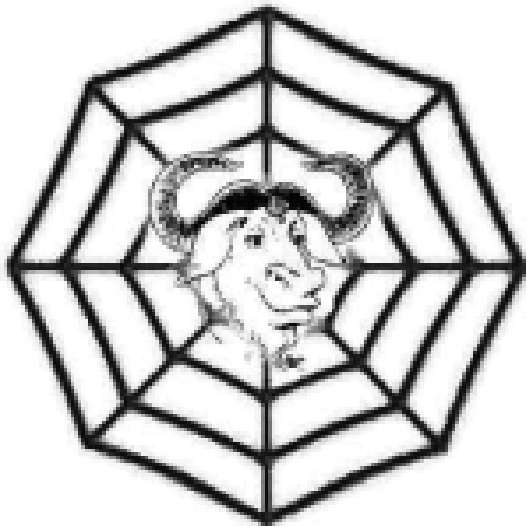
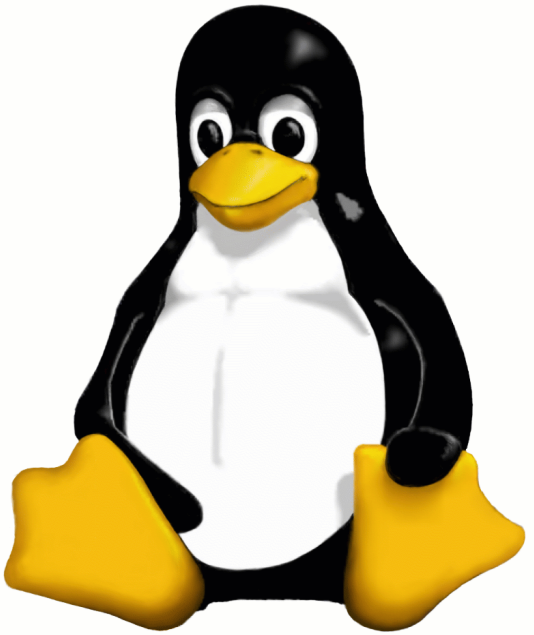
Sieťujeme v GNU/Linuxe



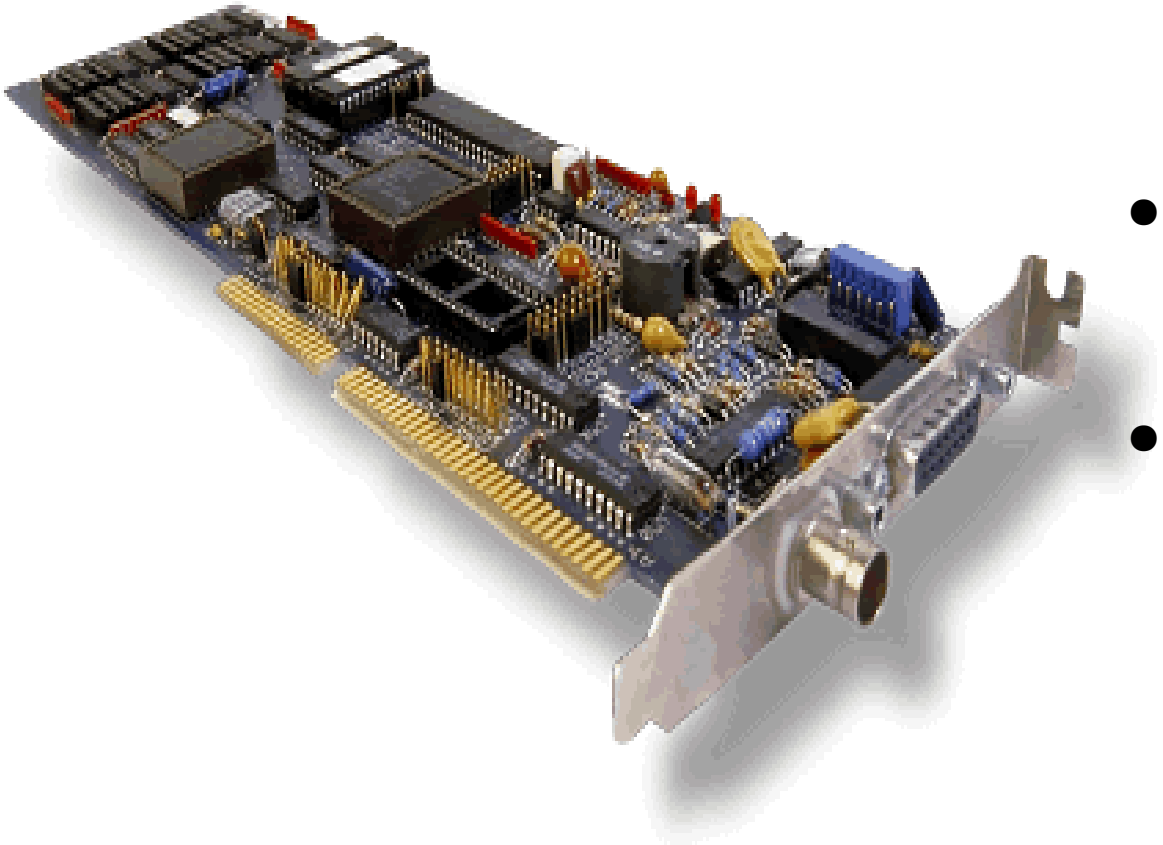


InstallFest 2003

Michal Medvecký
m.medvecky@sh.cvut.cz

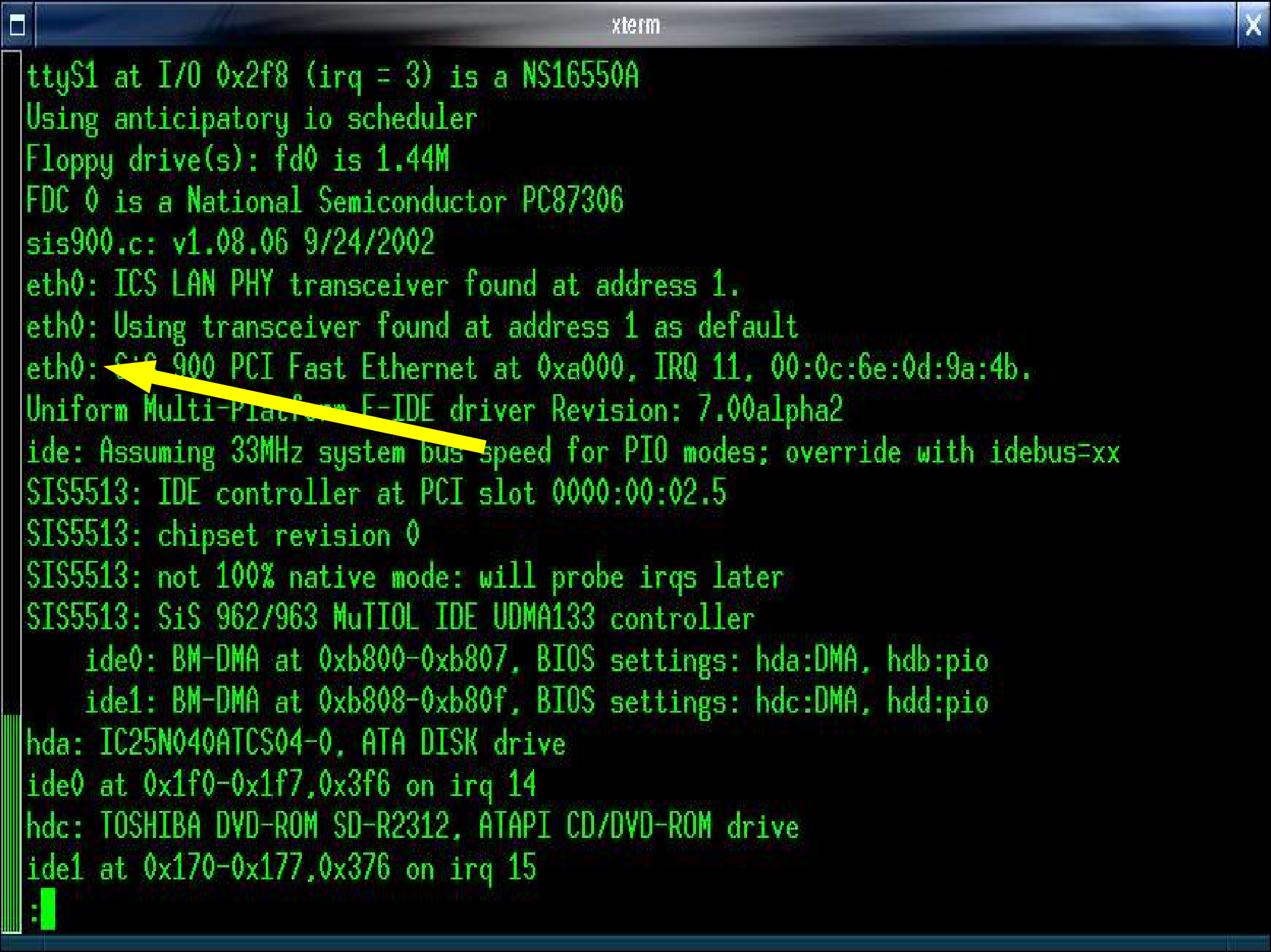
porn.bat

Čo potrebujeme?

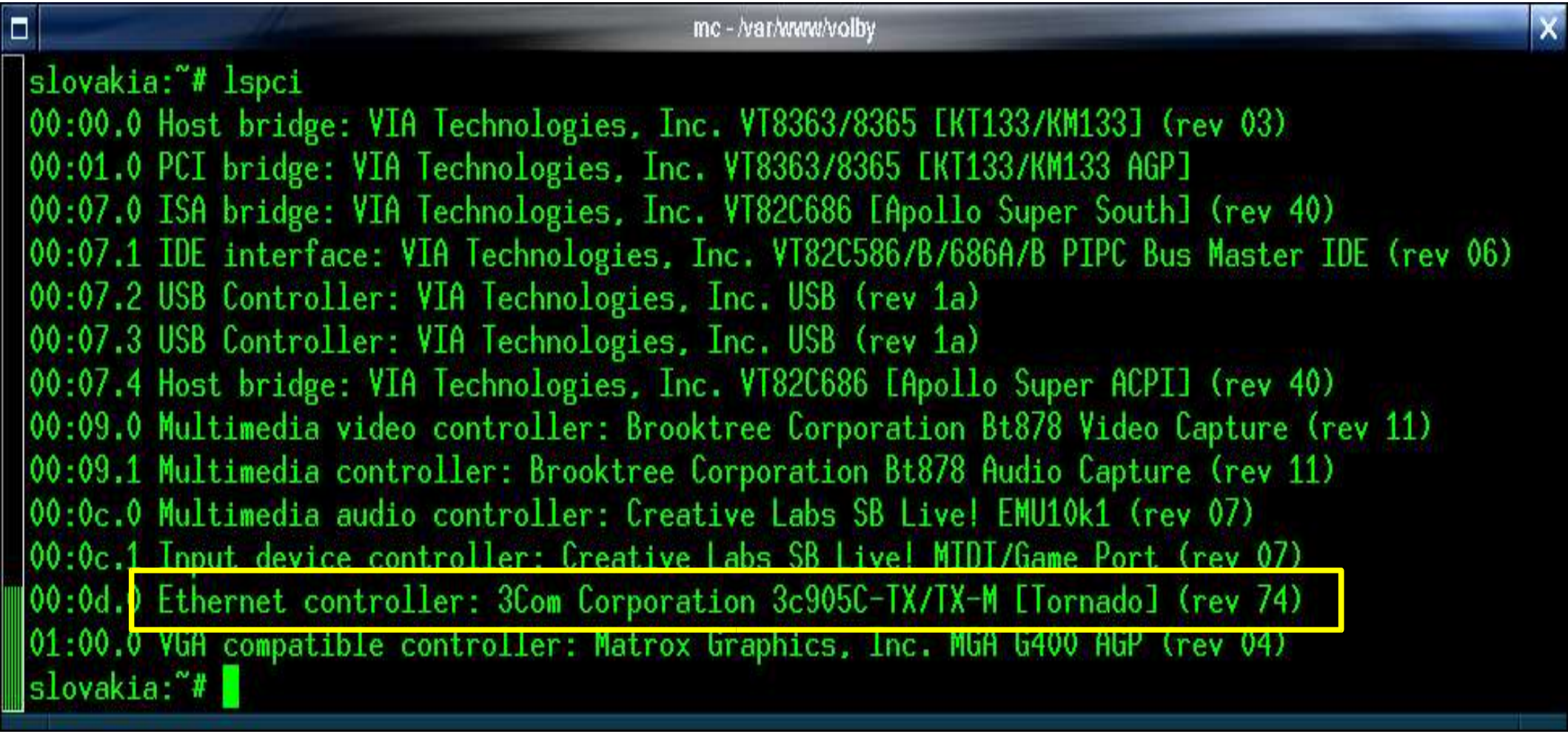


- Kompatibilnú sieťovú kartu (1 a viac)
- Vhodný modul do jadra

`/usr/src/linux/Documentation/networking`


xterm
ttyS1 at I/O 0x2f8 (irq = 3) is a NS16550A
Using anticipatory io scheduler
Floppy drive(s): fd0 is 1.44M
FDC 0 is a National Semiconductor PC87306
sis900.c: v1.08.06 9/24/2002
eth0: ICS LAN PHY transceiver found at address 1.
eth0: Using transceiver found at address 1 as default
eth0: 900 PCI Fast Ethernet at 0xa000, IRQ 11, 00:0c:6e:0d:9a:4b.
Uniform Multi-Platform E-IDE driver Revision: 7.00alpha2
ide: Assuming 33MHz system bus speed for PIO modes; override with idebus=xx
SIS5513: IDE controller at PCI slot 0000:00:02.5
SIS5513: chipset revision 0
SIS5513: not 100% native mode: will probe irqs later
SIS5513: SiS 962/963 MuTIOL IDE UDMA133 controller
ide0: BM-DMA at 0xb800-0xb807, BIOS settings: hda:DMA, hdb:pio
ide1: BM-DMA at 0xb808-0xb80f, BIOS settings: hdc:DMA, hdd:pio
hda: IC25N040ATCS04-0, ATA DISK drive
ide0 at 0x1f0-0x1f7,0x3f6 on irq 14
hdc: TOSHIBA DVD-ROM SD-R2312, ATAPI CD/DVD-ROM drive
ide1 at 0x170-0x177,0x376 on irq 15
:

Akú sieťovú kartu mám?



Príkaz `lspci`

Základné príkazy

ifconfig

```
ifconfig [interface]
ifconfig interface [aftype] options | address ...
```

route

```
route  [-v]  [-A  family]  add [-net|-host] target [netmask Nm] [gw Gw]
       [metric N] [mss M] [window W]  [irtt  I]  [reject]  [mod]  [dyn]
       [reinstate] [[dev] If]
```

ifconfig - configure a network interface

```
eth0    Link encap:Ethernet  HWaddr 00:0C:6E:0D:9A:4B
        inet addr:147.32.119.108 Bcast:147.32.255.255 Mask:255.255.255.0
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:251835 errors:0 dropped:0 overruns:0 frame:0
        TX packets:98208 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:158634225 (151.2 MiB)  TX bytes:10210770 (9.7 MiB)
        Interrupt:11 Base address:0xa000
```

`lo` – loopback device
`wlan` – wireless lan
`ppp` – point to point interface ppp daemon
`sit` – virtuálne tunely
`dummy` – dummy net interface
`ipsec` – ip security dummy interface

http://www.tldp.org/HOWTO/HOWTO-INDEX/networking.html#NETDIALUP

route – show/manipulate the IP routing table

```
kriminalka:~# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
147.32.119.0    0.0.0.0         255.255.255.0   U     0      0        0 eth0
0.0.0.0         147.32.119.1    0.0.0.0         UG    0      0        0 eth0
```

```
kriminalka:~# route add -net 192.168.0.0/24 gw
192.168.0.1

kriminalka:~# route del -net 192.168.0.0/24
```

/etc/hosts

```
127.0.0.1       kriminalka      localhost
147.32.119.108 kriminalka.sh.cvut.cz

# The following lines are desirable for IPv6
capable hosts
# (added automatically by netbase upgrade)

::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts
```

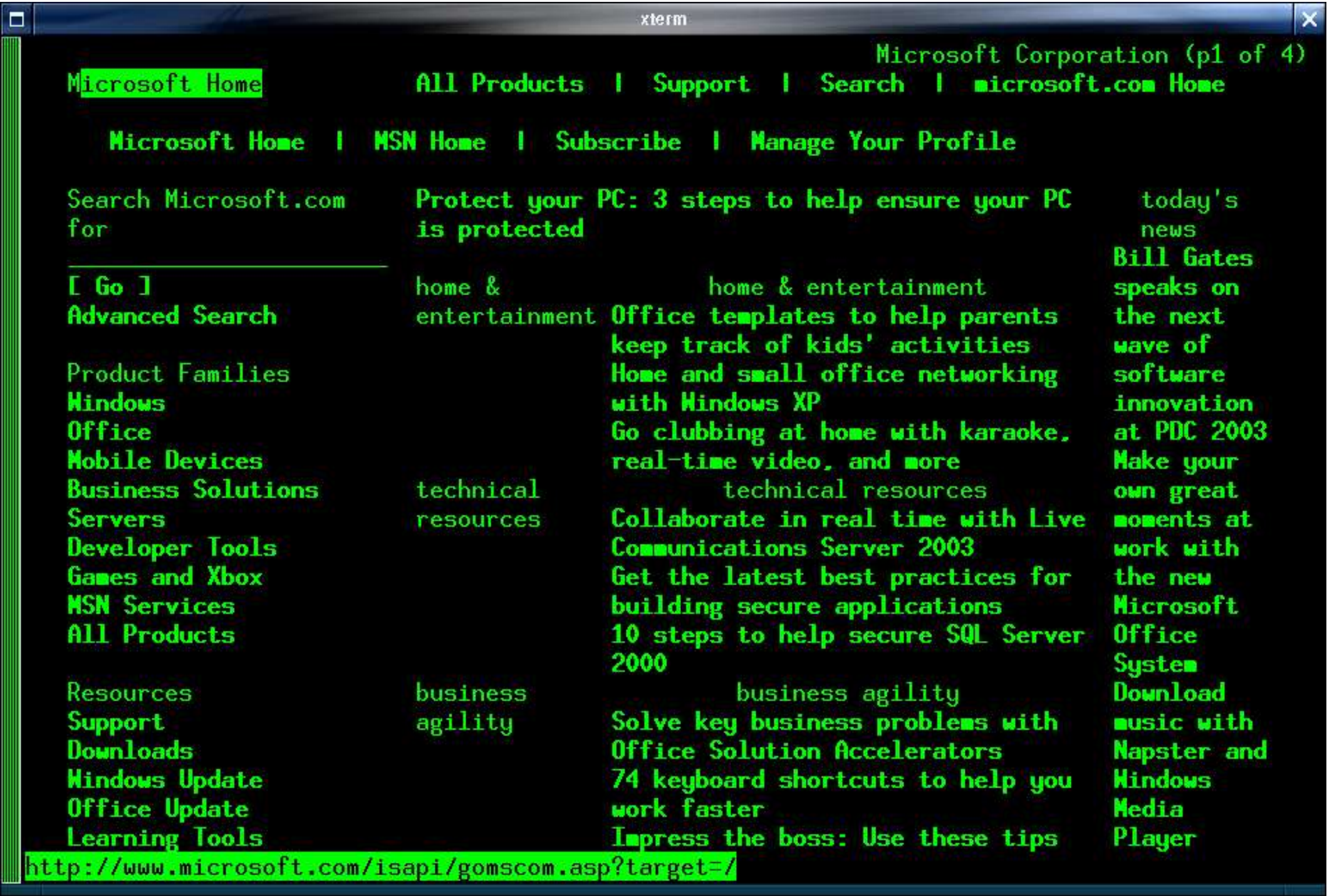
GUI/TUI utility

- `netconf` (RedHat)
- `?` (Debian), /etc/network/interfaces
- `netenv` (Debian)
- `netconfig` (Slackware)
- `yast`, webmin
- `pppconfig`

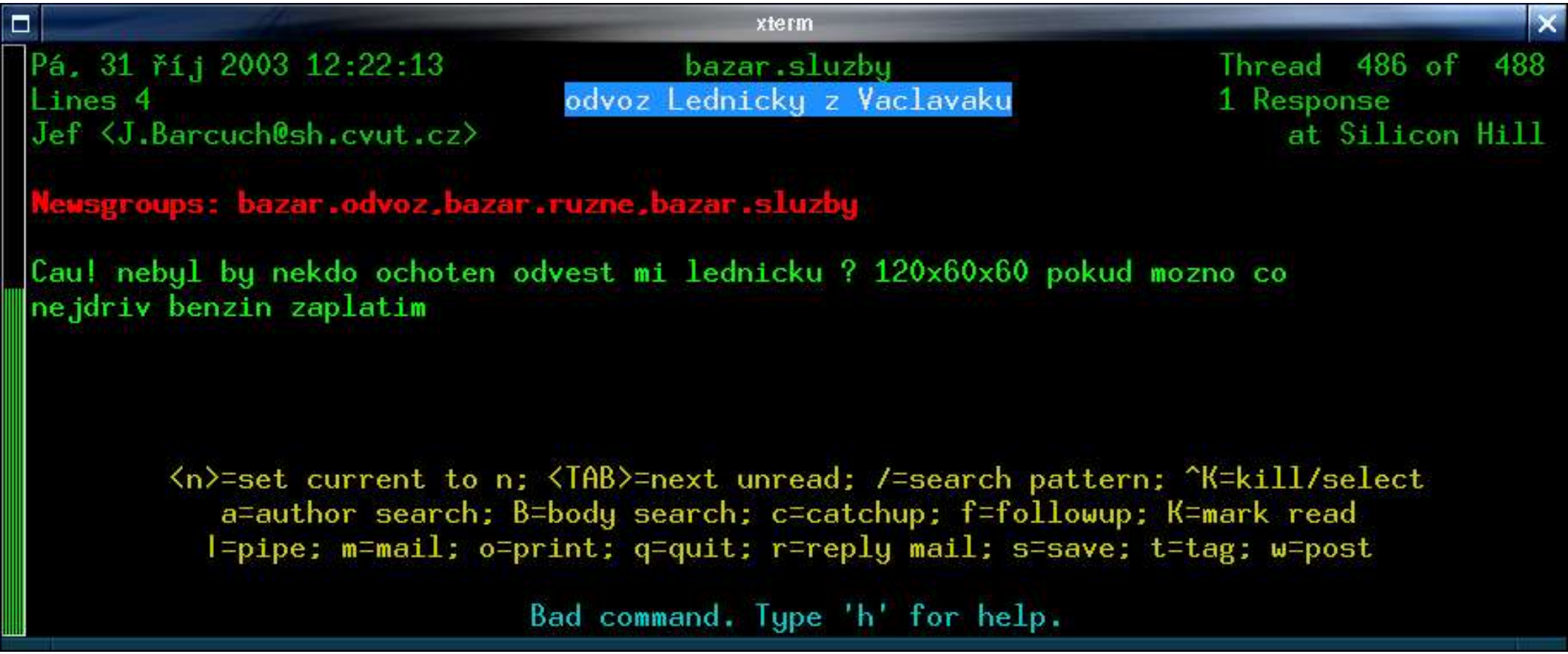
Základné utility pre shell

- lynx, links
- wget
- ssh, telnet, telnet-ssl
- ftp (ncftp, lftp, mc)
- finger
- tin, slrn

links


xterm
Microsoft Corporation (p1 of 4)
Microsoft Home
All Products | Support | Search | microsoft.com Home
Microsoft Home | MSN Home | Subscribe | Manage Your Profile
Search Microsoft.com for
[Go]
Advanced Search
Product Families
Windows
Office
Mobile Devices
Business Solutions
Servers
Developer Tools
Games and Xbox
MSN Services
All Products
Resources
Support
Downloads
Windows Update
Office Update
Learning Tools
Protect your PC: 3 steps to help ensure your PC is protected
home & entertainment
Office templates to help parents keep track of kids' activities
Home and small office networking with Windows XP
Go clubbing at home with karaoke, real-time video, and more
technical resources
Collaborate in real time with Live Communications Server 2003
Get the latest best practices for building secure applications
10 steps to help secure SQL Server 2000
business agility
Solve key business problems with Office Solution Accelerators
74 keyboard shortcuts to help you work faster
Impress the boss: Use these tips
today's news
Bill Gates speaks on the next wave of software innovation at PDC 2003
Make your own great moments at work with the new Microsoft Office System
Download music with Napster and Windows Media Player
http://www.microsoft.com/isapi/gomscom.asp?target=/

tin


xterm
Pá, 31 říj 2003 12:22:13
bazar.sluzby
Thread 486 of 488
Lines 4
odvoz Lednicky z Vaclavaku
1 Response
Jef <J.Barcuch@sh.cvut.cz>
at Silicon Hill
Newsgroups: bazar.odvoz,bazar.ruzne,bazar.sluzby
Cau! nebyl by nekdo ochoten odvest mi lednicku ? 120x60x60 pokud mozno co
nejdriv benzin zaplatim
<n>=set current to n; <TAB>=next unread; /=search pattern; ^K=kill/select
a=author search; B=body search; c=catchup; f=followup; K=mark read
|=pipe; m=mail; o=print; q=quit; r=reply mail; s=save; t=tag; w=post
Bad command. Type 'h' for help.

finger

xterm
misko@slovakia:~$ finger ruik@desitka
[desitka.sh.cvut.cz]
Login: ruik Name: Rudolf Marek
Directory: /home/10/ruik Shell: /bin/bash
Office: blok 10
Last login Sat Nov 1 12:20 (CET) on pts/1 from temp5.fsv.cvut.cz
Mail last read Sat Nov 1 12:28 2003 (CET)
No Plan.
misko@slovakia:~$

mc-ftp

mc - /#ftp:ftp
Levý Soubor Příkaz Nastavení Pravý
~
Jméno Délka Práva
/.. VYŠ-ADR drwxr-xr-x
/.TeXmacs 4096 drwxr-xr-x
/.acrobat 4096 drwx------
/.adobe 4096 drwx------
/.centericq 8192 drwx------
/.gimp-1.2 4096 drwxr-xr-x
/.gnome 4096 drwxr-xr-x
/.gnome_private 4096 drwx------
/.gnupg 4096 drwx------
/.gqview 4096 drwxr-xr-x
/.links 4096 drwx------
/.mc 4096 drwxr-xr-x
/.mozilla 4096 drwxr-xr-x
/..
VYŠ-ADR drwxr-xr-x
/#ftp:ftp
Jméno Délka Práva
/MIRRORS 656 drwxr-xr-x
/OpenWeekend 120 drwxr-xr-x
~SuSE 12 lrwxrwxrwx
/Video 136 drwxr-xr-x
/debian 480 drwxr-xr-x
/debian-cd 200 drwxrwxr-x
/debian-non-US 232 drwxrwxr-x
~debian-security 23 lrwxrwxrwx
/freeware 464 drwxrwxr-x
~listserv 25 lrwxrwxrwx
/montypitralon 192 drwxr-xr-x
/obp2003 152 drwxrwxr-x
~pub 22 lrwxrwxrwx
-> MIRRORS/klokan.sh.cvut.cz
ftpfs: zpracován.
bash-2.05b$
1Nápověd 2MenuUž 3Prohlíž 4Editace 5Kopírov 6Přesun 7NovýAdr 8Smazat 9HlMenu 10Konec

Nastavujeme proxy

- /etc/wgetrc
- /etc/lynx.cfg
- links -> menu
-
- shell: `export http_proxy=http://cache.sh.cvut.cz:3128/`

Nastavujeme servery

- tcp wrappery
- standalone servery
- iptables
- www server
- ftp server
- apache+php+mysql

Pojmy

- server
- klient
- démon
- port

tcp wrapper

inetd (/etc/inetd.conf)

```
<service_name> <sock_type> <proto> <flags> <user>
<server_path> <args>

smtp stream tcp nowait mail /usr/sbin/exim exim
-bs
```

xinetd

```
TODO
```

/etc/services

paketové filtre

- ipwf
- ipchains
- iptables

ftp://ftp.sh.cvut.cz/OpenWeekend/ow1/luptak-iptables.avi

Konfigurácia vzdialeného prístupu

telnet - konfigurácia je triviálna

ssh - slide

/etc/ssh/sshd_config

```
Port 22
Protocol 2
HostKey /etc/ssh/ssh_host_dsa_key
UsePrivilegeSeparation yes
LogLevel INFO
PermitRootLogin yes
StrictModes yes
RSAAuthentication yes
PubkeyAuthentication yes
HostbasedAuthentication no
PermitEmptyPasswords no
PasswordAuthentication yes
X11Forwarding no
X11DisplayOffset 10
PrintMotd no
KeepAlive yes
Subsystem       sftp    /usr/lib/sftp-server
```

webservery

- apache
- boa
- netscape
- ibm iplanet
- asmutils httpd

apache

- najrozšírenejší www server na svete
- rýchly, stabilný, kvalitný
- podporuje dynamické moduly
- jednoduchá konfigurácia

DEMO