

have fun!

get root with plugin

<http://www.avforums.com/forum/26-home-theater-computers/859675-promise-smartstor-ns4300n-7.html#post111111>

After much pain and suffering today, I got the engmode shell to be a full shell on the SR5 firmwa

1) Download the new itunes plugin firmware from promise--

```
itunes_plugin_0000_010002_A1.ppg
```

2) Extract the tarball:

```
dd if=itunes_plugin_0000_010002_A1.ppg of=test.tgz bs=97k skip=1
tar -zxvf test.tgz
```

This makes the file "rev" and the directory "itunes" in the current directory.

3) Edit the "itunes/upgrade_script" perl script. Add the following lines at the top after the "#!"

```
system qq(sudo cp /etc/passwd /tmp/passwd);
system qq(sudo sed -e 's/engsh/sh/g' /tmp/passwd > /tmp/passwd.wks);
system qq(sudo cp /tmp/passwd.wks /etc/passwd);
```

Save the file.

4) Create a new plugin ".ppg" file with your changes:

```
tar -zcvf itunes.tgz ./rev ./itunes
dd if=/dev/zero of=itunes_plugin_0000_010002_A1_mod.ppg bs=97k count=1
cat itunes.tgz >> itunes_plugin_0000_010002_A1_mod.ppg
```

5) Put this modified file itunes_plugin_0000_010002_A1_mod.ppg on one of the NS4300N's shares.

6) Uninstall the itunes/firefly plugin (if you had it installed previously)

7) Install the modified itunes plugin

8) After the Installation OK dialoge comes up, test the telnet:

```
telnet YOUR_BOX_IP_ADDRESS 2380
```

```
login=engmode
pwd=hawk201
```

9) You may have to uninstall this plugin and reinstall the original, I saw some flakey behavior w

This may be lost after reboot of the NS4300N (i have a feeling the passwd file is refreshed from

For those that want to make the firefly config file writeable, keep in mind that the NS4300N's de

NS4600

Operating System Embedded Linux
Version 02.01.0000.16
CPU AMCC 431
Network Adapter Gigabit Ethernet Card 10/100/1000 Mbps
MAC Address 00:01:55:30:53:8D

- <http://scratchpad.wikia.com/wiki/NS4600>

Latest firmware:

Update 3TB HDD support models - 2011/11/17 02.01.0000.22

hack upgrade

```
# bcyrypt as above....
```

```
dd if=foo of=foo.tbz bs=1k skip=46  
mkdir foo-files  
tar xvf ../foo.tbz
```

```
apt-get install mtd-utils
```

```
dpavlin@klin:/tmp/foo-files$ /usr/sbin/jffs2dump -v app_jffs2-p -c -b -e app2
```

```
dpavlin@klin:/tmp/foo-files$ ls -al app2  
-rw-r--r-- 1 dpavlin dpavlin 41167608 Dec  1 21:04 app2
```

```
sudo modprobe mtdram total_size=41000 erase_size=256  
sudo modprobe mtdblock
```

```
dpavlin@klin:/tmp/foo-files$ cat /proc/mtd  
dev:    size    erasesize  name  
mtd0: 0280a000 00040000 "mtdram test device"
```

```
dpavlin@klin:/tmp/foo-files$ sudo dd if=app2 of=/dev/mtdblock0  
80405+1 records in  
80405+1 records out  
41167608 bytes (41 MB) copied, 0.47149 s, 87.3 MB/s
```

```
dpavlin@klin:/tmp/foo-files$ mkdir /tmp/foo-app2
```

```
dpavlin@klin:/tmp/foo-files$ sudo mount /dev/mtdblock0 /tmp/foo-app2/ -t jffs2
```

```
dpavlin@klin:/tmp/foo-files$ ls -al /tmp/foo-app2/  
total 39592  
drwxr-xr-x 3 root root            0 Jan  1  1970 .  
drwxrwxrwt 1 root root        1726 Dec  1 21:14 ..  
-rwx----- 1 root root 40542208 Nov  2  2011 app_sqfs
```

```
dpavlin@klin:/tmp/foo-app2$ sudo unsquashfs -l app_sqfs | less
```

```
### ramdisk
```

```
dpavlin@klin:/tmp/foo-files/rootfs-ppc$ dd if=../rootfs-p of=rootfs-ppc.gz bs=64 skip=1  
59783+1 records in  
59783+1 records out
```

```
3826120 bytes (3.8 MB) copied, 0.164652 s, 23.2 MB/s
dpavlin@klin:/tmp/foo-files/rootfs-ppc$ file rootfs-ppc.gz
rootfs-ppc.gz: gzip compressed data, was "ramdisk.img", last modified: Wed Nov  2 20:57:28 2011,

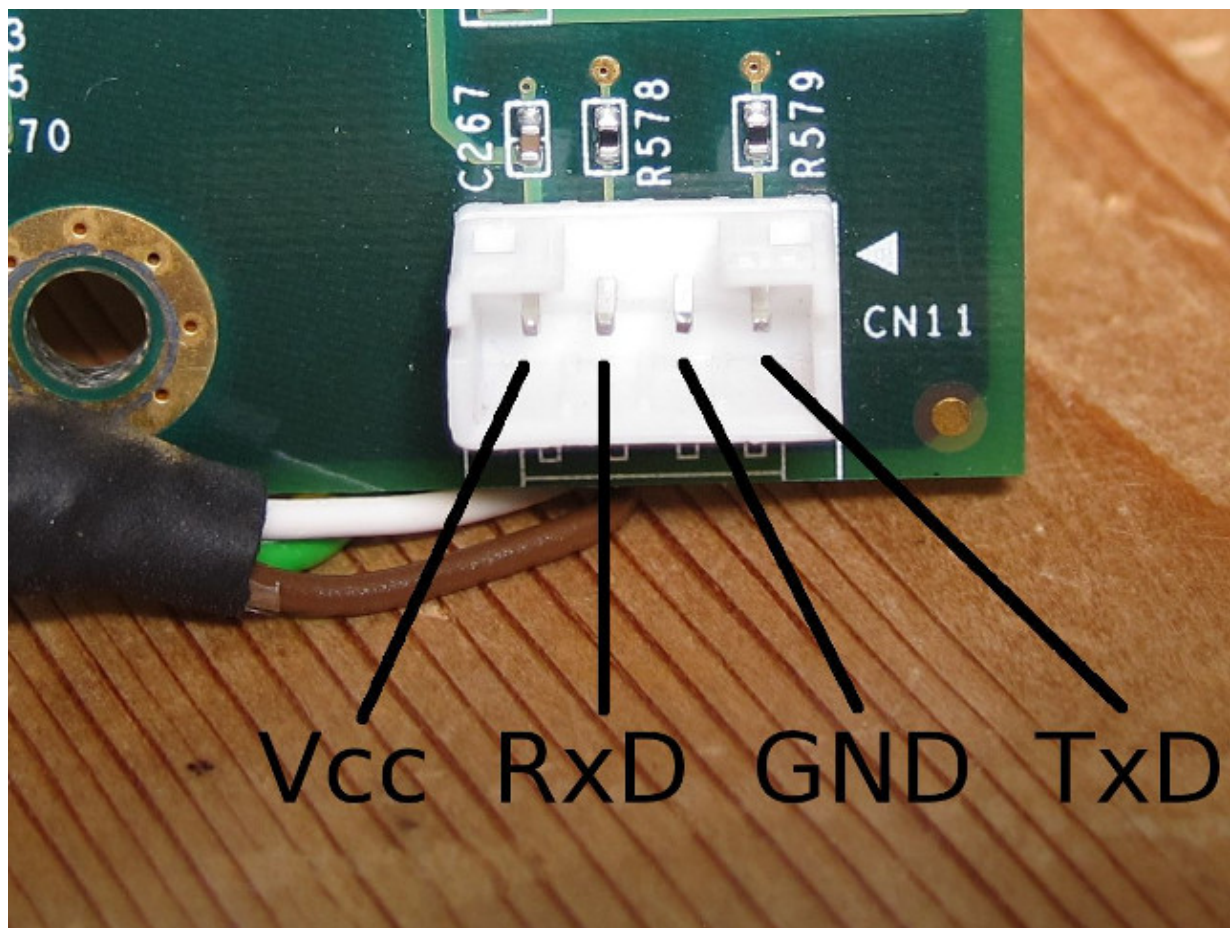
dpavlin@klin:/tmp/foo-files/rootfs-ppc$ gzip -d rootfs-ppc.gz

dpavlin@klin:/tmp/foo-files/rootfs-ppc$ file rootfs-ppc
rootfs-ppc: Linux rev 0.0 ext2 filesystem data, UUID=00000000-0000-0000-0000-000000000000

dpavlin@klin:/tmp/foo-files/rootfs-ppc$ mkdir rootfs
dpavlin@klin:/tmp/foo-files/rootfs-ppc$ sudo mount rootfs-ppc rootfs/ -o loop
```

serial port

- <http://vogelchr.blogspot.hr/2011/06/promise-smartstor-ns4600-serial-port.html>



<https://plus.google.com/photos/102970072923818524447/albums/5025551365487818161/5614004462366>

On my board (which is marked NS4600P GP0930-03 REV.A3) serial connector is marked CN6)

pinout:

t=0x97ef530

pin	voltage	serial
1	3.3V	TX
2	0V	GND
3	1.7V	RX
4	3.3V	VCC

Serial port output:

```

U-Boot 1.3.4 (NS4600p - 013 - 800MHz) (Jun 01 2010 - 16:16:09)

CPU:   AMCC PowerPC 431EXr at 800 MHz (PLB=200, OPB=100, EBC=100 MHz)
       Security/Kasumi support
       Bootstrap Option F - Boot ROM Location NAND (8 bits), booting from NAND
       Internal PCI arbiter disabled
       32 kB I-Cache 32 kB D-Cache
Board: NS4600p - PROMISE 4-bay NAS Target Board, 1*PCIE/1*SATA
I2C:   ready
DRAM:  256 MB
Enclosure: Load fan configurations from VPD
NAND:  128 MiB
eth0 MAC = 00:01:55:30:53:89
eth1 MAC = 00:00:00:00:00:00
PCI:   Bus Dev VenId DevId Class Int
PCIE1: successfully set as root-complex
       01 00 105a 3f20 0104 00
SCSI:  Net:   ppc_4xx_eth0

Hit Ctrl + C to stop autoboot:  0
No wakeup events detected! Auto booting...
Leave clock generator PD mode... OK
Leave net PHY PD mode... OK
Turn on all activity LED power... OK
Blinking LED... OK
Turn on disk power... OK

NAND read: device 0 offset 0xc80000, size 0x300000
3145728 bytes read: OK

NAND read: device 0 offset 0xf80000, size 0x800000
8388608 bytes read: OK

NAND read: device 0 offset 0x100000, size 0x3000
12288 bytes read: OK
## Booting kernel from Legacy Image at 01200000 ...
   Image Name:   Linux-2.6.32.14
   Created:      2011-01-20  4:39:31 UTC
   Image Type:   PowerPC Linux Kernel Image (gzip compressed)
   Data Size:    2339544 Bytes = 2.2 MB
   Load Address: 00000000
   Entry Point:  00000000
   Verifying Checksum ... OK
## Loading init Ramdisk from Legacy Image at 01b00000 ...
   Image Name:   02.01.0000.22
   Created:      2011-11-02  20:57:34 UTC
   Image Type:   PowerPC Linux RAMDisk Image (gzip compressed)
   Data Size:    3826120 Bytes = 3.6 MB
   Load Address: 00000000
   Entry Point:  00000000
   Verifying Checksum ... OK
## Flattened Device Tree blob at 01a00000
   Booting using the fdt blob at 0x1a00000

```

```
Uncompressing Kernel Image ... OK
Loading Ramdisk to 0fa55000, end 0fdfb1c8 ... OK
Loading Device Tree to 00ffa000, end 00ffffff ... OK
Using PowerPC 44x Platform machine description
Linux version 2.6.32.14 (root@ptk-229) (gcc version 4.2.2) #3 Thu Jan 20 12:39:14 CST 2011
Found initrd at 0xcfa55000:0xcfdfb1c8
Zone PFN ranges:
  DMA      0x00000000 -> 0x00001000
  Normal   0x00001000 -> 0x00001000
  HighMem  0x00001000 -> 0x00001000
Movable zone start PFN for each node
early_node_map[1] active PFN ranges
  0: 0x00000000 -> 0x00001000
MMU: Allocated 1088 bytes of context maps for 255 contexts
Built 1 zonelists in Zone order, mobility grouping off. Total pages: 4094
Kernel command line: root=/dev/ram rw console=ttyS0,115200 mtdparts=nand0:1024K(u-boot),512K(dtb)
PID hash table entries: 1024 (order: -4, 4096 bytes)
Dentry cache hash table entries: 32768 (order: 1, 131072 bytes)
Inode-cache hash table entries: 16384 (order: 0, 65536 bytes)
Memory: 252096k/262144k available (4864k kernel code, 10048k reserved, 512k data, 269k bss, 384k
Kernel virtual memory layout:
 * 0xffef0000..0xffff0000 : fixmap
 * 0xfdee0000..0xffee0000 : highmem PTEs
 * 0xfd6e0000..0xfdee0000 : consistent mem
 * 0xfd6e0000..0xfd6e0000 : early ioremap
 * 0xd1000000..0xfd6e0000 : vmalloc & ioremap
SLUB: Genslabs=15, HWalign=32, Order=0-3, MinObjects=0, CPUs=1, Nodes=1
Hierarchical RCU implementation.
NR_IRQS:512
UIC0 (32 IRQ sources) at DCR 0xc0
UIC1 (32 IRQ sources) at DCR 0xd0
UIC2 (32 IRQ sources) at DCR 0xe0
UIC3 (32 IRQ sources) at DCR 0xf0
clocksource: timebase mult[500000] shift[22] registered
Console: colour dummy device 80x25
Mount-cache hash table entries: 8192
xor: measuring software checksum speed
  8regs      :    96.000 MB/sec
  8regs_prefetch:  128.000 MB/sec
 32regs      :    96.000 MB/sec
 32regs_prefetch:  112.000 MB/sec
xor: using function: 8regs_prefetch (128.000 MB/sec)
NET: Registered protocol family 16
OCM1: 65536 Bytes (enabled)
OCM1: 65536 Bytes (non-cached)
OCM1: 0 Bytes (cached)
256k L2-cache enabled
PCIE0: Port disabled via device-tree
PCIE1: Checking link...
PCIE1: Device detected, waiting for link...
PCIE1: link is up !
PCI host bridge /plb/pciex@d20000000 (primary) ranges:
  MEM 0x0000000e80000000..0x0000000effffffff -> 0x0000000080000000
  MEM 0x0000000f00100000..0x0000000f001ffffff -> 0x0000000000000000
  IO 0x0000000f80010000..0x0000000f8001ffff -> 0x0000000000000000
Removing ISA hole at 0x0000000f00100000
4xx PCI DMA offset set to 0x00000000
/plb/pciex@d20000000: Legacy ISA memory support enabled
PCIE1: successfully set as root-complex
PCI: Probing PCI hardware
PCI: Hiding 4xx host bridge resources 0000:80:00.0
pci 0000:80:00.0: PCI bridge, secondary bus 0000:81
pci 0000:80:00.0:   IO window: 0x1000-0x1fff
pci 0000:80:00.0:   MEM window: 0x80000000-0x800fffff
pci 0000:80:00.0:   PREFETCH window: disabled
bio: create slab <bio-0> at 0
```

```
SCSI subsystem initialized
usbcore: registered new interface driver usbfs
usbcore: registered new interface driver hub
usbcore: registered new device driver usb
mod_init:1047
ppc460ex_dma_per_chan_init:1059
Switching to clocksource timebase
NET: Registered protocol family 2
IP route cache hash table entries: 16384 (order: 0, 65536 bytes)
TCP established hash table entries: 8192 (order: 0, 65536 bytes)
TCP bind hash table entries: 8192 (order: -1, 32768 bytes)
TCP: Hash tables configured (established 8192 bind 8192)
TCP reno registered
NET: Registered protocol family 1
RPC: Registered udp transport module.
RPC: Registered tcp transport module.
RPC: Registered tcp NFSv4.1 backchannel transport module.
Trying to unpack rootfs image as initramfs...
rootfs image is not initramfs (no cpio magic); looks like an initrd
Freeing initrd memory: 3736k freed
Probing AMCC DMA driver
PPC4xx PLB DMA engine @0x04_00018080 size 200 IRQ 25
PPC460ex PLB DMA engine @0x00_00000100 size 263
new_chan->chan_id 0x0
new_chan->chan->chan_id 0x0
PPC460ex PLB DMA engine @0x00_00000108 size 271
new_chan->chan_id 0x1
new_chan->chan->chan_id 0x1
PPC460ex PLB DMA engine @0x00_00000110 size 279
new_chan->chan_id 0x2
new_chan->chan->chan_id 0x2
PPC460ex PLB DMA engine @0x00_00000118 size 287
new_chan->chan_id 0x3
new_chan->chan->chan_id 0x3
VFS: Disk quotas dquot_6.5.2
Dquot-cache hash table entries: 16384 (order 0, 65536 bytes)
squashfs: version 4.0 (2009/01/31) Phillip Lougher
Installing knfsd (copyright (C) 1996 okir@monad.swb.de).
JFFS2 version 2.2. (NAND) © 2001-2006 Red Hat, Inc.
fuse init (API version 7.13)
SGI XFS with ACLs, security attributes, large block/inode numbers, no debug enabled
SGI XFS Quota Management subsystem
msgmni has been set to 496
alg: No test for stdrng (krng)
async_tx: api initialized (async)
io scheduler noop registered
io scheduler deadline registered (default)
ppc4xx_gpio:gpio0_base(0xd13a0b00), gpio1_base(0xd13e0c00)
ppc4xx_gpio:Success to register driver (major = 253)
Serial: 8250/16550 driver, 2 ports, IRQ sharing enabled
serial8250.0: ttyS0 at MMIO 0x4ef600300 (irq = 19) is a 16550A
console [ttyS0] enabled
serial8250.0: ttyS1 at MMIO 0x4ef600400 (irq = 20) is a 16550A
4ef600300.serial: ttyS0 at MMIO 0x4ef600300 (irq = 19) is a 16550
4ef600400.serial: ttyS1 at MMIO 0x4ef600400 (irq = 20) is a 16550
brd: module loaded
loop: module loaded
NAND device: Manufacturer ID: 0xad, Chip ID: 0xf1 (Hynix NAND 128MiB 3,3V 8-bit)
Scanning device for bad blocks

10 cmdlinepart partitions found on MTD device nand0
Creating 10 MTD partitions on "nand0":
0x0000000000000-0x0000000100000 : "u-boot"
0x0000000100000-0x0000000180000 : "dtb"
0x0000000180000-0x0000000480000 : "safe-k"
0x0000000480000-0x0000000c80000 : "safe-r"
```

```
0x000000c80000-0x000000f80000 : "kernel"
0x000000f80000-0x000001780000 : "rootfs"
0x000001780000-0x000002780000 : "usr"
0x000002780000-0x000002980000 : "data"
0x000002980000-0x000002a80000 : "oem"
0x000002a80000-0x000008000000 : "app"
PPC 4xx OCP EMAC driver, version 3.54
mal0: descriptor-memory = ocm
MAL v2 /plb/mcmal, 2 TX channels, 16 RX channels
ZMII /plb/opb/emac-zmii@ef600d00 initialized
RGMII /plb/opb/emac-rgmii@ef601500 initialized with MDIO support
TAH /plb/opb/emac-tah@ef601350 initialized
TAH /plb/opb/emac-tah@ef601450 initialized
/plb/opb/emac-rgmii@ef601500: input 0 in RGMII mode
eth0: EMAC-0 /plb/opb/ethernet@ef600e00, MAC 00:01:55:30:53:89
eth0: found Generic MII PHY (0x00)
/plb/opb/emac-rgmii@ef601500: input 1 in RGMII mode
/plb/opb/ethernet@ef600f00: can't find PHY!
ehci_hcd: USB 2.0 'Enhanced' Host Controller (EHCI) Driver
ppc-of-ehci 4bffd0400.ehci: OF EHCI
ppc-of-ehci 4bffd0400.ehci: new USB bus registered, assigned bus number 1
ppc-of-ehci 4bffd0400.ehci: irq 36, io mem 0x4bffd0400
ppc-of-ehci 4bffd0400.ehci: USB 2.0 started, EHCI 1.00
usb usb1: New USB device found, idVendor=1d6b, idProduct=0002
usb usb1: New USB device strings: Mfr=3, Product=2, SerialNumber=1
usb usb1: Product: OF EHCI
usb usb1: Manufacturer: Linux 2.6.32.14 ehci_hcd
usb usb1: SerialNumber: PPC-OF USB
usb usb1: configuration #1 chosen from 1 choice
hub 1-0:1.0: USB hub found
hub 1-0:1.0: 1 port detected
ohci_hcd: USB 1.1 'Open' Host Controller (OHCI) Driver
ppc-of-ohci 4bffd0000.usb: OF OHCI
ppc-of-ohci 4bffd0000.usb: new USB bus registered, assigned bus number 2
ppc-of-ohci 4bffd0000.usb: irq 37, io mem 0x4bffd0000
usb usb2: New USB device found, idVendor=1d6b, idProduct=0001
usb usb2: New USB device strings: Mfr=3, Product=2, SerialNumber=1
usb usb2: Product: OF OHCI
usb usb2: Manufacturer: Linux 2.6.32.14 ohci_hcd
usb usb2: SerialNumber: PPC-OF USB
usb usb2: configuration #1 chosen from 1 choice
hub 2-0:1.0: USB hub found
hub 2-0:1.0: 1 port detected
usbcore: registered new interface driver usblp
dwc_otg: version 2.60a 22-NOV-2006
dwc_otg: Using Slave mode
dwc_otg dwc_otg.0: DWC OTG Controller
dwc_otg dwc_otg.0: new USB bus registered, assigned bus number 3
dwc_otg dwc_otg.0: irq 28, io mem 0x00000000
dwc_otg: Init: Port Power? op_state=1
dwc_otg: Init: Power Port (0)
usb usb3: New USB device found, idVendor=1d6b, idProduct=0002
usb usb3: New USB device strings: Mfr=3, Product=2, SerialNumber=1
usb usb3: Product: DWC OTG Controller
usb usb3: Manufacturer: Linux 2.6.32.14 dwc_otg_hcd
usb usb3: SerialNumber: dwc_otg.0
usb usb3: configuration #1 chosen from 1 choice
hub 3-0:1.0: USB hub found
hub 3-0:1.0: 1 port detected
i2c /dev entries driver
ibm-iic 4ef600700.i2c: using standard (100 kHz) mode
rtc-pcf8563 0-0051: chip found, driver version 0.4.3
rtc-pcf8563 0-0051: rtc core: registered rtc-pcf8563 as rtc0
ibm-iic 4ef600800.i2c: using standard (100 kHz) mode
W83L786: Load fan configurations from VPD
PPC4xx WDT : WDT start on boot !! The period is about 30 seconds
```



```

<ppc460ex_configure_raid_devices> line 371
<ppc460ex_configure_raid_devices> line 389
<ppc460ex_configure_raid_devices> line 405
  ppc460ex_dma_1_channel.resource[0].start=0x31d6
<ppc460ex_configure_raid_devices> line 426 dma_reg1=0xd5720200
<ppc460ex_configure_raid_devices> line 444
----- ppc460ex_adma_probe: 4327-----
Improved ADMA - 061508
adev->res[0].start=0x0
  adev->id = 0x1 ppc460ex_dma_1_channel.resource[0].start=0xffffffff
  descriptor-memory = ocm
<ppc460ex_adma_probe> irq=0x29
<ppc460ex_adma_probe> irq=0x36
----- ppc460ex_adma_probe: 4511-----
<ppc460ex_adma_probe> ret=0x0
device-mapper: ioctl: 4.15.0-ioctl (2009-04-01) initialised: dm-devel@redhat.com
usbcore: registered new interface driver hiddev
usbcore: registered new interface driver usbhid
usbhid: v2.6:USB HID core driver
TCP cubic registered
NET: Registered protocol family 17
NET: Registered protocol family 5
rtc-pcf8563 0-0051: setting system clock to 2015-12-01 19:36:42 UTC (1448998602)
RAMDISK: gzip image found at block 0
VFS: Mounted root (ext2 filesystem) on device 1:0.
Freeing unused kernel memory: 384k init
INIT: version 2.86 booting
Mount MNT
Mount Usr
Mount Promise
Mount Data
Mount OEM
Mount nfsd
Enable RAID5
PPC460Ex RAID-5 has been activated successfully
Loading modules:
t3sas - t3sas 0000:81:00.0: enabling device (0006 -> 0007)
t3sas 0000:81:00.0: Found PDC42819 Controller 105a:3f20 with IRQ: 18
t3sas 0000:81:00.0: Driver version of PDC42819 : 1.3.0.14-NAS-15
scsi0 : t3sas
scsi 0:0:8:0: Processor          Promise RAID Console      1.00 PQ: 0 ANSI: 3
scsi 0:0:8:0: Attached scsi generic sg0 type 3
usb-storage - Initializing USB Mass Storage driver...
usbcore: registered new interface driver usb-storage
USB Mass Storage support registered.
sata_dwc - sata-dwc sata-dwc.0: id 0, controller version 1.82
sata-dwc sata-dwc.0: DMA initialized
sata-dwc sata-dwc.0: **** No neg speed (nothing attached?)
scsil : sata-dwc
atal: SATA max UDMA/133 irq 22
iscsi_trgt - iSCSI Enterprise Target Software - version 1.4.20.2
iscsi_trgt: Registered io type fileio
iscsi_trgt: Registered io type blockio
iscsi_trgt: Registered io type nullio

Copying config files to root fs
cp: `/usr/local/atalk/etc' is not a directory
cp: unable to preserve times of `/usr/local/atalk': Read-only file system
cp: unable to preserve ownership of `/usr/local/atalk': Read-only file system
cp: unable to preserve permissions of `/usr/local/atalk': Read-only file system
cp: `/usr/local/samba/lib' is not a directory
cp: `/usr/local/samba/private' is not a directory
cp: unable to preserve times of `/usr/local/samba': Read-only file system
cp: unable to preserve ownership of `/usr/local/samba': Read-only file system
cp: unable to preserve permissions of `/usr/local/samba': Read-only file system
cp: `/usr/local/proftpd/etc' is not a directory

```

```
cp: unable to preserve times of `/usr/local/proftp': Read-only file system
cp: unable to preserve ownership of `/usr/local/proftp': Read-only file system
cp: unable to preserve permissions of `/usr/local/proftp': Read-only file system
cp: unable to preserve times of `/usr/local': Read-only file system
cp: unable to preserve ownership of `/usr/local': Read-only file system
cp: unable to preserve permissions of `/usr/local': Read-only file system
cp: `/usr/local/atalk/etc' is not a directory
No vg needs to be restored.
quotacheck: Can't find filesystem to check or filesystem not mounted with quota option.
mount: special device /dev/vg001/lv001 does not exist
```

Local time (GMT+1): Tue Dec 1 20:37:07 GMT+1 2015

```
0, 0, 0, 0, 0,
0, 0
```

```
1448998627
```

```
7,37,20,1,11,115,2,334,0
```

```
INIT: Entering runlevel: 2
```

```
Starting syslogd...syslogd: Already running.
```

```
klogd: Already running.
```

```
Starting base networking daemons: portmap inetd.
```

```
Starting periodic command scheduler: cron.
```

```
Starting LPD service...
```

```
Starting loopback...
```

```
Starting network...
```

```
eth0: link is down
```

```
eth0: link is down
```

```
Starting httpd...
```

```
Swap Memory On...LED => 1
```

```
Checking File System...0, 0, 0, 0, 0,
```

```
0, 0
```

```
1448998670
```

```
50,37,20,1,11,115,2,334,0
```

```
Starting SMB...sh invoked oom-killer: gfp_mask=0x200da, order=0, oom_adj=0
```

```
Call Trace:
```

```
[c8735ce0] [c0005968] show_stack+0x50/0x154 (unreliable)
```

```
[c8735d20] [c0052860] oom_kill_process+0x54/0x1bc
```

```
[c8735d50] [c0052d18] __out_of_memory+0x144/0x160
```

```
[c8735d90] [c0052db0] out_of_memory+0x7c/0xa8
```

```
[c8735db0] [c00556a4] __alloc_pages_nodemask+0x3e4/0x4b8
```

```
[c8735e40] [c0063f8c] do_wp_page+0x3fc/0x78c
```

```
[c8735e90] [c0010c18] do_page_fault+0x294/0x41c
```

```
[c8735f40] [c000d70c] handle_page_fault+0xc/0x80
```

```
Mem-Info:
```

```
DMA per-cpu:
```

```
CPU 0: hi: 0, btch: 1 usd: 0
```

```
active_anon:1572 inactive_anon:1577 isolated_anon:0
```

```
active_file:19 inactive_file:21 isolated_file:0
```

```
unevictable:0 dirty:0 writeback:0 unstable:0
```

```
free:128 slab_reclaimable:22 slab_unreclaimable:145
```

```
mapped:32 shmem:5 pagetables:91 bounce:0
```

```
DMA free:8192kB min:8192kB low:10240kB high:12288kB active_anon:100608kB inactive_anon:100928kB a
```

```
lowmem_reserve[]: 0 0 0 0
```

```
DMA: 0*64kB 0*128kB 0*256kB 0*512kB 0*1024kB 0*2048kB 0*4096kB 1*8192kB 0*16384kB 0*32768kB 0*655
```

```
45 total pagecache pages
```

```
0 pages in swap cache
```

```
Swap cache stats: add 0, delete 0, find 0/0
```

```
Free swap = 0kB
```

```
Total swap = 0kB
```

```
4096 pages RAM
```

```
0 pages HighMem
```

```
180 pages reserved
```

```
277 pages shared
```

```
3591 pages non-shared
```

```
Out of memory: kill process 1934 (smbd) score 186 or a child
```

```
Killed process 1934 (smbd)
```

cron invoked oom-killer: gfp_mask=0x201da, order=0, oom_adj=0

Call Trace:

```
[c0cffc50] [c0005968] show_stack+0x50/0x154 (unreliable)
[c0cffc90] [c0052860] oom_kill_process+0x54/0x1bc
[c0cffc00] [c0052d18] __out_of_memory+0x144/0x160
[c0cffd00] [c0052db0] out_of_memory+0x7c/0xa8
[c0cffd20] [c00556a4] __alloc_pages_nodemask+0x3e4/0x4b8
[c0cffdb0] [c00577f0] __do_page_cache_readahead+0xa4/0x1f8
[c0cffe00] [c0051a84] filemap_fault+0xd8/0x3d8
[c0cffe40] [c0063554] __do_fault+0x5c/0x438
[c0cffe90] [c0010c18] do_page_fault+0x294/0x41c
[c0cfff40] [c000d70c] handle_page_fault+0xc/0x80
```

Mem-Info:

DMA per-cpu:

CPU 0: hi: 0, btch: 1 usd: 0

active_anon:1578 inactive_anon:1585 isolated_anon:0

active_file:5 inactive_file:29 isolated_file:0

unevictable:0 dirty:0 writeback:0 unstable:0

free:128 slab_reclaimable:20 slab_unreclaimable:145

mapped:17 shmem:5 pagetables:81 bounce:0

DMA free:8192kB min:8192kB low:10240kB high:12288kB active_anon:100992kB inactive_anon:101440kB

lowmem_reserve[]: 0 0 0 0

DMA: 0*64kB 0*128kB 0*256kB 0*512kB 0*1024kB 0*2048kB 0*4096kB 1*8192kB 0*16384kB 0*32768kB 0*65536kB

39 total pagecache pages

0 pages in swap cache

Swap cache stats: add 0, delete 0, find 0/0

Free swap = 0kB

Total swap = 0kB

4096 pages RAM

0 pages HighMem

180 pages reserved

209 pages shared

3609 pages non-shared

Out of memory: kill process 2014 (nmbd) score 184 or a child

Killed process 2014 (nmbd)

Starting FTP...

Starting AFP...

warning: `proftpd' uses 32-bit capabilities (legacy support in use)

Starting quota...

Starting Domain Integrate...

Starting alert agent...

I2 Event Daemon, Ver 1.0.0.0

Checking last shutdown...

Check Data Partition : OK

NS4600 R2.0 A1 (Version 02.01.0000.22) - Promise Technology, INC.

c014-nas login: LED => 1

reset password

Hold button near ethernet connector until long beep is heard to reset password

INShutting down alert agent...killall: alert_agent: no process killed

Stopping periodic command scheduler: cronstopped /usr/sbin/cron (pid 1908).

.

Shutting down syslogd...killall: syslogd: no process killed

killall: klogd: no process killed

Shutting down Bonjour...

Shutting down AppleTalk services: Can't unregister C014-NAS:Workstation@*

```
Can't unregister C014-NAS:netatalk@*
cat: /var/lock/atalkd: No such file or directory
kill: Could not kill pid '2376': No such process
```

```
Shutting down FTP service...
Shutting down NFS...
```

```
Shutting down SMB service...Shutting down httpd...
Clear boot flag...
Sending all processes the TERM signal... done.
Sending all processes the KILL signal... done.
eepromctl 7.3, a 24Cxx EEPROM reader/writer
Bus: /dev/i2c0, Address: 0x50, Mode: 8bit
Deactivating swap...done.
Unmounting local filesystems...done.
```

```
U-Boot 1.3.4 (NS4600p - 013 - 800MHz) (Jun 01 2010 - 16:16:09)
```

```
CPU:   AMCC PowerPC 431EXr at 800 MHz (PLB=200, OPB=100, EBC=100 MHz)
       Security/Kasumi support
       Bootstrap Option F - Boot ROM Location NAND (8 bits), booting from NAND
       Internal PCI arbiter disabled
       32 kB I-Cache 32 kB D-Cache
Board: NS4600p - PROMISE 4-bay NAS Target Board, 1*PCIE/1*SATA
I2C:   ready
DRAM:  256 MB
Enclosure: Load fan configurations from VPD
NAND:  128 MiB
eth0 MAC = 00:01:55:30:53:89
eth1 MAC = 00:00:00:00:00:00
PCI:   Bus Dev VenId DevId Class Int
PCIE1: successfully set as root-complex
       01 00 105a 3f20 0104 00
SCSI:  Net:   ppc_4xx_eth0
```

```
Hit Ctrl + C to stop autoboot:  0
Waiting for PHY auto negotiation to complete..... TIMEOUT !
done
ENET Speed is 10 Mbps - HALF duplex connection (EMAC0)
Wake on POWER_BUTTON / LAN
Press Ctrl + C to leave...
```

u-boot info

```
=> bdfinfo
memstart   = 0x00000000
memsize    = 0x10000000
flashstart = 0x00000000
flashsize  = 0x00000000
flashoffset = 0x00000000
sramstart  = 0x00000000
sramsize   = 0x00000000
bootflags  = 0x0108C6F0
intfreq    =    800 MHz
busfreq    =    200 MHz
ethaddr    = 00:01:55:30:53:89
ethladdr   = 00:00:00:00:00:00
IP addr    = 192.168.207.168
baudrate   = 115200 bps
```

```
=> iprobe
Valid chip addresses: 2E 50 51 69
```

u-boot boot to shell

```
=> printenv addtty
addtty=setenv bootargs ${bootargs} console=ttyS0,${baudrate}

=> setenv addtty setenv bootargs \${bootargs} console=ttyS0,\${baudrate} init=/bin/sh

=> printenv addtty
addtty=setenv bootargs ${bootargs} console=ttyS0,${baudrate} init=/bin/sh

=> boot
Waiting for PHY auto negotiation to complete..... TIMEOUT !
done
Wake on POWER_BUTTON / LAN
Press Ctrl + C to leave...

# press power button to start boot

Set autoboot flag
Starting to write EEPROM
OK
Power button was pressed !
Leave clock generator PD mode... OK
Leave net PHY PD mode... OK
Turn on all activity LED power... OK
FAN_SET mode... OK
Blinking LED... OK
Turn on disk power... OK

# etc, etc....
```

manual boot with root shell

```
$ cat /etc/init.d/checkroot
#!/bin/sh

/bin/mount -t proc /proc /proc
echo "Mount MNT"
/bin/mkdir /mnt/usr_fs
/bin/mount -t jffs2 -r /dev/mtdblock6 /mnt/usr_fs
/bin/mkdir /mnt/app_fs
/bin/mount -t jffs2 -r /dev/mtdblock9 /mnt/app_fs
echo "Mount Usr"
/bin/mount -o loop -t squashfs /mnt/usr_fs/usr_sqfs /usr
echo "Mount Promise"
/bin/mount -o loop -t squashfs /mnt/app_fs/app_sqfs /promise
#/bin/mount -t jffs2 /dev/mtdblock9 /promise
echo "Mount Data"
/bin/mount -t jffs2 /dev/mtdblock7 /data
echo "Mount OEM"
/bin/mkdir /mnt/oem
/bin/mount -t jffs2 -r /dev/mtdblock8 /mnt/oem

echo "Enable RAID5"
/sbin/enable_raid5 >/dev/null 2>/dev/null
```

```
$ /sbin/enable_raid5
```

```
PPC460Ex RAID-5PPC460Ex RAID-5 has been activated successfully
enable utility.
Current RAID-5 state:
PPC460Ex RAID-r5 capabilities are DISABLED.
```

```
Activate RAID-5.
RAID-5 state:
PPC460Ex RAID-r5 capabilities are ENABLED.
```

```
$ cat /etc/modules
# /etc/modules: kernel modules to load at boot time.
t3sas
usb-storage
sata_dwc
iscsi_trgt
```

```
$ insmod /lib/modules/t3sas.ko
t3sas 0000:81:00.0: enabling device (0006 -> 0007)
t3sas 0000:81:00.0: Found PDC42819 Controller 105a:3f20 with IRQ: 18
t3sas 0000:81:00.0: Driver version of PDC42819 : 1.3.0.14-NAS-11
```

```
## this takes very long, but eventually....
```

```
scsi0 : t3sas
scsi 0:0:0:0: Direct-Access      Promise  3+1 Disk RAID5   1.10 PQ: 0 ANSI: 4
sd 0:0:0:0: [sda] 2929926144 512-byte logical blocks: (1.50 TB/1.36 TiB)
sd 0:0:0:0: Attached scsi generic sg0 type 0
scsi 0:0:8:0: Processor      Promise  RAID Console    1.00 PQ: 0 ANSI: 3
sd 0:0:0:0: [sda] Write Protect is off
sd 0:0:0:0: [sda] Write cache: disabled, read cache: enabled, doesn't support DPO or FUA
scsi 0:0:8:0: Attached scsi generic sgl type 3
sda: sda1
sd 0:0:0:0: [sda] Attached SCSI disk
```

```
$ mount /sys/
```

```
$ /usr/sbin/pvscan
PV /dev/sda1   VG vg001   lvm2 [1.36 TB / 488.00 MB free]
Total: 1 [1.36 TB] / in use: 1 [1.36 TB] / in no VG: 0 [0  ]
```

```
$ /usr/sbin/vgchange -a y vg001
2 logical volume(s) in volume group "vg001" now active
```

```
$ /usr/sbin/lvs
LV      VG      Attr      LSize   Origin Snap%   Move Log Copy%  Convert
lv001  vg001  -wi-a-    1.36T
nsswap vg001  -wi-a-   512.00M
```

```
$ mkdir /tmp/lv001
$ mount /dev/vg001/lv001 /tmp/lv001/ -o ro
kjournald starting. Commit interval 5 seconds
EXT3-fs: mounted filesystem with ordered data mode.
```

```
$ cat /etc/rc2.d/S60servon
```

