		
	<< Back Next >> Copyright (c) 1395-2013 Transfore, Inc. @ www.transformations	Exit

17. 복사옵션 선택 - default 선택 값 사용



18. 복사할 디스크 정보에 대해 나오면 확인하고 시작



19. 복사가 완료되면 OK 클릭해 복사 종료

😻 IC1 K KMTN11 - Virtual KVM Client	
Connection USB Profile Keyboard Video Mouse Tools View Virtual Media Aud	fio SmartCard Help
PROVEN SOFTWARE SOLUTIONS	
	Image for Linux (GUI) 2.98
	Current Process: Completed Copy Processing Item: 3 of 3 To: Drive 1 Portition (30) 156473 MIB Free Space Copying: Drive 0 MBR 2 Partition (03) 1000 MIB Linux RAID
IMAGE for Linux TeraByte	Progress
	Statistics MB Processed: 132,770 Time Elapsed: 0:00:08:18 MB Remaining: 0 Time Remaining: 0
	<< Back Next >> Cancel
	Loprint (U-1279-Criti) Literepre, Inc. & www.tenalytexitinited.com
	www.terabyteunlimited.com
<.	www.terabytednininteo.com
Desktop Size is 1280x1024	👞 🐁 🔒 NUM CAPS SCRL

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



- 25. command action e와 p설명이 나오면 Extended 파티션을 먼저 생성해야 하므
- 로 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



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

and the second s				LOOT@KWINT1	u~		×
File Edit	View	Search Terr	ninal Help				
First cyli	Inder (9307-30401,	default 930	07):			1
Using defa	ault va	lue 9307					
Last cylir	nder, +	cylinders o	or +size{K,M	,G} (9307-304	01,	default 30401): +16192M	
Command (m	for h	elo)• n					
First cyli	nder (11372-30401	. default 1	1372):			
Using defa	ult va	lue 11372					
Last cylin	nder, +	cvlinders d	or +size{K.M	.G} (11372-30	401,	default 30401):	
Using defa	ult va	lue 30401		sooren internetien sollten.	out service.		
		7 1					
command (n	n tor ne	elp): p					
Dick (day)	Inday 2	50 1 GP 25	0050250016	hytor			
Disk /dev/	/sda: 2	50.1 GB, 25	0059350016	bytes			
Disk /dev/ 255 heads,	/sda: 2 63 se	50.1 GB, 25 ctors/track	0059350016) (, 30401 cyl) * 512 = 822	bytes inders 5280 bytes			
Disk /dev/ 255 heads, Units = cy Sector siz	/sda: 2: 63 se /linder	50.1 GB, 25 ctors/track s of 16065 ical/physic	00059350016) (, 30401 cyl: * 512 = 822 (al): 512 by	bytes inders 5280 bytes tes / 4096 by	ites		
Disk /dev/ 255 heads, Units = cy Sector siz I/O size (/sda: 2: 63 se /linder ze (log minimur	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal):	0059350016 k , 30401 cyl: * 512 = 822: cal): 512 by 4096 bytes	bytes inders 5280 bytes tes / 4096 by / 4096 bytes	tes		
Disk /dev/ 255 heads, Jnits = cy Sector siz I/O size (Disk ident	/sda: 2: 63 sec /linder: te (log: minimur :ifier:	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b3015c	50059350016 k (, 30401 cyl) * 512 = 822 (al): 512 by 4096 bytes 4096 bytes	bytes inders 5280 bytes tes / 4096 by / 4096 bytes	tes		
Disk /dev/ 255 heads, Units = cy Sector siz I/O size (Disk ident	/sda: 2: 63 sec /linder: ze (log: minimur :ifier: Boot	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b30150	50059350016 H (, 30401 cyl: * 512 = 822: al): 512 by: 4096 bytes f End	bytes inders 5280 bytes tes / 4096 by / 4096 bytes Blocks	tes Td	System	
Disk /dev/ 255 heads, Units = cy Sector siz I/O size (Disk ident Device (dev/sdal	/sda: 2 63 se /linder /e (log: /minimur ifier: Boot	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b30150 Start	50059350016 H (, 30401 cyl. * 512 = 8222 (al): 512 by 4096 bytes i End 1020	bytes inders 5280 bytes tes / 4096 by / 4096 bytes Blocks 8103118+	rtes Id	System W95 FAT32	
Disk /dev, 255 heads, Units = cy Sector siz I/O size (Disk ident Device /dev/sdal Partition	/sda: 2: 63 ser /linder ze (log: minimur :ifier: Boot 1 does	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b30150 Start 1 pot start	50059350016 H (, 30401 cyl. * 512 = 8222 (al): 512 by 4096 bytes 1 End 1020 on physical	bytes inders 5280 bytes tes / 4096 by / 4096 bytes Blocks 8193118+ sector bound	Id Id	System W95 FAT32	
Disk /dev/ 255 heads, Units = cy Sector siz I/O size (Disk ident Device /dev/sda1 /dev/sda2	/sda: 2: 63 se /linder 2e (log: minimur :ifier: Boot 1 does	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b3015c Start 1 not start 1021	50059350016 H c, 30401 cyl: * 512 = 8222 cal): 512 by: 4096 bytes H End 1020 on physical 9179	bytes inders 5280 bytes tes / 4096 by / 4096 bytes Blocks 8193118+ sector bound 65536000	Id Id b lary.	System W95 FAT32 Linux raid autodetect	
Disk /dev/ 255 heads, Units = cy Sector siz I/O size (Disk ident Device /dev/sda1 /dev/sda2 /dev/sda3	/sda: 2: 63 ser /linders ze (log: minimur iifier: Boot 1 does *	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b3015c Start 1 not start 1021 9179	50059350016 H x, 30401 cyl: * 512 = 822; al): 512 by: 4096 bytes i End 1020 on physical 9179 9307	bytes inders 5280 bytes tes / 4096 bytes / 4096 bytes Blocks 8193118+ sector bound 65536000 1024000	Id Id lary. fd	System W95 FAT32 Linux raid autodetect Linux raid autodetect	
Disk /dev, 255 heads, Units = cy Sector siz I/O size (Disk ident Device /dev/sda1 Partition /dev/sda3 /dev/sda4	/sda: 2: 63 sev /linder: ze (log: minimur ifier: Boot 1 does *	50.1 GB, 25 ctors/track s of 16065 ical/physic n/optimal): 0x53b3015c Start 1 not start 1021 9179 9307	50059350016 H c, 30401 cyl: * 512 = 822: tal): 512 by: 4096 bytes f End 1020 on physical 9179 9307 30401	bytes inders 5280 bytes tes / 4096 by / 4096 bytes Blocks 8193118+ sector bound 65536000 16244000 169441984+	Id Id lary. fd fd 5	System W95 FAT32 Linux raid autodetect Linux raid autodetect Extended	
Disk /dev, 255 heads, Units = cy Sector siz I/O size (Disk ident Device /dev/sda1 Partition /dev/sda2 /dev/sda4 /dev/sda4	/sda: 2: 63 sed /linder/ te (log: minimur ifier: Boot 1 does *	50.1 GB, 25 ctors/track s of 16065 ical/physic m/optimal): 0x53b3015c Start 1 not start 1021 9179 9307 9307	50059350016 H , 30401 cyl. * 512 = 8222: al): 512 by: 4096 bytes i End 1020 on physical 9179 9307 30401 11371	bytes inders 5280 bytes tes / 4096 by / 4096 bytes Blocks 8193118+ sector bound 65536000 1624000 169441984+ 16583476+	Id Id Idry. fd 5 83	System W95 FAT32 Linux raid autodetect Linux raid autodetect Extended Linux	
Disk /dev, 255 heads, Units = cy Sector siz () Disk ident Device /dev/sda1 /dev/sda2 /dev/sda3 /dev/sda5 Partition	/sda: 2: 63 sed /linder/ te (log: minimur ifier: Boot 1 does * 5 does	50.1 GB, 25 ctors/track s of 16065 ical/physic n/optimal): 0x53b3015c Start 1 not start 1021 9179 9307 not start	50059350016 H <pre><, 30401 cyl: * 512 = 822: 4096 bytes i End 1020 on physical 9179 9307 30401 11371 on physical</pre>	bytes inders 2280 bytes tes / 4096 bytes Blocks 8193118+ sector bound 65536000 1024000 1024000 105441984+ 16583476+ sector bound	Id Id Id Id Id Id S 83 Iary.	System W95 FAT32 Linux raid autodetect Linux raid autodetect Extended Linux	
Disk /dev, 255 heads, Units = c; Sector siz //o size (Disk ident Device /dev/sda1 /dev/sda2 /dev/sda3 /dev/sda3 /dev/sda4 /dev/sda5	/sda: 2: 63 sev /linder: 2e (log: minimur ifier: Boot 1 does * 5 does	50.1 GB, 25 ctors/track s of 16065 ical/physic 0x53b3015c Start 1 not start 1021 9179 9307 9307 not start 11372	50059350016 H , 30401 cyl: * 512 = 825 tal): 512 by: 4096 bytes 4096 bytes 4096 on physical 9179 9307 30401 11371 on physical 30401	bytes inders 2280 bytes tes / 4096 bytes Blocks 8193118+ sector bound 65336000 1024000 1024000 169441984+ 16583476+ sector bound 152858445	Id Id Id Id Id Id Id S S Id S S S Id S S	System W95 FAT32 Linux raid autodetect Linux raid autodetect Extended Linux Linux	

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

55 heads	, 6	3 se	ctor	s/tracl	¢, 1	30401 cyl:	inders				
Jnits = c	yl:	Inder	s of	16065	* 5	512 = 822	5280 bytes				
Sector si	ze	(log:	ical,	/physi	cal): 512 by	tes / 4096 by	/tes			
I/O size	(m.	Lnimur	n/op	timal)	4(096 bytes	/ 4096 byte	S.			
)isk iden	t11	ier:	0x5.	3b30150	1						
Device	R	not		Start		End	Blocks	Td	System	n	
/dev/sdal				1		1020	8193118+	b	W95 FA	AT32	
Partition	1°	does	not	start	on	physical	sector bound	dary.			
/dev/sda2				1021		9179	65536000	fd	Linux	raid	autodetect
/dev/sda3		*		9179		9307	1024000	fd	Linux	raid	autodetect
/dev/sda4				9307		30401	169441984+	5	Extend	ded	
/dev/sda5				9307		11371	16583476+	fd	Linux	raid	autodetect
Partition	5	does	not	start	on	physical	sector bound	dary.			
				11372		30401	152858445	fd	Linux	raid	autodetect
/dev/sda6											

33. fdisk /dev/sda를 다시 실행하여 p로 생성된 파티션 확인. 만약 새로 생성된 파 티션이 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



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

fdisk /dev/sdb

command (m for help): p



37. 추가 장착한 SSD에 파티션이 없음을 확인하면 두 개 SSD의 파티션을 일치시켜 야 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/sda의 파티션을 /dev/sdb으로 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 Fnd #cvls #blocks Id System /dev/sdb1 Empty 0 /dev/sdb2 0 Empty 0 0 0 /dev/sdb3 0 0 0 0 Empty /dev/sdb4 0 0 Empty New situation: Units = sectors of 512 bytes, counting from 0 Device Boot Start End #sectors Id System W95 FAT32 Linux raid autodetect Linux raid autodetect /dev/sdb1 /dev/sdb2 63 16386299 16388096 147460095 16386237 b fd 131072000 fd 5 /dev/sdb3 * 147460096 149508095 2048000 /dev/sdb4 149508096 488392064 338883969 Extended 33166953 fd Linux raid autodetect 305716890 fd Linux raid autodetect /dev/sdb5 /dev/sdb6 149508159 182675111 182675175 488392064 305716890 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/md1은 raid 구조가 살아있지만 1개의 디스크로 작동하고 있음. 그러므로 추가한 SSD의 파티션을 추가하여 정상적인 RAID 기능을 할 수 있도 록 해야 하므로 RAID 설정

- # mdadm --detail /dev/md0
- # mdadm --detail /dev/md1

위 명령을 실행하면 아래와 같은 메시지가 나옴. /dev/sda3은 active sync상태이지

만 /dev/sdb3은 removed 상태

			r	oot@KMTN11:~	•	- - x
File Edit V	/iew Sea	rch Term	inal Help			
00.000000000						^
Number	Major	Minor	RaidDevice	e State		
Θ	8	3	0	active sync	/dev/sda3	
1	0	Θ	1	removed		
[root@KMIN1	.1 ~]# md	admdet	ail/dev/mo	11		
/dev/mdl:	cion i 1	1				
Croation	5100 : 1 Timo : T	.1 up Ech 25	12.45.51	014		
Raid L	ovol : r	ue reu Z. aid1	0 15:45:51 2	1014		
Array	Size · 6	5503104	62 47 GiB 6	7 08 GB)		
Used Dev	Size : 6	5503104	62.47 GiB F	7.08 GB)		
Raid Dev	ices : 2	0000101				
Total Dev	ices : 1					
Persist	ence : S	uperblock	is persist	ent		
Intent Bi	tmap : I	nternal				
Update	Time : S	un Dec 25	5 20:45:17 2	016		
S	tate : a	ctive, de	egraded			
Active Dev	ices : 1					
Working Dev	ices : 1					
Failed Dev	ices : 0					
Spare Dev	ices : 0					
	Name : l	ocalhost.	localdomair	1:1		
	UUID : 9	dce4c01:8	868ea420:34a	a6b62:bc43350	b	
Ev	ents : 1	09378				
Number	Major	Minor	RaidDevice	state		
0	8	2	0	active sync	/dev/sda2	
1	Θ	Θ	1	removed	to space of the state of the	
[root@KMTN1	1 ~]#					

40. md0, md1에 대한 RAID 복구 및 rebuild 작업 수행 # mdadm --manage /dev/md0 --add /dev/sdb<u>#</u> # mdadm --manage /dev/md1 --add /dev/sdb<u>#</u> #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<u>#</u> --level=1 --raid-device=2 /dev/sda<u>#</u> /dev/sdb<u>#</u> # mdadm --create /dev/md<u>#</u> --level=1 --raid-device=2 /dev/sda<u>#</u> /dev/sdb<u>#</u> 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 ~]# ■



만약 mdadm: Cannot open/......: Device or resource busy) 에러가 나오는 경 우 - 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<u>#</u>의 swap 기능을 활성화 # mkswap /dev/md<u>#</u>

[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<u>#</u>은 ext4 파일시스템으로 포맷 # mkfs.ext4 /dev/md<u>#</u>



를 입력해 UUID 값을 얻음

root@KMTN11 ~]# blkid grep md2	
dev/md2: UUID="a69a3a23-50bf-47ba-8	a02-d01c81ca4e5c" TYPE="swap"
dev/md3: UUID="415357d6-5672-4090-8	6ce-f459691c6363" TYPE="ext4"

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

2	root	@KMTN11:~		k7	_ 0 ×
File Edit View S	Search Terminal Help				
# /etc/tstab		10.000			
# Created by anac	onda on Tue Feb 25 08:52:	01 2014			
# 		and the second second second	entered to start a second to store and the start		
# Accessible file	systems, by reference, an	re maintained	under '/dev/disk	0 1970 - 197	
⊭ See man pages †	stab(5), findfs(8), mount	(8) and/or bl	K10(8) Tor more :	LNTO	
¥		2	2002/4	3.2.1.1.2.1	
1010=8920dc22-6/1	u-4023-8/20-300e/5/11283	1	ext4	detaults	1 1
JUID=0eaeda/3-bdc	3-43a2-94a2-8140e00e2D/9	/boot	ext4	detaults	1 2
JUID=41535/06-56/	2-4090-86Ce-T459691C6363	/nome	ext4	detaults	1 2
JUID=a69a3a23-500	T-4/ba-8a02-001c81ca4e5c	swap	swap	detaults	0 0
.mpts	/dev/snm	Tmpts	detaults	0 0	
ievpts	/dev/pts	devpts	g1d=5,mode=620	0 0	
SYSTS	/sys	SYSTS	defaults	0 0	
proc	/proc	proc	detaults	0 0	
-					
/etc/fstab" 17L,	900C				

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

root@KMTN11:~	_ 🗆 🗙
File Edit View Search Terminal Help	
# mdadm.conf written out by anaconda	
MAILADDR root	
AUTO +imsm +1.x -all	
ARRAY /dev/md0 level=raid1 num-devices=2 UUID=b023ab05:bcb17d1c:d495faf2:251fa8c7 ARRAY /dev/md1 level=raid1 num-devices=2 UUID=9dce4c01:868ea420:34aa6b62:bc43350b ARRAY /dev/md2 level=raid1 num-devices=2 UUID=a69a3a23:50bf47ba:8a02d01c:81ca4e5c	
ARRAY /dev/md3 level=raid1 num-devices=2 UUID=415357d6:56724090:86cef459:691c6363	
-	
-	

동일한 UUID 값이나 fstab에서와는 표기 방법이 다름. fstab에 입력했던 UUID 값을 8자리씩 끊어서 ":"로 나눴음. 위 사진과 같이 swap 파티션인 /dev/md<u>#</u>, /home 파티션인 /dev/md<u>#</u>에 대해서만 변경해 줌.

- 47. shutdown -r now로 재부팅
- 48. /home 디렉터리 파일을 모두 복사함

home 디렉터리에서 scp -P 7774 kmtnet@192.168.1*.241:/STORAGE_4TB/*.tar 입력하면 home 디렉터리로 tar 파일을 모두 복사함

tar xvf 압축을 풀 파일명.tar 로 압축을 푼다.