Systemverwaltung Solaris 10

Rolf M Dietze

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Administration von Festplatten

SoftRAID Raidkonfigurationen

SoftRAID, SDS StateDB

SDS Konventionen und Einschränkungen

Root-Mirror

Administration von Festplatten

Administration von Festplatten

Solaris Disklabel

PC Disklabel

Unix–Label

PC–Label

s0 s1   s6

HD

MBR
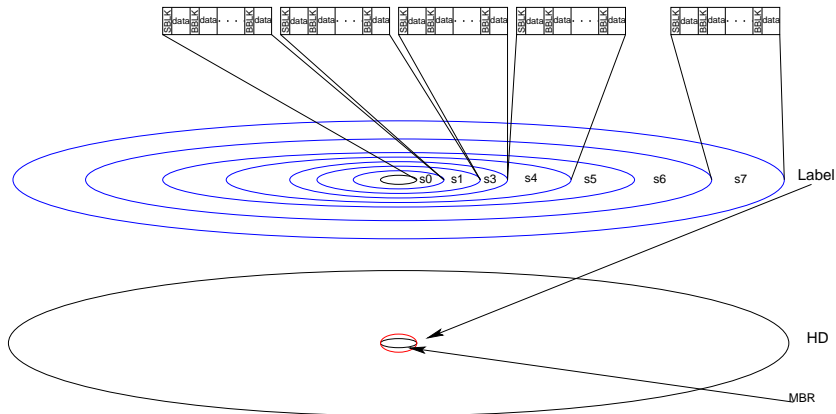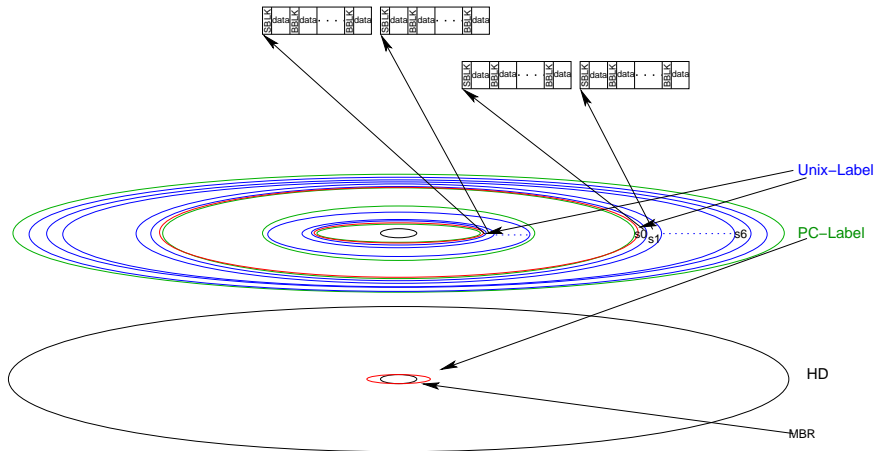
format

```
# format
Searching for disks...done
AVAILABLE DISK SELECTIONS:
 0. c1t0d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
    /pci@8,600000/SUNW,qlc@4/fp@0,0/ssd@w500507620743b44e,0
 1. c1t1d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
    /pci@8,600000/SUNW,qlc@4/fp@0,0/ssd@w2100002037f8a403,0
 2. c3t0d0 <SEAGATE-ST39102FCSUN9.0G-0D29-8.43GB>
    /pci@8,700000/pci@1/SUNW,qlc@4/fp@0,0/ssd@w2200002037260fe2,0
 3. c3t1d0 <SEAGATE-ST39102FCSUN9.0G-1129-8.43GB>
    /pci@8,700000/pci@1/SUNW,qlc@4/fp@0,0/ssd@w22000020371b6762,0
- hit space for more or s to select -
......
Specify disk (enter its number): 3<CR>
selecting c3t1d0
```

format

```
FORMAT MENU:
        disk      - select a disk
        type      - select (define) a disk type
        partition - select (define) a partition table
        current   - describe the current disk
        format    - format and analyze the disk
        repair    - repair a defective sector
        label     - write label to the disk
        analyze   - surface analysis
        defect    - defect list management
        backup    - search for backup labels
        verify    - read and display labels
        inquiry   - show vendor, product and revision
        volname   - set 8-character volume name
        !<cmd>    - execute <cmd>, then return
        quit
format>
```

format

```
format> inq
Vendor:   SEAGATE
Product:  ST39102FCSUN9.0G
Revision: 1129

format> cur
Current Disk = c3t1d0
<SEAGATE-ST39102FCSUN9.0G-1129-8.43GB>
/pci@8,700000/pci@1/SUNW,qlc@4/fp@0,0/ssd@w22000020371b6762,0

format>
```

format

```
format> p
PARTITION MENU:
        0      - change '0' partition
        1      - change '1' partition
        2      - change '2' partition
        3      - change '3' partition
        4      - change '4' partition
        5      - change '5' partition
        6      - change '6' partition
        expand - expand label to use whole disk
        select - select a predefined table
        modify - modify a predefined partition table
        name   - name the current table
        print  - display the current table
        label  - write partition map and label to the disk
        !<cmd> - execute <cmd>, then return
        quit
partition>
```

format

```
partition> p
Current partition table (original):
Total disk sectors available: 17672849 + 16384 (reserved sectors

Part        Tag    Flag  First Sector        Size        Last Sector
  0         usr     wm             34      8.43GB          17672849
  1   unassigned    wm              0           0                 0
  2   unassigned    wm              0           0                 0
  3   unassigned    wm              0           0                 0
  4   unassigned    wm              0           0                 0
  5   unassigned    wm              0           0                 0
  6   unassigned    wm              0           0                 0
  8     reserved    wm       17672850      8.00MB          17689233

partition>
```

format

```
partition> 0
Part      Tag   Flag  First Sector    Size        Last Sector
  0       usr   wm              34     8.43GB       17672849

Enter partition id tag[usr]: ?
Expecting one of the following: (abbreviations ok):
        unassigned    boot         root         swap
        usr           backup       stand        var
        home          alternates   reserved

Enter partition id tag[usr]:
Enter partition permission flags[wm]:
Enter new starting Sector[34]:
Enter partition size[8388608b, 8388641e, 4096mb, 4gb, 0tb]: 2g
partition>
```

format

```
partition> p
Current partition table (original):
Total disk sectors available: 17672849 + 16384 (reserved sectors

Part      Tag    Flag  First Sector        Size      Last Sector
  0       usr     wm             34      2.00GB         4194337
  1 unassigned    wm              0         0               0
  2 unassigned    wm              0         0               0
  3 unassigned    wm              0         0               0
  4 unassigned    wm              0         0               0
  5 unassigned    wm              0         0               0
  6 unassigned    wm              0         0               0
  8   reserved    wm       17672850      8.00MB        17689233

partition>
```

format

```
partition> 1
Part      Tag    Flag  First Sector      Size      Last Sector
  1 unassigned   wm                 0         0                0

Enter partition id tag[usr]: ?
Expecting one of the following: (abbreviations ok):
        unassigned    boot          root          swap
        usr           backup        stand         var
        home          alternates    reserved
Enter partition id tag[usr]:
Enter partition permission flags[wm]:
Enter new starting Sector[4194338]:
Enter partition size[0b, 4194337e, 0mb, 0gb, 0tb]: 2g
partition>
```

format

```
partition> p
Current partition table (unnamed):
Total disk sectors available: 17672849 + 16384 (reserved sectors
Part      Tag    Flag    First Sector        Size        Last Sector
  0        usr    wm                34      2.00GB          4194337
  1        usr    wm           4194338      2.00GB          8388641
  2 unassigned    wm                 0           0                0
  3        usr    wm           8388642      2.00GB         12582945
  4        usr    wm          12582946      2.00GB         16777249
  5 unassigned    wm                 0           0                0
  6 unassigned    wm                 0           0                0
  8   reserved    wm          17672850      8.00MB         17689233

partition> lab
Ready to label disk, continue? y
partition>
```

newfs, fmthard

```
# newfs /dev/rdsk/c3t1d0s2
/dev/rdsk/c3t1d0s2: I/O error

# newfs /dev/rdsk/c3t1d0s1
newfs: construct a new file system /dev/rdsk/c3t1d0s1: (y/n)? y
Warning: 2048 sector(s) in last cylinder unallocated
/dev/rdsk/c3t1d0s1:  4194304 sectors in 683 cylinders of 48 trac
        2048.0MB in 43 cyl groups (16 c/g, 48.00MB/g, 11648 i/g)
super-block backups (for fsck -F ufs -o b=#) at:
 32, 98464, 196896, 295328, 393760, 492192, 590624, 689056, 7874
 3248288, 3346720, 3445152, 3543584, 3642016, 3740448, 3838880,
 4035744, 4134176

# mount /dev/dsk/c3t1d0s1 /mnt
# df -h
....
/dev/dsk/c3t1d0s1      1.9G    2.0M    1.9G    1%    /mnt
```

prtvtoc/fmthard

```
# prtvtoc /dev/rdsk/c3t1d0s2
* /dev/rdsk/c3t1d0s2 partition map
*     512 bytes/sector
* Dimensions:
* 17689267 sectors
* 17689200 accessible sectors
....
*                           First     Sector    Last
* Partition Tag Flags     Sector     Count   Sector Mount Directory
      0     4   00         34     4194304  4194337
      1     4   00    4194338     4194304  8388641
      3     4   00    8388642     4194304 12582945
      4     4   00   12582946     4194304 16777249
      8    11   00   17672850       16384 17689233
```

fmthard

```
# prtvtoc /dev/rdsk/c3t1d0s2 | fmthard -s - /dev/rdsk/c3t2d0s2
fmthard:  New volume table of contents now in place.
```

Mit Schleife über alle Platten an einem Controler:

```
# for i in /dev/rdsk/c2t*d0s2
> do
> prtvtoc /dev/rdsk/c3t1d0s2 | fmthard -s - /dev/rdsk/$i
> done
fmthard:  New volume table of contents now in place.
fmthard:  New volume table of contents now in place.
....
fmthard:  New volume table of contents now in place.
```

/etc/vfstab

```
#device          device              mount             FS       fsck   mount    mount
#to mount        to fsck             point             type     pass   at boot  options
#
fd               -                   /dev/fd           fd       -      no       -
/proc            -                   /proc             proc     -      no       -
/dev/dsk/c1t0d0s1 -                  -                 swap     -      no       -
/dev/dsk/c1t0d0s0 /dev/rdsk/c1t0d0s0 /                ufs      1      no       -
/dev/dsk/c1t0d0s6 /dev/rdsk/c1t0d0s6 /export          ufs      2      yes      -
/dev/dsk/c1t0d0s5 /dev/rdsk/c1t0d0s5 /opt             ufs      2      yes      -
/devices         -                   /devices          devfs    -      no       -
sharefs          -                   /etc/dfs/sharetab sharefs  -      no       -
ctfs             -                   /system/contract  ctfs     -      no       -
objfs            -                   /system/object    objfs    -      no       -
swap             -                   /tmp              tmpfs    -      yes      -
```

FS Check

```
# fsck /dev/rdsk/c3t1d0s1
** /dev/rdsk/c3t1d0s1
** Last Mounted on /mnt
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3a - Check Connectivity
** Phase 3b - Verify Shadows/ACLs
** Phase 4 - Check Reference Counts
** Phase 5 - Check Cylinder Groups
2 files, 9 used, 2031774 free (14 frags, 253970 blocks, 0.0% fra

***** FILE SYSTEM WAS MODIFIED *****
```
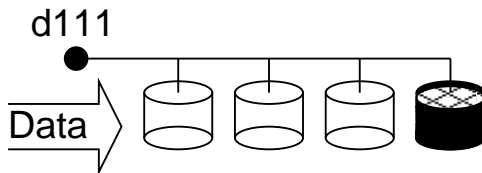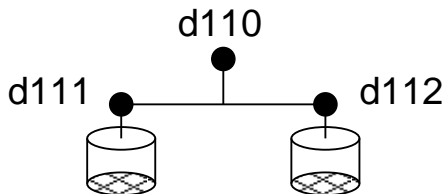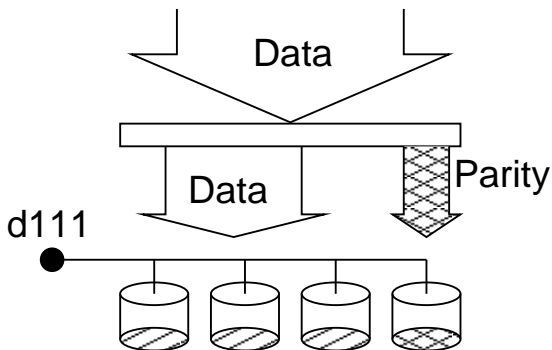
SDS

SoftRAID Raidkonfigurationen
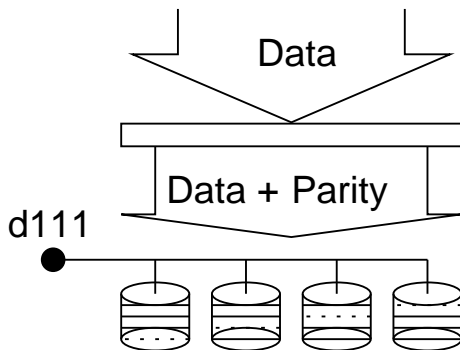
RAID 0, Stripe
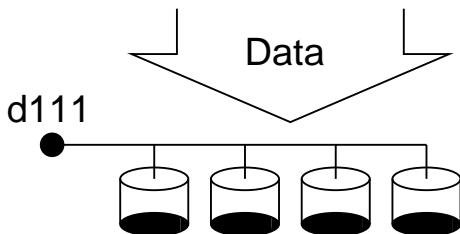
RAID 0, Concat

RAID 1, Mirror

RAID 3, Stripe+fixed Paritydisk
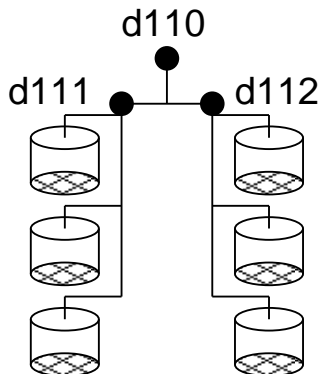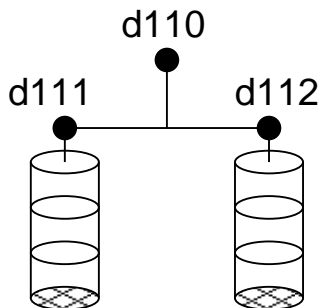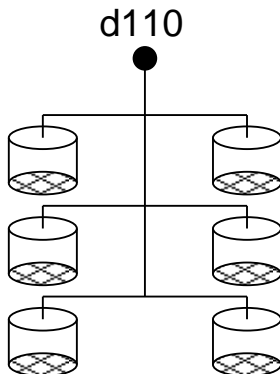
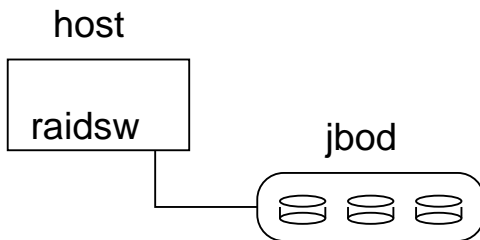# RAID 5, Stripe+embedded Parity

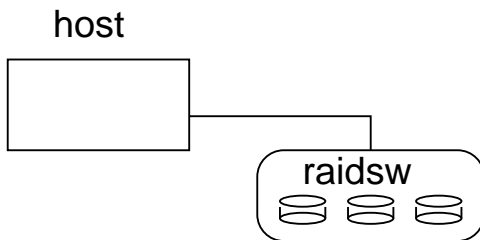# RAID 0 1, Mirrored Stripe

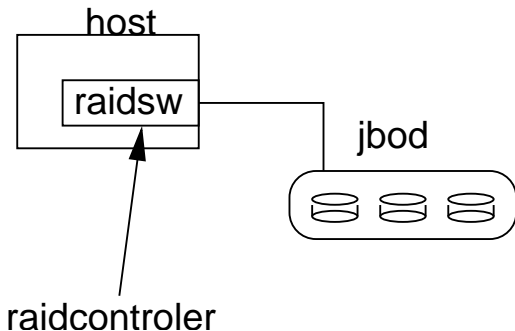# RAID 0 1, Mirrored Concat

RAID 1 0, Striped Mirrors

SoftRAID

HardRAID

HardRAID, embedded Controler

SDS StateDB

SDS StateDB

StateDB Fehlermeldung

```
SPARCengine AXdp (2 X UltraSPARC-II 296MHz), No Keyboard
OpenBoot 3.25, 1024 MB memory installed, Serial #11195150.
Ethernet address 8:0:20:aa:d3:e, Host ID: 80aad30e.

Boot device: /pci@1f,4000/scsi@3/disk@0,0:a  File and args:
SunOS Release 5.11 Version snv_23 64-bit
Copyright 1983-2005 Sun Microsystems, Inc.  All rights reserved.
Use is subject to license terms.
Hostname: endeavour
Insufficient metadevice database replicas located.

Use metadb to delete databases which are broken.
Ignore any Read-only file system error messages.
Reboot the system when finished to reload the metadevice databas
After reboot, repair any broken database replicas which were del
[ system/metainit:default misconfigured (see 'svcs -x' for detai

endeavour console login:
```

metadb

Die Administration des Statedatabases erfolgt ausschließlich durch das Kommando *metadb(1M)*. Es erzeugt, listet und löscht Statedatabases. Es werden folgende Optionen unterstützt:

-a Attach, *Einrichten einer Statedatabase (-replika)*
-c *n*, *Es sind Anzahl n Replika der Statedatabase in der gleichen Partition zu erzeugen*
-d *Delete, Löschen einer Statedatabase*
-f *Force, Forcieren einer Operation*
-i *Inquiry, Statusabfrage (Gibt nur eine zusätzliche Erklärung aus)*

metadb

Der grundsätzliche Aufruf sieht wie folgt aus:

```
metadb [Options] [rawdevice, rawdevice, .., rawdevice]
```

Werden keinerlei Optionen oder Devices angegeben, so wird eine Statusanzeige ausgegeben.

Das Anzeigen ist jedem User möglich, wohingegen das Erzeugen und Löschen dem root-User oder einem User mit entsprechender Rollendefinition vorbehalten ist.

metadb

```
nx1# metadb -a -f c0t0d0s7

nx1# metadb -i
 flags          first blk      block count
 a       u      16             8192          /dev/dsk/c0t0d0s7
r - replica does not have device relocation information
o - replica active prior to last mddb configuration change
u - replica is up to date
l - locator for this replica was read successfully
c - replica's location was in /etc/lvm/mddb.cf
p - replica's location was patched in kernel
m - replica is master, this is replica selected as input
W - replica has device write errors
a - replica is active, commits are occurring to this replica
M - replica had problem with master blocks
D - replica had problem with data blocks
F - replica had format problems
```

metadb

Wenn in der */etc/lvm/md.tab* folgende Information steht:

```
mddb01 c0t0d0s7
```

ist nachfolgendes Kommando ausreichend:

```
nx1# metadb -a -f mddb01
```

metadb

Mit folgendem */etc/lvm/md.tab*-Eintrag:

```
mddb02 c2t16d0s7 c2t17d0s7 c2t18d0s7 c2t20d0s7 c2t21d0s7
mddb03 c3t0d0s7 c3t1d0s7 c3t2d0s7 c3t3d0s7 c3t4d0s7 c3t5d0s7
```

Dann reicht hier der Aufruf von

```
nx1# metadb -a mddb02 mddb03
```

metadb

```
nx1# metadb
 flags          first blk    block count
 a m  pc luo     16          8192           /dev/dsk/c0t0d0s7
 a        u      16          8192           /dev/dsk/c3t0d0s7
 a        u      16          8192           /dev/dsk/c3t1d0s7
 a        u      16          8192           /dev/dsk/c3t2d0s7
 a        u      16          8192           /dev/dsk/c3t3d0s7
 a        u      16          8192           /dev/dsk/c3t4d0s7
 a        u      16          8192           /dev/dsk/c3t5d0s7
 a        u      16          8192           /dev/dsk/c2t16d0s7
 a        u      16          8192           /dev/dsk/c2t17d0s7
 a        u      16          8192           /dev/dsk/c2t18d0s7
 a        u      16          8192           /dev/dsk/c2t19d0s7
 a        u      16          8192           /dev/dsk/c2t20d0s7
 a        u      16          8192           /dev/dsk/c2t21d0s7
```

metadb

3 Statdbs auf c1t0d0s7:

```
nx1# metadb -a -c 3 c1t0d0s7
```

Oder über nachfolgenden */etc/lvm/md.tab*-Eintrag

```
mddb04 -c 3 c1t0d0s7
```

Einrichtung mit dem Kommando:

```
nx1# metadb -a mddb04
```

metadb

Kurz kontrolliert:

```
nx1# metadb
 flags      first blk   block count
 a     u   16          8192              /dev/dsk/c1t0d0s7
 a     u   8208        8192              /dev/dsk/c1t0d0s7
 a     u   16400       8192              /dev/dsk/c1t0d0s7
```

metadb

Startblock bei 16, Folgestartblöcke ergeben sich aus der Länge der
Statedatabase:

Statedatabase	Startblock	Startblock + Länge = Neuer Startblock
Nr 1	16	8192
Nr 2	8208	$(16 + 8192 = 8208)$
Nr 3	16400	$(8208 + 8192 = 16400)$

SDS Konventionen

mirror	d*0
submirrors	d*1, d*2
stripes/concats	d*[1..9]
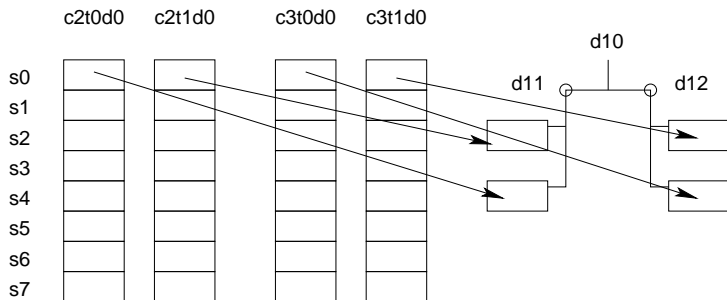
SDS Einschränkungen

SDS Einschränkungen

verlorene Teile einer Partition
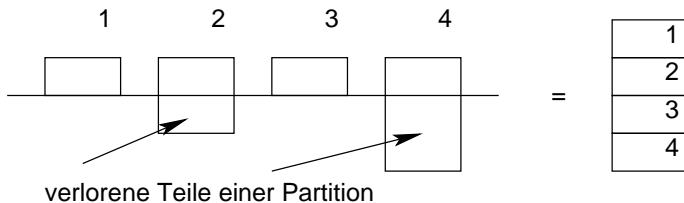
SDS Einschränkungen
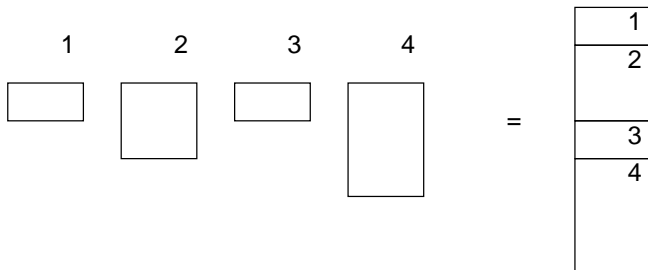
Concat über 4 Partitionen

```
metainit   d101 4 1  c1t0d0s0 1 c1t1d0s0 1 c1t2d0s0 1 c1t3d
  ^          ^   ^ ^      ^          ^          ^          ^
Kommando    |   | | Platte 1    Platte 2    Platte 3    Platt
            |   | | Anzahl der Platten im Stripe
            |   | Anzahl der Platten im Concat
            Metadevicename
```

Stripe über 4 Partitionen

```
metainit   d102 1 4  c1t0d0s0  c1t1d0s0  c1t2d0s0  c1t3d0s0
           ^    ^ ^   ^         ^         ^         ^
           |    | |   Platte 1  Platte 2  Platte 3  Platte 4
           |    | Anzahl der Platten im Stripe
           |    Anzahl der Platten im Concat
           Metadevicename
```

Stripe aus Concats

```
                  v erstes Concat      v zweites Concat
   metainit   d103 2 2  c1t0d0s0  c1t1d0s0  2  c1t2d0s0  c1t3d
     ^          ^   ^ ^    ^         ^          ^         ^
   Kommando    |   | |  Platte 1  Platte 2   Platte 3  Platt
               |   | | Anzahl der Platten im Stripe
               |   Anzahl der Platten im Concat
             Metadevicename
```

Stripe über 3 Platten

```
menkar# metainit d111
d111: Concat/Stripe is setup
```

/etc/lvm/md.conf:

```
d111 1 3 c2t20d0s0 c2t21d0s0 c2t22d0s0
```

Stripe über drei Platten auf Partition 0

```
 metastat d111
 d111: Concat/Stripe
     Size: 12579273 blocks (6.0 GB)
     Stripe 0: (interlace: 1024 blocks)
         Device       Start Block  Dbase  Reloc
         c2t20d0s0            0     No     Yes
         c2t21d0s0         3591     No     Yes
         c2t22d0s0         3591     No     Yes

 Device Relocation Information:
 Device    Reloc Device ID
 c2t20d0   Yes   id1,ssd@n20000020371bf82c
 c2t21d0   Yes   id1,ssd@n20000020371bfc19
 c2t22d0   Yes   id1,ssd@n20000020372286cb
```

Concat über 3 Platten

/etc/lvm/md.tab:

d126 3 1 c3t3d0s0 1 c3t4d0s0 1 c3t5d0s0

```
0 1 root@endeavour pts/1 ~ 19# metastat d126
d126: Concat/Stripe
    Size: 12586455 blocks (6.0 GB)
    Stripe 0:
        Device        Start Block    Dbase    Reloc
        c3t3d0s0              0       No       Yes
    Stripe 1:
        Device        Start Block    Dbase    Reloc
        c3t4d0s0           3591       No       Yes
    Stripe 2:
        Device        Start Block    Dbase    Reloc
        c3t5d0s0           3591       No       Yes
```

Device Relocation Information:

Stripe über Concats

/etc/lvm/md.tab:

d127 4 2 c3t3d0s1 c3t4d0s1 2 c3t5d0s1 c3t6d0s1 2 c3t7d0s1 c
        2 c3t9d0s1 c3t10d0s1

```
menkar# metainit d127
d127: Concat/Stripe is setup
menkar# metastat d127
d127: Concat/Stripe
    Size: 33575850 blocks (16 GB)
    Stripe 0: (interlace: 1024 blocks)
        Device      Start Block  Dbase  Reloc
        c3t3d0s1          0       No     Yes
        c3t4d0s1          0       No     Yes
    Stripe 1: (interlace: 1024 blocks)
        Device      Start Block  Dbase  Reloc
        c3t5d0s1          0       No     Yes
        c3t6d0s1          0       No     Yes
```

Mirror

/etc/lvm/md.tab:

```
d111 1 3 c2t20d0s0 c2t21d0s0 c2t22d0s0
d112 1 3 c3t3d0s0 c3t4d0s0 c3t5d0s0

menkar# metainit d111
d111: Concat/Stripe is setup
menkar# metainit d112
d112: Concat/Stripe is setup
menkar# metainit d110 -m d111 d112
metainit: d110: WARNING: This form of metainit is not recom
The submirrors may not have the same data.
Please see ERRORS in metainit(1M) for additional informatic
d110: Mirror is setup
```

Erzeugung eines Filesystems

Nachdem der Spiegel aus Beispiel **??** aufgesetzt ist, ist auf d110 beispielsweise ein Filesystem erzeugbar:

```
nx1# newfs -m 2 /dev/md/rdsk/d110
.........
```

Mirror bei Erhalt des Filesystems

```
menkar# metainit d111
d111: Concat/Stripe is setup
menkar# metainit d112
d112: Concat/Stripe is setup
menkar# metainit d110 -m d111
d110: Mirror is setup
menkar# metattach d110 d112
d110: submirror d112 is attached
```

Mirror, Status

```
metastat d110
d110: Mirror
    Submirror 0: d111
      State: Okay
    Submirror 1: d112
      State: Resyncing
    Resync in progress: 55 % done
    Pass: 1
    Read option: roundrobin (default)
    Write option: parallel (default)
    Size: 12579273 blocks (6.0 GB)
```

Mirror, Status

```
d111: Submirror of d110
    State: Okay
    Size: 12579273 blocks (6.0 GB)
    Stripe 0: (interlace: 1024 blocks)
        Device        Start Block  Dbase        State Reloc
        c2t20d0s0             0     No           Okay  Yes
        c2t21d0s0          3591     No           Okay  Yes
        c2t22d0s0          3591     No           Okay  Yes


d112: Submirror of d110
    State: Resyncing
    Size: 12579273 blocks (6.0 GB)
    Stripe 0: (interlace: 1024 blocks)
        Device        Start Block  Dbase             State Reloc
        c3t3d0s0              0     No                Okay  Yes
```

RAID 5

```
menkar# metainit d100 -r c2t16d0s0 c2t17d0s0 c2t18d0s0 c2t1
d100: RAID is setup
```

Überprüfbar mit dem Kommando *metastat(1M)*:

```
menkar# metastat d100
d100: RAID
    State: Okay
    Interlace: 1024 blocks
    Size: 12546954 blocks (6.0 GB)
Original device:
    Size: 12549120 blocks (6.0 GB)
        Device          Start Block  Dbase        State Reloc
        c2t16d0s0       13841        No           Okay  Yes
        c2t17d0s0       13841        No           Okay  Yes
        c2t18d0s0       13841        No           Okay  Yes
        c2t19d0s0       13841        No           Okay  Yes
```
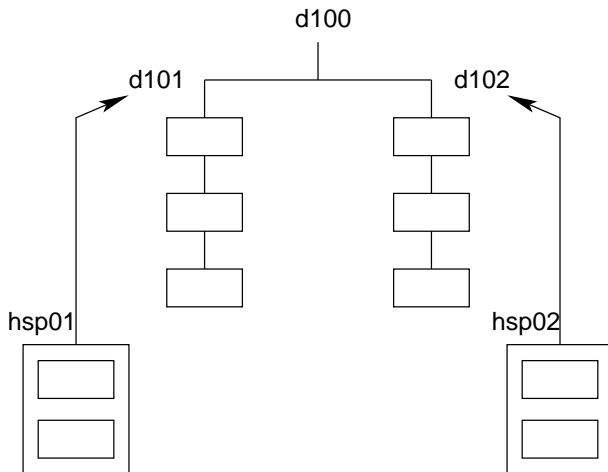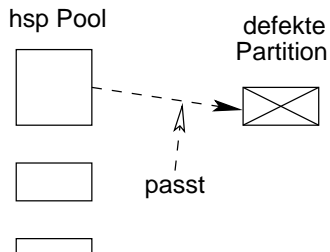
Hot Spare Pools

HSP Zuordnung

hsp Pool

defekte Partition

passt

HSP Konfiguration

```
nx1# metainit hsp001 c2t26d0s0 c2t26d0s1 c2t26d0s3 c2t26d0s
hsp001: Hotspare pool is setup

endeavour# metastat
hsp001: 4 hot spares
        Device       Status      Length                      Rel
        c2t26d0s0    Available    4197879 blocks Yes
        c2t26d0s1    Available    4197879 blocks Yes
        c2t26d0s3    Available    4197879 blocks Yes
        c2t26d0s4    Available    4197879 blocks Yes
Device Relocation Information:
Device    Reloc Device ID
c2t26d0   Yes   id1,ssd@n20000020371bfd40
```

HSP Erweiterung/Entfernen von HDUs

```
endeavour# metahs -a hsp001 c2t17d0s0
hsp001: Hotspare is added

endeavour# metahs -d hsp001 c2t17d0s0
```

Löschen eines Hot Spare Pools

Ein Hot Spare Pool kann, wenn er nicht benutzt wird, unter
Angabe des Poolnamens gelöscht werden. Für den Hot Spare Pool
hsp002 geht dies mit folgendem Aufruf:

```
endeavour# metaclear hsp002
hsp002: Hotspare pool is cleared
```

HSP Zuordung zu Metadevice

```
hsp001 c2t26d0s0 c2t26d0s1 c2t26d0s3 c2t26d0s4
hsp002 c3t10d0s0 c3t10d0s1 c3t10d0s3 c3t10d0s4

d110 -m d111 d112
d111 1 3 c2t20d0s0 c2t21d0s0 c2t22d0s0 -h hsp001
d112 1 3 c3t3d0s0 c3t4d0s0 c3t5d0s0 -h hsp002
```

Metadevice mit HSP

```
endeavour# metainit hsp001
hsp001: Hotspare pool is setup
endeavour# metainit hps002
hsp002: Hotspare pool is setup
endeavour# metainit d111
d111: Concat/Stripe is setup
endeavour# metainit d112
d112: Concat/Stripe is setup
endeavour# metainit d110
metainit: d110: WARNING: This form of metainit is not recom
The submirrors may not have the same data.
Please see ERRORS in metainit(1M) for additional informatio
d110: Mirror is setup
```

Metadevice mit HSP, Status

```
endeavour# metastat d110
d110: Mirror
   Submirror 0: d111
     State: Okay
   Submirror 1: d112
     State: Okay
   Pass: 1
   Read option: roundrobin (default)
   Write option: parallel (default)
   Size: 12579273 blocks (6.0 GB)
d111: Submirror of d110
   State: Okay
   Hot spare pool: hsp001    <------------ Hot Spare Pool
   Size: 12579273 blocks (6.0 GB)
   Stripe 0: (interlace: 1024 blocks)
```

```
                          Device    Start Block  Dbase           State Reloc Ho
```

SDS Bootmirror

```
# statedatabases
mddb01 -c 3 c0t0d0s7
mddb02 -c 3 c0t1d0s7
# /
d10 -m d11
d11 1 1 c0t0d0s0
d12 1 1 c0t1d0s0
# swap
d20 -m d21
d21 1 1 c0t0d0s1
d22 1 1 c0t1d0s1
# /export
d30 -m d31
d31 1 1 c0t0d0s3
d32 1 1 c0t1d0s3
```

SDS Bootmirror

1. `metadb -af mddb01`
2. `metadb -af mddb02`
3. `metainit -af`
4. `metaroot d10`

SDS Bootmirror

#device	device	mount	FS	fsck	mount
#to mount	to fsck	point	type	pass	at boot
#					
fd	-	/dev/fd	fd	-	no
/proc	-	/proc	proc	-	no
/dev/md/dsk/d10	/dev/md/rdsk/d10	/	ufs	1	no
-	-	swap	-	no	-
...					
swap	-	/tmp	tmpfs	-	yes
/dev/md/dsk/d30	/dev/md/rdsk/d30	/export	ufs	2	no

SDS Bootmirror

zunächst ein reboot!!

metattach d10 d12

metattach d20 d22

metattach d30 d32