Linux RedHat v.5.1 (Manhattan) installeerimine
PC-le, kus enne on Windows 95 ja Windows NT 4.0

Pentium MMX 166 MHz
RAM 32 MB
Hard Disk(s) :
      1)Western Digital WDC AC22000L, 1,9 GB   -   Primary Host
      Windows95 (OSR2) all : FAT16 : 900 MB, FAT32 : 990 MB
      2)Fujitsu MPA3017ATU, 1,6 GB   -   Primary Slave
      Windows NT 4.0 WS : NTFS 600 MB
      Vaba : 1060 MB   **-** *Linux tuleb siia*

Monitor : Samtron 15", SVGA
Video Card : ATI 3D RAGE II , 2 MB
Mouse : Logitech, 3 buttons; Standard PS/2 Port Mouse
Keyboard : Standard, 101/102 - keys; Eesti
Network Card : 3Com EtherLink XL PCI 3C900-TPO

Red Hat 5.1 *allikas : CD, Cheapbytes, 633 MB; 3150 f, 193 k.*
Installeerimismeetod : teise masina CD-ROM-ilt üle NT-võrgu

1) *Boot-flopi sisse ja alglaadimine*: "Welcome to Red Hat Linux! ….. <Enter>
      Loading initrd.img ….
      Loading vmlinuz….

2) Choose a Language : **English**

3) Keyboard type : ….tr-f-latin5, tr-q-latin5, tralt, trf, trq, uk, us-prokey, **us**, ……
          (Saab hiljem muuta : /etc/sysconfig/keyboard-s käsitsi või
          *programmiga **kbdconfig**)*

4) Installation Method: Local CDROM
                        NFS image
                        Hard drive
                        FTP
                        SMB image

6) Installation Path :   **Install** | Upgrade

7) SCSI configuration: Do you have any SCSI adapters?   **No**

8) Disk Setup : Disk Druid….
      Disk Druid | **fdisk** | Back
      (Fdisk on paindlikum, Disk Druid tahab ise palju asju ära teha)

9) <u>Partition Disks</u> :

    This is the **fdisk** program for partitioning you drive.

/dev/hda	-	Model WDC AC22000L
/dev/hdb	**-**	**Model FUJITSU MPA3017ATU**

       Done | **Edit** | Back

10) This is the **fdisk** program for partitioning you drive.

    Command (m for help) : **m**

        a - toggle a bootable flag

        b - edit bsd disklabel

        c - toggle to dos compatibility flags

        d - delete the partition

        l - list known partition types

        m - print this menu

        n - add a new partition

        p - print the partition table

        q - quit without saving changes

        t - change a partitions system id

        u - change display/entry units

        v - verify the partition table

        w - write table to disk and exit

        x - extra functionality (experts only)

    Command (m for help) : **l** (L)

0 Empty	9 AIX bootable	75 PC/IX	b7 BSDI fs
1 DOS 12-bit FAT	a OS/2 Boot Manag	80 Old Minix	b8 BSDI swap
2 XENIX root	**b Win95 FAT32**	81 Linux/minix	c7 Syrinx
3 XENIX usr	40 Venix 80286	**82 Linux swap**	db CP/M
4 DOS 16-bit < 32M	51 Novell ?	**83 Linux native**	e1 DOS Access
5 Extended	52 Microport	93 Amoeba	e3 DOS R/O
6 DOS 16-bit >=32M	63 GNU HURD	94 Amoeba BBT	f2 DOS Secondary
7 OS/2 HPFS	64 Novell Netware	a5 BSD/386	ff BB5
8 AIX	65 Novell Netware		

    Command (m for help) : **p**

Disk /tmp/hda : 64 heads, 63 sectors, 969 cylinders
Units = cylinders of 4032 * 512 bytes   *(siit – 1 cyl » 2 MB)*

Device	Boot	Begin	Start	End	Blocks	ID	System
/tmp/hda1	*	1	1	465	937406+	6	DOS 16-bit >=32M
/tmp/hda2		466	466	969	1016064	5	Extended
/tmp/hda5		466	466	969	1016032+	b	Win95 FAT32

Disk /tmp/hdb : 64 heads, 63 sectors, 847 cylinders
Units = cylinders of 4032 * 512 bytes   *(siit – 1 cyl » 2 MB)*

Device	Boot	Begin	Start	End	Blocks	ID	System
/tmp/hdb1		1	1	305	614848+	7	OS/2 HPFS

NB! Linux "ei tunne" NTFS-i , selle asemel on OS/2-e HPFS, mis on muidugi vale.

11) *Teha sobiva suurusega partitsioonid **root, usr** ja **swap**.*
   Antud juhul saab teha lisaks olemasolevale hdb1-le (kus on NTFS ja Win NT) teha veel 3
   primary't , nii et extended'i järele ei ole vajadust. Lühidalt :

Command : n, p, 2, 306, 371	*- see on root (/) , ca 130 MB*
Command : n, p, 3, 372, 832	*- see on /usr , ca 907 MB*
Command : n, p, 4, 833, 847	*- see on swap, ca 30 MB*
Command : t, 4, 82	*- siin muudame hdb4 Id=83 -> 82(swap)*

Device	Boot	Begin	Start	End	Blocks	ID	System
/tmp/hdb1		1	1	305	614848+	7	OS/2 HPFS
/tmp/hdb2		306	306	371	133056	83	Linux native
/tmp/hdb3		372	372	832	929376	83	Linux native
/tmp/hdb4		833	833	847	30240	82	Linux swap

Command (m for help) : **w**

12) <u>Partition Disks</u> :

/dev/hda	-	Model WDC AC22000L
/dev/hdb	**-**	**Model FUJITSU MPA3017ATU**
Done	Edit	Back

13) <u>Current Disk Partitions</u>

Mount Point	Device	Requested/Actual	Type
	hda1	915M	DOS 16-bit >=32
	hda2	992M	Win95 FAT32
	hdb1	600M	OS/2 HPFS
	hdb2	129M	Linux native
	hdb3	907M	Linux native
	hdb4	29M	Linux swap

Drive Summaries:

Drive	Geom(C/H/S)	Total	Used	Free
hda	[969/64/63]	1907M	1907M	0M
hdb	[847/64/63]	1667M	1667M	0M
Edit	Delete	OK	Back	

***Root / ja /usr** 'mount points' on vajalikud, soovitav on teha sama ka FAT16-partitsiooniga, antud juhul hda1 (Linuxi keeles) ehk C:\ (Windowsi keeles) , olgu see näiteks **/dos**.*

14) <u>Current Disk Partitions</u>

Mount Point	Device	Requested/Actual	Type
/dos	hda1	915M	DOS 16-bit >=32
	hda2	992M	Win95 FAT32
	hdb1	600M	OS/2 HPFS
/	hdb2	129M	Linux native
/usr	hdb3	907M	Linux native
	hdb4	29M	Linux swap

Drive Summaries:

Drive	Geom(C/H/S)	Total	Used	Free
hda	[969/64/63]	1907M	1907M	0M
hdb	[847/64/63]	1667M	1667M	0M

        Edit | Delete | **OK** | Back

15) <u>Active Swap space</u> :
  [*]   **/dev/hdb4**   **833**   **847**   **30240 kB**
  [*]   Check for bad blocks…
  Formatting swap space….
  Scanning…..

16) <u>Probe :</u> A **3Com3C59X (Vortex)** card has been found on your system. **<OK>**

17) <u>Boot Protocol :</u>   **Static IP Address**   **<OK>**
                      BOOTP
                      DHCP

  See valik muidugi siis kui arvutil on staatiline IP-aadress.

18) <u>Configure TCP/IP</u>:
          IP address : **192.168.1.16**
          Netmask : **255.255.255.0**
          Default Gateway (IP) : **192.168.1.1**
          Primary nameserver : **192.168.1.1**   **<OK>** . Determining …

19) <u>SMB Setup</u> :
          Server Name   : **galileo**
          Shared Volume   : **cdrom**
          Username   : **kalle**
          Password   : **totulotu** *(NT-võrgu parool)*

  CD sisse ja <OK> !   Running. Scanning available packages…

20) <u>Partitions To Format</u> :
What partitions would you like to format? We strongly suggest formatting all of the system partitions, including /, /usr, and /var. There is no need to format /home or /usr/local if they have already been configured during a previous install.

      [*]   **/dev/hdb2**   **/**
      [*]   **/dev/hdb3**   **/usr**
      [*]   **Check for bad blocks during format**

21) <u>Components to Install</u> :
  Linuxil on tunduvalt rohkem valikuvõimalusi kui näiteks Windowsis ja siin peab teadma, mida valida. Kui ruumi on, võib muidugi kõik panna.

  - Printer Support
  - X-Window system
  - Mail/WWW/News/ Tools

- DOS/Windows Connectivity
- File Manager
- Graphic Manipulation
- X-Games
- Console Games
- X Multimedia Support
- Console Multimedia
- Print Server
- Networked Workstation
- Dialup Workstation
- News Server
- NFS Server
- SMB (Samba) Connectivity
- IPX/Netware ™ Connectivity
- Anonymous FTP/Gopher Server
- Web Server
- DNS Name Server
- Postgres (SQL) Server
- Network Management Workstation
- TeX Document Formatting
- Emacs
- Emacs with X window
- C development
- Development Libraries
- C++ Development
- X Development
- Extra Documentation
- Everything

      [*] Select individual packages   -   *NB!*

22) Select Individual Packages…..   **Size 649MB**   *- see oleks maximum.*
   Välja võib jätta jaapani-,türgi jm.-keelsed juhendid, siis tuleb kokku 543 MB, 497 paketti.

23) Install log
   A complete log of you installation will be in /tmp/install.log after rebooting you system

24) Running : Making ext2 filesystem on /dev/hdb2……..
         Making ext2 filesystem on /dev/hdb3……..

25) Install Status :

	Packages	*Bytes*	*Time*
Total	**497**	**543M**	**0:20.33**
Completed	……….	……….	………
Remaining	……….	……….	………

26) Probing Result: Probing found a PS/2 on port **psaux**   **<OK>**

27) Configure Mouse :   PS/2 Mouse

[*****] Emulate 3 Buttons?   *- soovitatakse X-Windowsi kasutatajele*

28) <u>PCI Probe :</u>
      PCI probing found a:
           PCI entry :   Mach64 GT (Rage II)
           X Server :   Mach64   **<OK>**
              Installeeris veel mõned paketid.

29) <u>Monitor Setup :</u>
              Custom

30) <u>Monitor Setup :</u> Now we want to set the specifications of the monitor.
            ………… /usr/X11R6/lib/X11/doc/Monitors

31) <u>Monitor Setup (Continued)</u> :
      Standard VGA , 640x480 @ 60 Hz
      Super VGA , 800x600 @ 56 Hz
      8514 Compatible , 1024x768 @ 87 Hz Interlaced (no 800x600)
      Super VGA 1024x768 @ 87 Hz interlaced, 800x600 @ 56 Hz
      Extended Super VGA , 800x600 @ 60 Hz , 640x480 @ 72 Hz
      Non-Interlaced SVGA, 1024x768 & 60 Hz 800x600 & 72 Hz
      High Frequency SVGA , 1024x768 @ 70 Hz
      Monitor that can do 1280x1024 @ 60 Hz
      Monitor that can do 1280x1024 @ 74 Hz
      Monitor that can do 1280x1024 @ 76 Hz

32) <u>Monitor Setup (Continued)</u> :
      Vert sync range….   50-70
                                50-90
                                50-100
                                40-150

33) <u>Probing To Begin :</u>
   Xconfigurator will now run the X server you selected to probe various information about your
   video card. It is normal for the screen to blink several times.   **<OK>**
                                                Plinkis 3-4 korda

34) <u>Probing finished :</u>
   Xconfigurator has successfully probed you video card. The default video mode will be :
           Color depth   :   8 bits per pixel
           Resolution   :   1024x768
   Do you want to accept this setting, or select for yourself?
           Use Default | **Let me choose**

35) <u>Select video modes:</u>
                8 bit modes allow for 256 colors
                16 bit modes allow for 64k colors
                24 bit modes allow for True colors

     <u>8 bit</u>   <u>16 bit</u>   <u>24 bit</u>
     [ ] 640x480   [ ] 640x480
     [*] 800x600   [*] 800x600
     [*] 1024x768

36) <u>Network Configuration:</u> *Kuna eespool sai asi paika, siis* - **No**

37) <u>Configure Timezones:</u>
> [*] Hardware clock set to GMT
> **Europe/Tallinn**
> ………………

38) <u>Services:</u>
   What services should be automatically started? - *Vaikimisi olid ja jätsin:*

apmd	**inet**	**nfs**	**smb**
atd	**kerneld**	**nfsfs**	**snmpd**
crond	**keytable**	**pcmcia**	**sound**
dhcpd	**lpd**	**portmap**	**syslog**
gpm	**named**	**random**	
httpd	**network**	**sendmail**	

*Siiski, kuna helikaarti ei olnud, siis võtsin sound'i maha, selle asemel lisasin **squid**'i.* **<OK>**

39) <u>Configure Printer:</u> **No**

40) <u>Root Password :</u> xxxxxxxxxx
> xxxxxxxxxx

41) <u>Bootdisk :</u> **Yes**

42) <u>Bootdisk :</u> Insert a blank floppy in the first drive /dev/fd0
> *Tühi flopi sisse ja* <**OK>**
> Creating bootdisk….

43) <u>LILO Installation :</u>
   Where do you want to install the bootloader?
> /dev/hda Master boot record - *No !!!!!*
> **/dev/hdb2 First sector of boot partition** - *Yes !*
> **OK** | Skip | Back

   Siin kasutame teist võimalust Linuxi ülesbootimiseks, seepärast laseme bootloaderi hdb2-le.

44) <u>Bootable Partitions :</u>

Device	Partition type	Default	Boot label
/dev/hda1	DOS 16-bit >=32M		dos
/dev/hdb1	OS/2 HPFS		
/dev/hdb2	Linux native	*	linux

   OK | Edit | Back

45) <u>Done :</u> Congratulations…… <**OK>**. Rebooting….(*Lilo-boot flopi sees*)

46) **Red Hat Linux release 5.1 (Manhattan)**
    Kernel 2.0.34 on an i586

odysseus login : root
Password : xxxxxxxxx
[root @ odysseus /root]#

Nüüd on soovitav ära kasutada juba olemasolev Windows NT boot.ini, selleks et lisada sinna lisaks juba olemasolevatele Win NT-le ja Win95-le ka Linux.Aga enne tuleb teha bootsect.lnx fail ja viia see Windowsi C-kettale.

47) *Bootsect.lnx faili tegemine:*
    [root @ odysseus /root]# cd ..
    [root @ odysseus]# **dd if=/dev/hdb2 of=/tmp/bootsect.lnx bs=512 count=1**
    1+0 records in
    1+0 records out

44) *Kopeerida fail **bootsect.lnx** (512 bytes) Windows-i C:\-kettale, antud juhul siis **/dos**-i.*
    Mugav on kasutada selleks näiteks Midnight Commanderi (# mc).
    *Nüüd on **C:** -l antud juhul olulised failid : **bootsect.dos, bootsect.lnx**, **boot.ini, ….***

45) *Boot.ini modifitseerimine(Windows-is):*
    Lisada suvalise tekstiredaktoriga boot.ini-sse rida , võttes enne ajutiselt maha atribuut "Read-only" :

    C:\BOOTSECT.LNX="Linux RedHat 5.1"

Lõpptulemusena on näiteks boot.ini sisu (Vaikimisi esimeseks on pandud Windows 95) :

    [boot loader]
    timeout=30
    default=C:\
    [operating systems]
    C:\="MS Windows 95"
    multi(0)disk(0)rdisk(1)partition(1)\WINNT="Windows NT WS 4.0"
    multi(0)disk(0)rdisk(1)partition(1)\WINNT="Windows NT WS 4.0 [VGA mode]"
                                                              /basevideo /sos
    C:\bootsect.lnx="Linux RedHat 5.1"

Nüüd saab buutimise algul valida **3**(4) võimaluse vahel :

        MS Winddows 95
        Windows NT WS 4.0
        Windows NT WS 4.0 [VGA mode]
        Linux RedHat 5.1

Loomulikult saab Linuxit üles buutida ka Lilo-bootflopiga, kui arvuti BIOS-is on valitud : **A C.**