

Linux Floobydust

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Introduction

This is collection of GNU/Linux ancient and newer information, tips, one-timers, and short shell programs (financiers, go away), in one place for easy reference. Scripts that include \$1, \$2 etc. parameters are meant to be copied to a file, made executable and run.

History

20111211 - first release: tlgu.carmen.gr

20111213 - additions

20111225 - more additions

Acknowledgements

Bob Pease (RAP) and Jim Williams for offering a good deal of their experience to the world; still shocked over the news of their passing earlier this year; farewell and thanks for all the floobydust!

All authors and contributors to the programs and scripts.

References

man is your friend

Disclaimer

The usual disclaimer about misconfiguring your system beyond repair or obliterating your work applies: Don't blame it on us. Do one thing at a time. Make sure you understand the steps involved by reading the respective command manuals. Write to tlgu, carmen or gr, in case this document contains inaccuracies, errors or if you have some information that others can benefit from.

Linux applications

This is a brief guide for installing and updating the PCLINUXOS GNU/Linux

distribution, as well as a selection of applications to do useful work. Feel free to point out any “killer” application to replace or complement the listed ones.

Boot

Before you start – If you get the following error

ISOLINUX...

gfbboot:

Could not detect available memory size

boot:

*Answer with **LiveCD_sata_probe** [2007-2009 edition] or **LiveCD** [2010 edition], in order to load the corresponding image from the Live CD.*

Install PCLINUXOS

If your computer is equipped with an mga based graphics card it may boot to a text screen (display manager does not start) or screen artifacts are visible.

*localhost login: **root***

*Password: **root***

using vi or mc open /etc/X11/xorg.conf for editing

[2010] you can open the file using the file manager -

you must be root

Section "Device"

...

Driver "mga"

VideoRam 8128

...

Comment out the VideoRam specification:

Section "Device"

...

Driver "mga"

VideoRam 8128

...

Start the X server, if you feel comfortable with it:

init 3 (full system, network interface, no X)

init 5 (full system, X server)

[2010] Log out, restart X server from the menu

(normally, X server is restarted automatically on log

out). No more artifacts. This procedure should be repeated after the system is booted from the hard disk. Also, in the Monitor section of /etc/X11/xorg.conf add Option "DPMS" and delete any automatically inserted Modelines.

... Now we can continue the installation ...

Network configuration

Start the pclinuxos control center

System -> Configuration -> Configure your computer -> Set up network interface

Application list update

Start synaptic package manager

Reload (to read all package updates)

Mark All Upgrades

Apply

Application package installation

```
-----  
| For a basic office (and more) computer, |  
| after this process is finished, add the following packages |  
| with synaptic, if not already installed |  
-----
```

antiword: word to text converter

webcore-fonts: fonts for compatibility with gatesware-documents

mc: midnight commander - command-line file manager like Norton commander – **see note on zip files**

gzip: file compression tools

zip: file compression tools

unzip: file compression tools

p7zip: file compression tools

rar: file compression tools

unrar: file compression tools

rarlinux: file compression tools

gimp: graphics manipulation program

gimp addons: as required

firefox (3/4): internet browsers – **see note on firefox**

iron-browser: internet browser (like chrome, but does not send data to google!)

lynx: internet browser (text) also used by mc

swfdec-mozilla: browser plugin (plays flash - may remove flash-player-plugin)

flash-player-plugin: browser plugin
djvulibre-plugin: browser plugin for rendering deja-view compressed documents
djvulibre: stand-alone program for rendering deja-view compressed documents
AdobeReader: pdf reader
AdobeReader-plugin: browser plugin
(xpdf: pdf reader)
(xpdf-tools: pdf processing tools)
gv: postscript (ps) renderer
koffice: various office tools (may not be needed - see below)
gkrellm: system monitors
gkrellm plugins: as required
sylpheed or claws: e-mail client
evolution: e-mail client
mozilla thunderbird: e-mail client
kdepim-kmail: kde e-mail client
k3b: cd and dvd burning tool front-end
cdparanoia: rip audio cds
libdvdcss2: read dvds
kdiff3: directory and file difference comparison
kdemultimedia: (packages may already be installed individually)
kdegraphics: graphics applications (packages may already be installed individually)
kdegraphics-kfax: for displaying multi-page fax documents
kdenetwork: networking applications
kdegraphics-kuickshow: fast image display program
ImageMagick: image display and conversion tool (the main program is called display)
kdeutils-kcalc: scientific calculator, ark: compressed file and archive manager
cups-pdf: pdf writer for cups (common unix printing system)
cups-drivers: printer drivers
mplayer: movie player
mplayer-gui
mplayerplugin: browser plugin
win32-codecs-all: movie player codecs
vlc: video lan - movie player and streamer
smb4k: to work with smb (gatesware) networks; also use smb://
ioslave with konqueror browser

locales-el: hellenic locale information

wv: word to html converter

xmms: music player (libvisual-plugins should be marked manually -
pclinuxos 2011.6)

ntfsprogs: ntfs file system

ntfs-3g: ntfs filesystem driver with read-write support

minicom: serial terminal

gtkterm: serial terminal

moserial: serial terminal with hex input/output

nmap: network exploration tool

nmap-frontend

wireshark: network analysis tool

clipart-openclipart: LARGE file with clip art (install later, as
needed)

also:

evolution, skype, kopete, azureus, amule, google earth, scribus, dvd
creation programs and more.

| Programming |

man-pages

gcc

gcc-c++

gccmakedep

glibc

glibc-headers-devel

glibc-utils

makedepend

cmake

gccmakedep

wxgtk2.8

strace

| Games |

foobillard: billiards, 3D
frozen-bubble

| Emulators |

wine: windows emulator (configurable windows versions)
wine-gecko: for "embedded IE"
winetricks: redistributable libraries
dosbox: dos emulator

| Download and install the following Office programs |
| from their repositories, Check out / download openoffice |
| dictionaries, extensions (e.g. sun-pdfimport) |

OpenOffice (currently by Apache)
LibreOffice (the community version of OpenOffice)

| Hellenic keyboard (add in /home/xxx/.bashrc) |

```
export LC_CTYPE=el_GR.UTF-8
setxkbmap us,el -variant ,polytonic -option grp:ctrl_shift_toggle
-option grp_led:scroll
```

or, for single-accent keyboard,

```
setxkbmap us,el -option grp:ctrl_shift_toggle -option grp_led:scroll
```

(ctrl/shift changes language selection, scroll lock LED lights when Hellenic layout is activated)

Optimization

Start the

PCLinuxOS Control Center -> System -> Manage system


```
services; uncheck all services that are not needed on boot (read the relevant information)
```

for example:

```
avahi-daemon, lisa, netfs,
```

```
smb
```

```
PCLinuxOS Control Center -> System -> Manage system
```

Remove programs that start daemons, if not used:

```
apache http server (starts httpd) etc.
```

```
update-notifier
```

```
Check the net for: reducing improving boot time +linux
```

GNOME Desktop Autostart

The way to have applications starting automatically under gnome is to have corresponding .desktop files in the autostart directory:

- create the autostart directory under .config in your home if it doesn't exist

```
mkdir ~/.config/autostart
```

- create an application launcher on your desktop; following is an example for the **gkrellm** system monitoring program :

Right click on the desktop -> Create launcher... -> Type Application, Name: gkrellm, Description: System Monitor, Command: /usr/bin/gkrellm

- copy the resulting gkrellm.desktop to the autostart directory

```
cp ~/Desktop/gkrellm.desktop ~/.config/autostart
```

Following are the contents of the **gkrellm.desktop** file:

```
#!/usr/bin/env xdg-open
```

```
[Desktop Entry]
```

```
Version=1.0
```

```
Type=Application
```

```
Terminal=false
```

```
Icon[en_US]=gkrellm
Name[en_US]=gkrellm
Exec=/usr/bin/gkrellm
Name=gkrellm
Icon=gkrellm
```

For more information on .desktop files, see

<http://standards.freedesktop.org/desktop-entry-spec/desktop-entry-spec-0.9.3.html>

Firefox - disable uninitiated and unintended requests

This information, with some variation, comes from:

http://blog.kapsobor.de/archives/2008/07/26/deactivating_firefox3_behind-the-curtain_requests/)

Type **about:config** in the browser's URL field and set/verify the following variables (arranged alphabetically):

```
app.update.enabled false

breakpad.reportURL http://localhost
browser.safebrowsing.enabled false
browser.safebrowsing.malware.enabled false

browser.search.suggest.enabled false
browser.search.update false

browser.send_pings false
browser.send_pings.require_same_host true

browser.ssl_override_behavior
(check http://kb.mozillazine.org/Browser.ssl\_override\_behavior
and make sure you understand what you put in this field.
I would leave the default behavior alone because I have seen cases
of man-in-the-middle attacks by hotel providers)

extensions.blocklist.enabled false
extensions.update.enabled false
```

```
keyword.enabled false

network.http.sendRefererHeader (0)
network.prefetch-next false
```

Edit **/usr/lib/firefox-xx/application.ini**, to disable crash reporter :

```
[Crash Reporter]
Enabled=0
```

or rename **/usr/lib/firefox-xx/crashreporter** to **disable_crashreporter**

Allow desktop access to other local users

If you get a “connection to `0:0` refused by server” error, you can enable access to your desktop by using the following commands (for specific users, for all):

```
xhost + local:root
xhost + local:
```

Decode/encode base64 files

In addition to its use as secure server and client, **openssl** can be used for encoding, decoding, ciphering, and deciphering files. Here is an example for decoding an e-mail message attachment encoded as base64 (ASCII text).

```
# copy and paste the base64-encoded attachment in attachment.b64
openssl enc -d -base64 -in attachment.b64 -out original_file

# encoding
openssl enc -base64 -in original_file -out attachment.b64
```

Wireless adapters - ndiswrapper

Wireless adapter firmware binaries should already be installed

```
modprobe -r ndiswrapper
modprobe ndiswrapper
```

```
wpa_supplicant -i wlan0 -D wext -c/etc/wpa_supplicant.conf -B
```

netgear WiFi card

```
ifdown eth2
modprobe -r ndiswrapper
modprobe -r prism54
modprobe ndiswrapper if_name=eth%d
dmesg
wpa_supplicant -i eth2 -D wext -c/etc/wpa_supplicant.conf -B
ifup eth2
ifconfig
iwconfig
dmesg
ndiswrapper -v
```

Camera access

Big brother is here; see what he sees. If nothing works, you can run a **vnc server** on the camera/video server and access it via a corresponding client. Use **motion** on a directly-connected camera to create and save snapshots and time-lapse videos.

OV511 USB camera

This is for the Creative pd0040 webcam. Make sure “**load v4l**” is included in your X configuration file.

```
rmmod ov511
rmmod ovcamchip
insmod ovcamchip
insmod ov511 debug=0 mirror=0 backlight=0 led=0 autobright=1
autoexp=1 force_palette=15

# http://www.rastageeks.org/downloads/ov51x-jpeg/
rmmod ov511
rmmod ovcamchip
rmmod ov51x-jpeg
insmod /home/xxx/packages/ov51x-jpeg-1.5.9/ov51x-jpeg.ko debug=0
mirror=0 backlight=0 led=0 autobright=1 autoexp=1 force_palette=15
```

HTML page to access a camera

```
<HTML>
<IMG SRC=http://192.168.0.xxx:9192>
</HTML>
```

Picture from FTP server

Downloads a picture to a temporary file; as soon as the transfer is complete the file is copied to the file which is eventually displayed.

```
# dmftp is a script to get a file in lastsnap.jpg
if (test -z $1); then
    echo "Usage: dmftp url"
else
    ftp $1 -o temp.jpg
    cp temp.jpg lastsnap.jpg
    rm temp.jpg
fi
```

AV Tech

```
# snapshot: needs login with captcha
192.168.0.xxx/snapshot.html

# stream, after several seconds, vlc works, mplayer does not work
ffmpeg rtsp://admin:admin@192.168.0.xxx/live/h264

# snapshot
http://192.168.0.xxx/cgi-bin/guest/Video.cgi?media=JPEG

# vlc works here, too
http://192.168.0.xxx/cgi-bin/guest/Video.cgi?media=MJPEG
```

Vivotek IP7135 3GPP IP Network Camera

```
# stream
```

```
mplayer rtsp://user:password@192.168.0.xxx:554/live.sdp
# or
ffplay rtsp://user:password@192.168.0.xxx:554/live.sdp

# snapshot
http://user:password@192.168.0.xxx/snapshot.html
http://192.168.0.xxx/cgi-bin/video.jpg

# also
/cgi-bin/sysinfo.cgi
/cgi-bin/camctrl.cgi
/cgi-bin/control.cgi
```

Midnight Commander file manager - zip file issue

The Midnight Commander (mc) file manager is fashioned after the Norton Commander (nc) of old, with the addition of Unix-specific file operations. Archives are opened as a virtual directory and file operations are possible. Lately, I encountered a problem with my distribution - could not open .zip archives. I resolved it by changing the corresponding entry in the system-wide extensions file (/etc/mc/mc.ext) F9 → Command → Edit Extension file (System-wide).

```
# zip
#type/^[([Zz][Ii][Pp])\ archive
regex/\.([Zz][Ii][Pp])
    Open=%cd %p#uzip
    View=%view{ascii} unzip -v %f
```

Find files modified today

```
find . -mtime -1 \! -type d -exec ls -l {} \;
```

Formatted table of contents

Prints month, day, filename; ls format may change again; columns may need to be adjusted.

```
ls -lt | colrm 39 43 | colrm 1 30
```

Floppy disk directory listing

```
mount $1 -r -t msdos -o loop /media/floppy
ls -lR /floppy
```

CD disk directory listing

```
mount $1 -r -t iso9660 -o loop ./mnt
ls -lR ./mnt
```

CD Directory tree

A script to create a directory tree of your CDs based on **find** and **sed**. If **hwinfo** is available, volume information is included.

```
# cdtree: Directory tree view
#
# usage: cdtree [directory] [directory_depth]
#
# -- the default directory is /media/cdrom
# -- the default directory depth is 2
# -- directories ending in _files (Mozilla web page saves) are not
#    printed
# -- to make a CD cover:  cdtree [options] > dirtext.txt
#    import dirtext.txt into OpenOffice;
#    use Bitstream Vera Sans, 7.5pt,
#    2 columns, 6 cm each, column break around 11cm
#
if (test -z $1) then
    DIR="/media/cdrom"
else
    DIR=$1
fi
if (test -z $2) then
    DEPTH=2
else
    DEPTH=$2
fi
```

```
# Original one-liner:
# find $DIR -type d -print | sed -e 's;[^\/*];|____;g ;s;____|;
|;g'

mount /media/cdrom

hwinfo --cdrom |grep "Volume ID:"
hwinfo --cdrom |grep "Creation date:"
find $DIR -mindepth 1 -maxdepth $DEPTH -type d -not -iname '*_files'
-print | sed -e 's;[^\/*];|____;g ;s;____|; |;g ;s; | ; |;g'
echo ' \'
find $DIR -maxdepth 1 -not -type d -not -iname 'TRANS.TBL' -print |
sed -e 's;[^\/*];|;g'
```

Change directory - file mode

If you accidentally locked yourself out of a bunch of directories as a result of **chmod -x ***, this is for you. It will reset the execute bit for directories, only, allowing re-enty. **-c** lists the changes made.

```
find . -type d -exec -c chmod 755 {} \;
```

and this is a rational way of removing the execute bit from a bunch of files coming from alien systems.

```
find . -type f -exec chmod 644 {} \;
```

Change file date and time

```
touch --date="2010-09-23 09:08" some_file(s)
```

PCTel modem

PCTel PCI modems make nice fax machines and/or call loggers. The modem initialization settings for the **minicom.cid** file should read

```
AT S7=45 S0=0 L1 V1 X4 &c1 E1 Q0 #CID=1
```

and this is the script to start the call logger/fax machine; check **dmesg** to find out the modem device (e.g. /dev/ttyS15).


```
/sbin/modprobe linmodem
/sbin/modprobe pctel
/sbin/modprobe pctel-hw
minicom -C minicom.cap cid
```

Older kernels; if you are building the package you may need to **remove -Werror from CFLAGS in the Makefile.**

```
# kernel 2.4
DRIVER_DIR=/home/packages/pctel/pctel-0.9.7-9/driver
rmmod ptserial
rmmod pctel
insmod -f $DRIVER_DIR/pctel.o
insmod -f $DRIVER_DIR/ptserial.o
minicom -C minicom.cap cid
```

Remove control characters from files

```
# Remove control characters from .c and .h files,
# create clean files named .c.col or .h.col
for f in `ls *.c`; do cat $f | col > $f.col; done
for f in `ls *.h`; do cat $f | col > $f.col; done
```

Poor man's concordance

Prints out a sorted list of the words found in a (text) file, along with the number of occurrences.

```
tr '[:blank:][:punct:][:digit:]' '\n' < $1 | sort -f | uniq -ic
```

Count lines and words

```
# count lines in *.c and *.h files
wc -l `find . -name "*.ch"`
```

```
# Count words in .doc files
```

```
for f in *; do wvText $f | wc -w ; done
```

Convert .doc files to .txt

```
for f in *; do wvText $f > $f.txt ; done
```

Convert openoffice files to text

o3totxt is part of the o3read package by Ulric Eriksson: <http://siag.nu/pub/o3read/>

```
unzip -p '$1' content.xml | o3totxt
```

Remove zero bytes from the input file

Certain programs, including gatesware registry files, use a 16-bit character encoding with the most significant part always being zero. By removing zero bytes, the files become readable as text files.

```
sed -n '1~1s/\x00//g;1~1p' $1
```

Remove empty paragraphs

another sed application

```
# This script will remove "almost empty paragraphs"  
# (space followed by CR/LF) from the input file  
sed -n '1~1{  
    N  
    N  
    N  
    N  
    s/\x0D\x0A \x0D\x0A/\x0D\x0A/g  
};  
1~1p' $1
```

Find ASCII files

```
find . -type f -exec file '{} ' \; |grep ASCII
```

Convert filenames from one encoding to another

Get **convmv**; read <http://www.j3e.de/linux/convmv/man/> (listed in freecode.com)

Perl program to convert gatesware filenames

e.g. Î¿Î¿».pdf

```
# Test
./convmv -f utf8 -t iso-8859-1 --nosmart *
```

Actual conversion

```
# ./convmv -f utf8 -t iso-8859-1 --nosmart --notest *
```

To convert hellenic gatesware filenames to UTF-8:

```
convmv [-i] -f cp1253 -t utf-8 gatesware_hellenic_filename
```

The program also supports MacGreek and DOS code pages

Change filenames to lower case

```
for f in *; do mv $f `echo $f | tr '[A-Z]' '[a-z]'`; done
```

Change filenames to upper case

```
for f in *; do mv $f `echo $f | tr '[a-z]' '[A-Z]'`; done
```

Crypto file system

Encrypt one or more partitions, files, or entire disks to protect against unintended information disclosure.

Create an encrypted file system. The example uses twofish encryption to encrypt the third partition of sdb, obliterating all colorful items in the process.

```
modprobe cryptoloop
losetup -e twofish256 /dev/loop2 /dev/sdb3
Password: xxxxxxxxxxxxxxxxxxxxxxxx
mkfs.ext3 /dev/loop2
```

Mount the encrypted file system to /mnt

```
modprobe cryptoloop
mount /dev/sdb3 /mnt -o rw,loop,encryption=twofish256,noatime,exec
```

The above process can be used with files or whole disks; the cryptoloop module can be loaded automatically by including it in /etc/modprobe.preload

Compare directories

```
# ddiff: compare two directories (optionally excluding files that
match a specific pattern)
# ddiff directory1 directory2 [pattern_to_exclude]
# 100326 dm
if (test -z $3); then
    diff -r $1 $2
else
    diff -r -x "$3" $1 $2
fi
```

Compare directory structures (file systems)

...of course you can use **kdifff3** or some other nice GUI tool.

```
# ddiff-a: compare directory structures
# working files are created in the first directory specified
# 100326 dm
#
if (test -z $1 -o -z $2); then
    echo "USAGE: ddiff top_level_directory_1 top_level_directory_2"
    echo "      output in top_level_directory_1/ddiff.log"
else
    logfile="ddiff_`date +%y%m%d_%H%M%S`.log"
    if (test -e "$1/$logfile"); then
        echo "ddiff-a: appending to existing log file: $logfile"
    else
        echo "ddiff-a: appending to log file: $logfile"
    fi

    echo -e "\n$logfile\n" &>> $1/$logfile
```

```

# look for directories only existing in the second set
# as these will not be checked by diff

echo -e "=====DIRECTORIES ONLY IN $2 =====\n" &>>
$1/$logfile
ls -p $1 | grep / > $1/ddiff_tmp1
ls -p $2 | grep / > $1/ddiff_tmp2
diff $1/ddiff_tmp1 $1/ddiff_tmp2 | grep \> &>> $1/$logfile
rm -f $1/ddiff_tmp1 $1/ddiff_tmp2

cd $1
echo -e "\n=====COMPARING $1 TO $2 =====\n" &>>
$1/$logfile
for f in *; do
    if (test -d "$f"); then
        echo "ddiff-a: comparing $f"
        nice -n 19 diff -rq "$1/$f" "$2/$f" &>> $1/$logfile
    fi
done
fi

```

Video conversions

Sony Ericsson W302

```

ffmpeg -i "$1" -s 176x144 -vcodec mpeg4 -acodec libfaac -ac 2 -ar
44100 -r 20 "$2"

```

Playing and dumping ASX files

```

mplayer -playlist someASXlink.asp

```

If you want to keep the stream, assuming you have found how it is called

```

mplayer -dumpstream
"mms://article_title&opts" -dumpfile dumped.asf

```

Use a computer as a gateway to the Internet

Portable computer has WiFi access to the Internet through eth0, and is used as a gateway for an "internal" network connected through eth1.

```
iptables --flush
iptables --table nat --flush
iptables --delete-chain
iptables --table nat --delete-chain
iptables --table nat --append POSTROUTING --out-interface eth0 -j
MASQUERADE
iptables --append FORWARD --in-interface eth1 -j ACCEPT
echo 1 > /proc/sys/net/ipv4/ip_forward
```

Deploy a system on a bunch of new computers

<http://tlgu.carmen.gr/gnulinuextips/The%20glucopy-glurestore%20system%20deployment%20scripts.html>

Search files for a pattern

The idea is to convert non-text files to text, using your favorite converters, and then look inside. For pdf files, you can use **pdfgrep** instead.

```
# grepin pattern
echo "----- Searching in doc files -----"
for i in `find . -iname *\*.doc`; do
    echo '$i'
    antiword '$i' > test.txt
    grep '$1' test.txt
done
echo "----- Searching in od* files -----"
find . -iname "*.od*" -print -exec ls '{}' \; -exec echo '{}' \;
-exec odt2txt --output=test.txt '{}' \; -exec grep '$1' test.txt \;
echo "----- Searching in pdf files -----"
find . -iname "*.pdf" -print -exec ls '{}' \; -exec echo '{}' \;
-exec pdftotext '{}' test.txt \; -exec grep '$1' test.txt \;
find . -name test.txt -exec rm test.txt \;
```

Inter-process communications (IPC)

```
# ipcstat
ipcs -m -t
ipcs -m -c
ipcs -m -l
ipcs -m -u
ipcs -m -p
ipcs -q -t
ipcs -q -c
ipcs -q -l
ipcs -q -u
ipcs -q -p
ipcs -s -t
ipcs -s -c
ipcs -s -l
ipcs -s -u
ipcs -s -p
```

Image and pdf conversions

ImageMagick, gs

Image to pdf

```
convert -contrast -contrast -resample 150x150 *.jpeg output.pdf
```

pdf to png to pdf

This script converts a bunch of pdf files to png. The files are converted back to pdf, this time with a .gif image as a background (“uncontrolled copy”).

```
for f in *.pdf; do
    echo $f
    pdftoppm -png -r 300 $f `echo $f | cut -f1,2 -d'.'`
done

for f in *.png; do
```

```
echo $f
  composite -compose bumpmap -gravity center \( uncontrolled\
copy.gif -resize 300% \) $f `echo $f | cut -f1 -d'-'`.unc.pdf
done
```

... or the text is inserted by convert.

```
for f in *.png; do
  convert "$f" -font "DejaVu-Sans-Bold" -pointsize 300 -draw
"gravity north fill black text 100,100 'Uncontrolled copy' fill
gray94 text 100,95 'Uncontrolled copy' " "$f.unc.png"
done
```

Join pdf files

The example is from Linux Device Drivers (LDD)

```
gs -dBATCH -dNOPAUSE -q -sDEVICE=pdfwrite -sOutputFile=ldd3.pdf
TITLE.pdf COPYRIGHT.pdf ldr3TOC.fm.pdf ch00.pdf ch01.pdf ch02.pdf
ch03.pdf ch04.pdf ch05.pdf ch06.pdf ch07.pdf ch08.pdf ch09.pdf
ch10.pdf ch11.pdf ch12.pdf ch13.pdf ch14.pdf ch15.pdf ch16.pdf
ch17.pdf ch18.pdf ldr3IX.fm.pdf AUTHOR.COL0.pdf
```

plt to dxf to png

HP-GL (HPGL, PLT) plot files (e.g. generated by Orcad) can be converted to various vector and bitmap formats with hp2xx.

Download from <http://www.gnu.org/software/hp2xx/>. Two examples for converting a plot file to dxf and png (300 dpi resolution) are provided below:

```
hp2xx -m dxf file.plt
hp2xx -m png -d 300 file.plt
```

Infra-red port (Toshiba Satellite 1800)

```
# irstart
# This script will insert the irda drivers
# after removing the parport driver (irq 7)
# parport will be reinstated in polling operation
#modprobe -r lp
#modprobe -r parport_pc
#modprobe -r parport
```



```
# Enable the SMC chip handling (deprecated)
#tosh1800-smcinit -i 3 -m 1

#modprobe /lib/modules/`uname
-r`/kernel/drivers/net/irda/smcc_ircc2.ko
modprobe smcc_ircc2
modprobe ircomm_tty
irattach irda0 -s

# restart parport (in polled mode)
#modprobe parport
```

```
# irstop
# This script will remove the irda drivers (inserted by irstart)
# and will reinstate the parallel port driver (irq 7)
modprobe -r irtty_sir
modprobe -r sir_dev
modprobe -r ircomm_tty
modprobe -r ircomm
modprobe -r smcc_ircc2
modprobe -r irda
modprobe -r crc_ccitt
# remove parport in polled operation, use it with irq 7
#modprobe -r lp
#modprobe -r parport_pc
#modprobe -r parport
#modprobe lp
```

Port settings for the T300 phone

```
# irda parameters for T300 (Sony Ericsson)
echo 115200 > /proc/sys/net/irda/max_baud_rate
echo 2000 > /proc/sys/net/irda/max_tx_data_size
echo 1000 > /proc/sys/net/irda/min_tx_turn_time
echo 1 > /proc/sys/net/irda/max_tx_window
```

kermit script for the T300 mobile phone using the infra-red port

```
kermit
set carrier-watch off
set line /dev/ircomm0
set speed 115200
connect
```

GPRS info for various networks, Linux

By Ross Barkman, Mikko Rapeli;

```
http://www.taniwha.org.uk/gprs.html
http://mcfrisk.kapsi.fi/linux\_gprs.html
```

Print using gs

Back when we didn't have CUPS, printing was done using gs. This is a collection of commands used with StarOffice or stand-alone for printing to corresponding printer models, as indicated by the DEVICE command.

650c

```
gs -dBATC H -dPARANOIDS AFER -dQUIET -dNOPAUSE -r300x300
-sDEVICE=dnj650c -dBitsPerPixel=3 -sOutputFile=test.out $1
```

690, 690C

```
gs -sDEVICE=DJ6xxP -dBATC H -dNOPROMPT -dNOPAUSE -dSAFER
-sPAPERSIZE=a4 -dQuality=1 -sOutputFile=/dev/lp0 $1
gs -sDEVICE=DJ6xxP -dBATC H -dNOPROMPT -dNOPAUSE -dSAFER
-sPAPERSIZE=a4 -dQuality=2 -dColorMode=2 -dMediaType=2 -dPenSet=4
-sOutputFile=/dev/lp0 $1
```

1100 A3

The printer is installed on a gatesware computer; access is effected using smbclient.

```
# Usage: printps postscript_file
# Will format and print a text file to your favorite line printer
```

```

using gs
# Take a look at gs options
#
if (test -z $1 ); then
    echo Usage: print1100 postscript_file
else
    gs -q -dBATCH -sPAPERSIZE=a3 -sDEVICE=hpdj -sColorMode=CMY+K
-dNOPAUSE -sOutputFile=print.prn $1
    smbclient //xxxxx/"hp deskjet 1" -N -c "print print.prn"
    rm print.prn
fi

```

1100 A4

```

# Usage: printps postscript_file
# Will format and print a text file to your favorite line printer
using gs
# Take a look at gs options
#
if (test -z $1 ); then
    echo Usage: print1100 postscript_file
else
    gs -sPrintQuality=draft -qF -dBATCH -sPAPERSIZE=a4
-sDEVICE=cdj850 -sColorMode=CMY+K -dNOPAUSE -sOutputFile=print.prn
$1
    smbclient //xxxxx/"hp deskjet 1" -N -c "print print.prn"
    rm print.prn
fi

```

1100 A3 draft

```

# Usage: printps postscript_file
# Will format and print a text file to your favorite line printer
using gs
# Take a look at gs options
#
if (test -z $1 ); then
    echo Usage: print1100 postscript_file

```

```
else
    gs -q -dBATCH -sPAPERSIZE=a3 -sDEVICE=hpdj -sColorMode=CMY+K
    -sPrintQuality=draft -dNOPAUSE -sOutputFile=print.prn $1
    smbclient //xxxxx/"hp deskjet 1" -N -c "print print.prn"
    rm print.prn
fi
```

cdj850

```
# Usage: printps postscript_file
# Will format and print a text file to your favorite line printer
using gs
# Take a look at gs options
#
if (test -z $1 ); then
    echo Usage: printps postscript_file
else

    gs -q -dBATCH -sPAPERSIZE=a4 -sDEVICE=cdj850 -r150
    -dBitsPerPixel=32 -dNOPAUSE -sOutputFile=print.prn $1
    lpr print.prn
    rm print.prn
fi
```

Completely overwrite and delete files

CAREFUL WITH THAT AXE, EUGENE!

shred is a nice program for completely erasing information from a rewritable medium (**rm** just unlinks the file, leaving all content on disk). This script will repeatedly execute the shred command on every subdirectory.

```
find . -type f -execdir shred -u '{}' \;
```

Completely overwrite 720kb floppy

```
dd if=/dev/zero of=/dev/fd0 bs=512 count=1440
mformat -f 720 a:
echo -e "\a"
echo -e "\a"
```

```
echo -e "\a"
```

Completely overwrite 1.4Mb floppy

```
dd if=/dev/zero of=/dev/fd0 bs=512 count=2880
mformat a:
echo -e "\a"
echo -e "\a"
echo -e "\a"
```

Completely overwrite device, USB etc.

To clean your storage device so that files are no longer recoverable, use **shred** on the device.

```
CAREFUL WITH THAT BIG AXE, EUGENE!
```

```
shred /dev/sdxx
```

Collect system information

System-specific information is collected for configuration management and licensing purposes. This script is for a computer equipped with specific adapters. Modify, as required. **dmidecode** makes BIOS data readable.

```
# Collect system information - status
#
echo -e "\nSYSTEM INFORMATION"
#su
cat /proc/cmdline
cat /proc/meminfo | grep MemTotal
cat /proc/cpuinfo | egrep '(processor|model\ name|MHz)'

echo -e "\nSYSTEM EQUIPMENT"
lspci -v
```

```

echo -e "\nXorg INFORMATION"
cat /var/log/Xorg.0.log | egrep '(\(WW\)|\((EE\)|LoadModule:|
Chipset:|: Output|EDID)')

echo -e "\nDRIVES"
hdparm -i /dev/sda
hdparm -i /dev/sdb
hdparm -i /dev/sr0

echo -e "\nETHERNET ADAPTER(S)"
ifconfig

echo -e "\neth0"
ethtool eth0 | egrep '(Speed:|Duplex:|Port:|Link)'
ethtool -i eth0

echo -e "\neth1"
ethtool eth1 | egrep '(Speed:|Duplex:|Port:|Link)'
ethtool -i eth1

echo -e "\nDIGI ADAPTER"
cat /proc/dgap/0/vpd
cat /proc/dgap/0/info
cat /proc/dgap/0/flags

echo -e "\nRAID ARRAY STATUS"
cat /proc/mdstat

echo -e "\nBIOS INFO"
dd if=/dev/mem bs=1k skip=768 count=256 2>/dev/null | strings -n 15
echo -e "\n-----\n"
dmidecode
echo -e "\n-----END-----\n"

```

Use a CDRW with GRUB

```
kernel /vmlinuz root=/dev/hda1 hdb=ide-scsi
```

GRUB examples

Find a boot partition, setup boot, restore.

```
Manual setup/boot:
find /boot/grub/stage1 (to find partition)
root (hd0,1) (was found at first hdd, second partition)

#for setting up
setup(hd0) (MBR)
quit (necessary, to flush everything)

#for booting
kernel /vmlinuz root=/dev/sda2 (kernel parameters)
initrd /initrd
boot
-----
For the restore script:

#!/bin/sh
/sbin/grub --batch <<EOT
root(hd0,1)
setup(hd0)
quit
EOF
```

UPS

```
/usr/local/ups/bin/upsdrvctl -u ups start
/usr/local/ups/sbin/upsd -u ups
/usr/local/ups/sbin/upsmon -u ups
/usr/local/ups/bin/upsc active

# /usr/local/ups/etc holds ups configuration
# add uucp group to user ups
# PATH=$PATH:/usr/local/ups/bin:/usr/local/ups/sbin
```

Vesta UPS

```
# ups-start
# Script to start the nut ups driver/daemon monitor
# 071114 dm
#
DRIVERPATH=/usr/local/ups/bin
killall /usr/local/ups/sbin/upsmon
#killall /usr/local/ups/sbin/upsd
#killall /usr/local/ups/bin/megatec
chmod 666 /dev/ttyS*
/usr/local/ups/bin/upsdrvctl -u nut start vesta
/usr/local/ups/sbin/upsd -u nut
/usr/local/ups/sbin/upsmon -u nut
/usr/local/ups/bin/upsc vesta@localhost
```

Chloride UPS

```
071108 dm
```

Make sure the ups is connected to your computer using the serial cable.

login as root

Insert MopUPS CD

Change to the CD's mountpoint:

```
cd /media/mopups271
```

```
sh install.unix.sh
```

> Please enter your product key:

The product key is on the back of the CD case (OEM CD License key)

```
2882-125541-00002
```


> Please tell me your GLIBC version.

Check by issuing the following command (usually both versions are installed):

```
ls /usr/lib/libglib*
```

...

> Starting MopUPS service.

The program is installed in /opt/mopups and a package entry is created; the running daemon (ps aux) is listed as

```
/opt/mopups/bin/mopupsd start
```

The UPS application needs to be configured.

```
/opt/mopups/bin/setup
```

If it segfaults after language selection, e.g.

```
/opt/mopups/bin/setup: line 719: 24996 Segmentation fault      (core
dumped) $MOPUPS -n -e "quiet open $HOST" >/dev/null
```

edit the /opt/mopups/bin/setup script and change the following line
from

```
DEFAULTHOST=localhost
```

to

```
DEFAULTHOST=127.0.0.1
```

and rerun; choose password, advanced signalling, Active UPS, serial
port: /dev/ttyS0 (or /dev/ttyS1 or whatever), nominal AC voltage
(230 VAC)

Now you can start the monitoring facility:

```
mopups 127.0.0.1 (or whatever address the daemon is running on)
```

Useful commands:

```
ups status (current status and messages)
```

```
ups ident (identification)
```

```
ups test (e.g. QuickBatteryTest)
```

```
ups get all
```

```
event set (event, action) - or you can modify the  
/opt/mopups/etc/mopups.cfg file
```

```
exit
```

References, programming, other

The Linux Programmer's Guide

<http://www.ibiblio.org/pub/Linux/docs/linux-doc-project/programmers-guide/lpg-0.4.pdf>

Linux Device Drivers, Third Edition by Jonathan Corbet, Alessandro Rubini, and Greg Kroah-Hartman

<http://lwn.net/images/pdf/LDD3/>

ASCII Art

```
telnet towel.blinkenlights.nl
```

Saving web pages

Using **konqueror**, to save a web page, complete with relocated images, use the "Tools/Archive Web Page" selection. This creates a **.war** file (should read with an open a, like tar, because that's what it is). A **.war** file can be previewed and opened using konqueror and/or handled using tar tools.

Firefox can save a page (or multiple tabs) as MHT (Mime HTML) format. The UnMHT extension is used to read MHT files.

Multi-serial ports

The **dgap** driver installation and configuration for the Digi Acceleport Xem series.

```

# modprobe -r epca
edit /etc/modprobe.d/blacklist -> add "blacklist epca"
# rpm -i /home/ats/Packages/dgap-1.3-16.src.rpm
(results in /usr/src/rpm/SOURCES/dgap-1.3.tgz
# cd /usr/src/rpm/SOURCES
# tar -xvzf dgap-1.3.tgz (creates folder
/usr/src/rpm/SOURCES/dgap-1.3
# cd dgap-1.3
# ./configure
# make all
# make install
# make postinstall
# mpi -> Config -> yes -> yes -> 1 adapter -> 2
AccelePort Xem PCI -> 1 module -> 16 ports -> Yes
(Module Port Names ttya01 - ttya16) -> Yes (altpin off)
-> No (load driver) OK -> Exit MPI

```

Reboot the machine to reset board and load AccelePort firmware

```

# cat /proc/dgap/0/info (verify Board READY)
Note: device nodes are created root:root with 660
permissions; for user access edit /etc/udev/rules.d/10-
dgap.rules and add GROUP and MODE values for tty and
printer devices:
# Build our custom tty names on these events...
KERNEL=="tty_dgap*", PROGRAM="/usr/sbin/dgap_udev %k",
NAME="%c", OPTIONS+="last_rule", GROUP="uucp",
MODE="0666"
KERNEL=="pr_dgap*", PROGRAM="/usr/sbin/dgap_udev %k",
NAME="%c", OPTIONS+="last_rule", GROUP="uucp",
MODE="0666"

```

epca driver for the DigiBoard Acceleport Xem ISA

DigiBoard Acceleport Xem ISA setup and use

Documentation from "access resources" CD

xem-xxxx-inst-91000741.pdf (DIP switches - address selection)

xem-xxxx-inst-91000743.pdf (PORTS/8em and PORTS/16em module Hardware information)

prd_msc_acceleportxem.pdf (product description brief, digi site)

Driver (Linux kernel 2.4 only)

<http://ftpl.digi.com/support/driver/40001450.tar.gz>

03000239_T.txt (driver release notes)

Untar the file and you will get epca-1.57-1

The contents of the epca-1.57-1 directory must be copied to /usr/src/dg/epca

Build the driver:

```
cd /usr/src/dg/epca
```

```
./configure
```

```
make install
```

Configure the driver:

```
cd /usr/src/dg/epca/digiConf
```

```
./digiConf
```

No of boards: 1

Board type: 3 (Acceleport Xem ISA)

I/O address: 1 (104x - DIP switches 1-4 must be set as UP-UP-DN-DN)

Shared memory: 7 (d0000x - cat /proc/iomem to make sure it is free)

No of ports: 8 (for one PORTS/8em module)

Altpin: n (if set to 'y' DSR becomes DTR - for RJ-45 boxes)

Load the driver module and create the device nodes (the script must

```
be
  linked in the rc.d chain):

/etc/init.d/epca start (options are start | stop | restart)

sxbios.bin and sxfep.bin are downloaded to the card.

32 Device nodes created: /dev/ttyD000 to /dev/ttyD031

/dev/ttyD000 to /dev/ttyD007 are used with PORTS/8em

Diagnostics:
-----
Use /usr/src/dg/epca/dpa (digital port authority) to see individual
port statuses and do a loopback test with the included loopback plug

cat /proc/epca

/usr/src/dg/epca/ditty (like stty)
```

Serial printer under KDE

These instructions for setting up a raw (no translation) serial printer are for KDE 3.5 but may be useful elsewhere:

```
KDE Control Center (Administrator Mode):
Peripherals -> Printers -> Add -> Add Printer/Class
Add Printer Wizard: select Other printer type -> Next
URI: serial:/dev/ttya09?
baud=1200+bits=7+parity=none+flow=hard
-> Next
checkbox: Raw printer (no driver needed) -> Next
-> Next -> skip banner selection (No Banner) -> Next ->
skip quota selection (No quota, none, none) -> Next
define allowed/denied users -> Next
enter printer name: printer -> Next
```

After the printer appears on the printer list, right click and define as local default and as user default.

The printer name will appear in bold and italics, e.g. ***printer***

Make sure that the printer is started
(right click, Start printer)

How to print a text file to the default printer:

Run kprinter (ALT/F2, kprinter) or select the text file with the mouse and drop it in the Printer icon (drag and drop).

The "KPrinter" form opens up. Select Print.

A Warning form opens up. Select Keep (No conversion)

Terratec sound card

This is for the 24/96 Terratec PCI card. The digital audio CD output connects directly to the card's S/PDIF input. Use **envy24control** for mixer. To hear the CD output you must set in Patchbay / Router of envy24control: S/PDIF In L - H/W Out 1, S/PDIF In R - H/W Out 2. Analog Volume DAC 0 - DAC 1.

Use **gramofile**, **audacity**, **ecawave** for recording / editing.

Hellenic Polytonic keyboard

```
export LC_CTYPE=el_GR.UTF-8
setxkbmap us,el -variant ,polytonic -option grp:ctrl_shift_toggle
-option grp_led:scroll
```

Check out http://tlgu.carmen.gr/Hellenic_polytonic_HOWTO.html.

Run from flash (ramdisk)

Programs can be run from flash. In order not to burden the flash with useless re-writes, transient information is stored in RAM. This is one way to do it (commands are executed as a level 3 command when the computer starts.

```
# must be run at level 3 (with network)
# 27-May-2005 dm
#
# A ramdisk is created and temporary files are moved there
```

```
#
echo "Starting xxxxx ====="
umount -n /dev/ramdisk
mke2fs -b 1024 -m 0 /dev/ramdisk

rm -rf /tmp
rm -rf /var/log
rm -rf /var/log/cache

mount -n /dev/ramdisk /ram
mkdir -p /ram/{log,tmp}
chmod ugo+rwx,o+t /ram/tmp

mkdir -p /ram/var/log

ln -s /ram/var/log /var/log
ln -s /ram/var/log/cache /var/log/cache
ln -s /ram/tmp /tmp
```

Stop logging to save space; edit **/etc/syslog.conf** or disable syslogd and klogd. Check the manual (man syslogd, man klogd).

```
/usr/sbin/syslogd -m 0
/usr/sbin/klogd -c 3 -x
```

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