

# upgrading kernel in encrypted system

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*Source:* <http://linux.derkeiler.com/Mailing-Lists/Debian/2007-05/msg04583.html>

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  - *Date:* Thu, 31 May 2007 14:02:56 -0400
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I installed Etch on a new Sony Vaio TXN-27N, using the default encrypted root option. Very easy, and it works great – my congratulations to the Debian installation team!

A 2.6.18 kernel was installed. I would like to upgrade that to 2.6.21, to take advantage of some new Sony-specific features. I started with official 2.6.18 sources, did "make oldconfig" starting from the configuration of the installed kernel, built the kernel, modules, and a new initramfs. That all works.

However, when I patch the kernel sources up to 2.6.19, the resulting kernel cannot find the root filesystem. Details are below. The big difference I see is that a successful kernel recognizes the disk as /dev/hda, while the unsuccessful kernel recognizes it as the SCSI device /dev/sda. I'd really like to know why.

I see very little difference between the two initramfs's. In particular, they have the same ten modules \*scsi\*.ko, and the same twelve modules \*sata\*.ko. There's no ide-scsi module anywhere. I see the 2.6.18 initramfs has a file module-list, which the other one lacks. Where does this come from? Does it matter?

I'd appreciate any suggestions.

– Jim Van Zandt <[jrvz@xxxxxxxxxxx](mailto:jrvz@xxxxxxxxxxx)>

details:

script used to make an initramfs (installed as /root/bin/installkernel):  
<http://jrv.oddone.org/tx27/installkernel>

--- working 2.6.18 kernel ---

configuration:

<http://jrv.oddone.org/tx27/config-2.6.18>

listing of initramfs contents:

<http://jrv.oddone.org/tx27/initramfs-contents-2.6.18>

The whole initramfs:

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<http://jrv.oddone.org/tx27/initrd.img-2.6.18>

Boot messages:

<http://jrv.oddone.org/tx27/dmesg-2.6.18-okay>

---- failing 2.6.19 kernel ----

configuration:

<http://jrv.oddone.org/tx27/config-2.6.19>

listing of initramfs contents:

<http://jrv.oddone.org/tx27/initramfs-contents-2.6.19>

the whole initramfs:

<http://jrv.oddone.org/tx27/initrd.img-2.6.19>

Boot messages (manually transcribed, just the messages involving the disks)

<http://jrv.oddone.org/tx27/dmesg-2.6.19-selected-failed>

2.6.19 failure, Boot messages relating to disks (manually transcribed):

```
-----  
SCSI subsystem initialized  
ata1: PATA max UDMA/133 cmd 0x1F0 ctl 0x3F6 bmdma 0x1810 irq 14  
ata2: PATA max UDMA/133 cmd 0x170 ctl 0x376 bmdma 0x1818 irq 15  
scsi0 : ata_piix  
ata1.00: ATA-7, max UDMA/1800, 195371568 sectors: LBA48  
ata1.00: ata1: dev 0 multi count 16  
ata1.01: ATAPI, max UDMA/33  
ata1.00: configured for UDMA/100  
ata1.01: configured for UDMA/33  
scsi0 : ata_piix  
ata2: port disabled. ignoring.  
ATA: abnormal status 0xFF on port 0x177  
scsi 0:0:0:0: Direct-Access ATA TOSHIBA MK1011GA BK00 PQ: 0 ANSI: 5  
scsi 0:0:1:0: CD-ROM MATSHITA DVD-RAM UJ-852S 1.30 PQ: 0 ANSI: 5  
Uniform Multi-Platform E-IDE driver Revision: 7.00alpha2  
ide: Assuming 33MHz system bus speed for PIO modes; override with idebus=xx  
SCSI device sda: 195371568 512-byte hdwr sectors (100030 MB)  
sda: Write Protect is off  
SCSI device sda: drive cache: write back  
sda: sda1 sda2 < sda5 >  
sd 0:0:0:0: Attached scsi generic sg0 type 0  
sr 0:0:1:0: Attached scsi generic sg1 type 5  
usb 3-1: new full speed USB device using uhci_hcd and address 3  
Done.  
Begin: Mounting root file system... ..  
Begin: Running /scripts/local-top ...  
usb 3-1: configuration #1 chosen from 1 choice  
Volume group "ista" not found  
Volume group "ista" not found  
ide0: I/O resource 0x1F0-0x1F7 not free.  
ide1: ports already in use, skipping probe  
Setting up cryptographic volume hda5_crypt (bvased on /dev/hdat)  
cryptsetup: Source device /dev/hda5 not found
```

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Setting up cryptographic volume hda5\_crypt (based on /dev/hda5)

cryptsetup: Source device /dev/hda5 not found

Done.

Begin: Waiting for root file system... ..

Done.

ALERT! /dev/mapper/ista-root does not exist. Dropping to a shell!

Check your root= boot argument (cat /proc/cmdline)

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Under busybox in initramfs:

(initramfs) cat /proc/cmdline

root=/dev/mapper/ista-root ro

(initramfs) ls /dev/mapper

control

(initramfs) cat /proc/modules

ide-generic 1344 0 [permanent], Live 0xf8834000

sg 32284 0 - Live 0xf8915000

sr\_mod 16036 0 - Live 0xf890c000

cdrom 33024 1 sr\_mod, Live 0xf894c000

sd\_mod 19600 0 - Live 0xf893b000

generic 5380 0 [permanent], Live 0xf88a2000

piix 9348 0 [permanent], Live 0xf8911000

ide\_core 112680 3 ide\_generic,generic,piix, Live 0xf891e000

ehci\_hcd 28296 0 - Live 0xf88f8000

ohci1394 31952 0 - Live 0xf88ef000

ata\_piix 15400 0 - Live 0xf88b0000

e100 32200 0 - Live 0xf88a5000

mii 5280 1 e100, Live 0xf8897000

ieee1394 87192 1 ohci1394, Live 0xf8855000

libata 95956 1 ata\_piix, Live 0xf88d6000

scsi\_mod 128332 4 sg,sr\_mod,sd\_mod,libata, Live 0xf88b5000

uhci\_hcd 21516 0 - Live 0xf884e000

usbcore 123172 3 ehci\_hcd,uhci\_hcd, Live 0xf886c000

thermal 13704 0 - Live 0xf8838000

processor 30152 1 thermal, Live 0xf883d000

fan 4688 0 - Live 0xf882f000

Successful boot with 2.6.18 kernel, messages relating to disks:

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ide: Assuming 33MHz system bus speed for PIO modes; override with idebus=xx

ide0: BM-DMA at 0x1810-0x1817, BIOS settings: hda:DMA, hdb:DMA

hda: TOSHIBA MK1011GAH, ATA DISK drive

hdb: MATSHITADVD-RAM UJ-852S, ATAPI CD/DVD-ROM drive

ide0 at 0x1f0-0x1f7,0x3f6 on irq 14

hda: max request size: 512KiB

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```
hda: 195371568 sectors (100030MB), CHS=16383/255/63, UDMA(100)
hda: cache flushes supported
hda: hda1 hda2 < hda5 >
hdb: ATAPI 24X DVD-ROM DVD-R-RAM CD-R/RW drive, 2048kB Cache, UDMA(33)
Uniform CD-ROM driver Revision: 3.20
Done.
Begin: Mounting root filesystem... ...
Begin: Running /scripts/local-top ...
device-mapper: ioctl: 4.7.0-ipctl(2006-06-24) initialized: dm-devel@xxxxxxxxxxx
Volume group "ista" not found
Volume group "ista" not found
Setting up cryptographic volume hda5_crypt (based on /dev/hdat)
Enter LUKS passphrase:
-----
```

after booting:

```
$ cat /proc/cmdline
root=/dev/mapper/ista-root ro

$ ls /dev/mapper
control hda5_crypt ista-root ista-swap_1

$ cat crypttab
hda5_crypt /dev/hda5 none luks
```

After manually unpacking either initramfs, I find:

```
$ cat conf/conf.d/cryptroot
target=hda5_crypt,source=/dev/hda5,key=none,lvm=ista-root
target=hda5_crypt,source=/dev/hda5,key=none,lvm=ista-swap_1
```

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