Belgian HOWTO

Table of Contents

Table of Contents

Table of Contents

Belgian HOWTO

by Dag Wieërs, `dag@mind.be`

v1.0.29, 15 October 2000

This document describes how to tweak Linux for Belgian users and lists Linux user groups, businesses and other resources in Belgium.

---

1. Introduction

1.1 Why this document?

Since there was no information anywhere on the net for Belgian Linux users, we started to collect stuff that we thought could be important. This HOWTO aims to be the definitive list of all Belgian−related Linux information. If you think not, you have no excuse to complain and certainly not to not contribute. ;)

1.2 New versions of this document

If you need to know more about the Linux Documentation Project or about Linux HOWTO's, feel free to contact the supervisor Tim Bynum linux−howto@sunsite.unc.edu.

Tim Bynum will post the listing to several national and international newsgroups on a monthly basis. In addition, the Belgian HOWTO can be found on the World Wide Web at http://dag.mind.be/howto/ New versions of the Belgian HOWTO are always placed at this site first, so please be sure to check if the copy you are reading is still up to date!

1.3 Translated versions

This document is currently translated in 3 languages (English, Dutch and French), we're trying to keep all three of them in sync, but the English version is the source−document!

The English and Dutch version are maintained by Dag Wieërs `dag@mind.be` and is found at: http://dag.mind.be/howto/.

The French version is maintained by Dany Vanderroost `danyv@euronet.be` and is found at: http://club.euronet.be/dany.vanderroost/howto.html.

1.4 Contributions

A few people mailed us their suggestions and improvements, thanks go to:

- Wim Vandeputte wvdeputte@reptile.rug.ac.be
- Pablo Saratxaga srtxg@ping.be
- Christophe Lambin clambin@skynet.be
- Geert Uytterhoeven geert@linux−m68k.org

Many thanks go to Ivo Clarysse soggie@iguana.be who started something similar earlier (http://linbel.iguana.be/) and his project helped us a lot to get this document online.

1.5 Feedback

If some information seems to be wrong, deceptive or missing, we'd appreciate if you mailed us the improvements. Since we're just human this document isn't bug−free, but your contribution can and will make a difference.

To add yourself to the Linux user groups or businesses, collect all necessary information and mail it to us.

1.6 Legal stuff

Trademarks are owned by their owners.

Although the information given in this document is believed to be correct, the author will accept no liability

1.7 Todo

There are some things I'm planning to add to this document, if you're interested be sure you're reading the most current version of this document. (This todo−list is only a reminder to myself, it is not in the translated documents!)

- Make a distinction between Linux−distributors, Linux−training and Linux−companies
    - http://www.kangaroot.net/
    - http://www.businesstraining.be, http://www.aragne.com/, http://mind.be/, http://life.be/, IBM, SGI
- Integrate LinBel some more (should have done this a long time ago)
- Describe possible ways to get a cheap recent Linux−distribution in your neighbourhood
- Add details about how to get Ispell−software for your own language
- Add information about translating programs
- Add more information about ADSL/DANA
- Translate it to DocBook DTD
- Link it from inside the Linux.be website at http://linux.iguana.be/ (database−driven)

---

2. Configuration

2.1 Keyboard setup

Linux provides 2 ways to set up your keyboard. At the console you can use `loadkeys` and under XFree86 you can use `xmodmap`.

Console

To use the keytable for a Belgian keyboard you can use

```
loadkeys be2-latin1
```

or

```
loadkeys be-latin1
```

The only difference between the two is that be2−latin1 add support for twosuperior and threesuperior (keycode 41) and grave (keycode 43).

Usually `loadkeys` is started at boottime from the scripts located somewhere in */etc/rc.d* Different distributions handle it differentely. But most distributions have a simple program (like `kbdconfig` in RedHat or `yast` in SuSE) to change the scripts.

XFree86

To set your keyboard properly under XFree86 you've got more choices. By running `Xconfigurator` (or a similar program) a config−file for XFree86 is created (with some standard content). This file is called *XF86Config* and is usually located in */etc* or */etc/X11*

Make sure (and change otherwise) that something similar to this is given under the `Keyboard Section`.

```
Section "Keyboard"
        Protocol        "Standard"
        XkbRules        "xfree86"
        XkbModel        "pc101"
        XkbLayout       "be"
EndSection
```

If you own a 'microsoft' keyboard (or the less−known penguin keyboards ;p) you can enable those extra 3 keys by changing the `"pc101"` into `"pc104"`. (I use the extra keys as meta−keys in my windowmanager so some shortcuts doesn't conflict with the internal ones of my wm).

To get the AltGr key to work under XFree86 simply add in the `Keyboard Section:`

```
        RightAlt        ModeShift
```

To get some key−combinations working under X11, you might want to change in file */usr/X11R6/lib/X11/xkb/symbols/be*:

```
key <AD11> { [ dead_circumflex,       diaeresis      ],
                [     bracketleft                          ]        };
key <AC11> { [          ugrave,         percent      ],
                [      quoteright                          ]        };
key <BKSL> { [              mu,        sterling      ],
                [       quoteleft                          ]        };
key <AB10> { [           equal,            plus      ],
                [      asciitilde                          ]        };
```

by

```
key <AD11> { [ dead_circumflex,  dead_diaeresis      ],
                [     bracketleft                          ]        };
key <AC11> { [          ugrave,         percent      ],
                [      dead_acute                          ]        };
key <BKSL> { [              mu,        sterling      ],
                [      dead_grave                          ]        };
key <AB10> { [           equal,            plus      ],
                [      dead_tilde                          ]        };
```

Some people prefer to use a 'compose'−key to enter their special characters, like:

```
<compose>'e => é
<compose>/o => ø
<compose>c, => ç
<compose>co => ©
```

```
<compose>ss => ß
```

Solution:

```
xmodmap -e "keycode xx = Multi_key"
```

or

```
xmodmap -e "keysym yy = Multi_key"
```

and 'xx' is the keycode and 'yy' the kesym of the key you choose to be the 'compose'−key. (use `xev` to get these values)

Alternatively you can add

```
keycode xx = Multi_key
```

to your */.xmodmaprc*. This way it happens automagically.

2.2 Display and applications

Some applications have to be compiled as 8−bit clean to work well with the European characterset. Others like to be told in advance.

Using the ISO−8859−1 font in console

You can load the ISO−8859−1 font by typing the following in console:

```
setfont lat1u-16.psf
mapscrn trivial
echo -ne '\033(K'
```

To be able to use ë, è, é or ç in console, you might want to add these to your */.inputrc*:

```
set meta-flag on
set convert-meta off
set output-meta on
```

(this must be done for every user, if you want this to be default for all users you can either add this file to */etc/skel/* or you could add these lines to */etc/inputrc* and add the following line to */etc/bashrc*,

```
export INPUTRC=/etc/inputrc
```

)

Note: this is only useful to programs that use readline (like bash) Also set the following environment variables:

```
LC_CTYPE=iso-8859-1
SYSFONT=lat1u-16.psf
SYSTERM=linux
```

Support for the Euro symbol

Since Europe had to invent a new character, the Euro, there's a new standard. It's called ISO−8859−15 (aka Latin−9 or Latin−0). To add support you need both a new font and new keymaps. This is part of every major distribution nowadays, if you have an older distributions you probably need a newer `console-tools` package.

The changes in the keymap−file consist of the following lines:

```
keycode  18 = +e        +E      currency
keycode  46 = +c        +C      cent
```

And the following environment−variable should be set:

```
SYSFONT=lat0-16.psf
```

to make sure you're using the right font.

2.3 Time zone

Since Belgium is located in the Central European Time zone (aka MET) which (in the winter) is equivalent to the Greenwhich Mean Time plus 1 (GMT+1), you can simply link */usr/lib/zoneinfo/localtime/MET* to */etc/localtime* symbolicly like:

```
ln -sf /usr/lib/zoneinfo/MET /etc/localtime
```

or

```
ln -sf /usr/lib/zoneinfo/Europe/Brussels /etc/localtime
```

This automagically sets Daylight Savings (which is GMT+2 in the summer).

Note: that different distributions have different paths, zoneinfo can be located in */usr/share* or such...

Note2: RedHat uses a tool called `timeconfig`, SuSE uses `yast`

To change the CMOS clock and then synchronize the system time with the CMOS clock, do something like this:

```
hwclock --set --date="Feb 25 03:38"
clock -u -s
```

If your clock is set to local time (which is discouraged but if you have other OS's installed a must), you can do:

```
hwclock --set --date="Feb 25 04:38"
clock -s
```

[Noticed the 1 hour difference ? ;p]

2.4 Locale support

Not much programs support locale yet, if you want to know more about locale or how to write your own programs to support it, check: [put the damn url here ;p]

Be aware that locale makes it harder to resolve problems as less people can help you !! You might understand a problem when it's in technical English, but what if it's translated in some obscure French ?!? Some obviously won't understand both. ;p

Dutch

To enable support for the Dutch locale in Belgium on a system with locale support you just have to set the following environment variables:

```
LANG=nl
LANGUAGE=nl_BE
```

Try `nl_BE.ISO_8859-1` if `nl_BE` does not work.

French

If you want French locale support in Belgium, set the following environment variabels:

```
LANG=fr
LANGUAGE=fr_BE
```

Try `fr_BE.ISO_8859-1` if `fr_BE` does not work.

German

If you want instead German locale support in Belgium, set the following environment variabels:

```
LANG=de
LANGUAGE=de_BE
```

Try `de_BE.ISO_8859-1` if `de_BE` does not work.

Walloon

For Walloon locale support you can find files and information at: http://www.linuxi18n.org/locales/walon/. To use it set:

```
LANG=wa
LANGUAGE=wa_BE:fr_BE
```

Try `wa_BE.ISO_8859-1` if `wa_BE` does not work.

2.5 Native language support and codepages

These options add support for the Belgian characterset and codepages. If you'd like to have these, compile a kernel with these options put on. They only apply to some filesystems (FAT−based, ISO9660, ...).

```
< > Codepage 850 (Europe)
< > NLS ISO 8859-1  (Latin 1; Western European Languages)
< > NLS ISO 8859-15 (Latin 9; Western European Languages with Euro)
```

Located in `Filesystems` > `Native Language Support`

If your kernel is a modular kernel that came with your distribution (=you never compiled a kernel before), then you might want to type:

```
insmod nls_cp850
insmod nls_iso8859_1
insmod nls_iso8859_15
```

---

3. Setting up Internet (Belgian ISP information)

3.1 Dialing in with your modem (PPP)

To configure PPP correctly, you should check the PPP−HOWTO. I try to explain it briefly, but if you have any questions or problems, read the HOWTO very carefully.

Configuring the modem

To configure your modem, you can alter the initstring of your modem. To learn more about your modem, check Ask Mr. Modem.

Beware: if you have a winmodem you will probably not get it to work. More information about winmodems is at: http://linmodems.org/. Work is underway, but winmodems are not as good as *real* modems.

Installing pppd

Now, you need to have the ppp−package installed (check this by typing `pppd --version`), make sure you have a recent one. Then you have to make sure you've got these files:

/usr/local/bin/ppp

```
#!/bin/sh
case $1 in
        on|start)
        TELEPHONE='555-1212'    # The telephone number for the connection
        ACCOUNT='your_login'    # The account name for logon (as in 'George Burns')
        PASSWORD='your_pass'    # The password for this account (and 'Gracie Allen')
        INITSTRING='AT&F&C1&D2Z'# Modem initstring
        IPLOCAL=0.0.0.0         # Local IP address if known. Dynamic = 0.0.0.0
        IPREMOTE=0.0.0.0        # Remote IP address if desired. Normally 0.0.0.0
        DEVICE=/dev/ttyS1       # Serial Device com1=ttyS0, com2=ttyS1,...
        SPEED=57600             # 19200, 38400 or 57600 (don't try something different)
        export TELEPHONE ACCOUNT PASSWORD INITSTRING
        exec /usr/sbin/pppd $DEVICE $SPEED $IPLOCAL:$IPREMOTE \
                user $ACCOUNT connect /etc/ppp/ppp-on-dialer
        ;;
        off|stop)
        if [ -r /var/run/ppp0.pid ]; then
                kill -INT `cat /var/run/ppp0.pid`
                if [ ! "$?" = "0" ]; then
                        rm -f /var/run/ppp0.pid
                        echo "ERROR: Removed stale pid file"
                        exit 1
                fi
                exit 0
        fi
        echo "ERROR: PPP link is not active on ppp0"
        exit 1
        ;;
        info|status)
        /usr/sbin/pppstats
        ;;
        *)
        echo "Usage: ppp on|off|info|start|stop|status";
        ;;
esac
```

/etc/ppp/ppp−on−dialer

```
#!/bin/sh
exec /usr/sbin/chat -v                                  \
        REPORT CONNECTION                               \
        REPORT CARRIER                                  \
        TIMEOUT         10                              \
        ABORT           '\nBUSY\r'                      \
        ABORT           '\nNO ANSWER\r'                 \
        ABORT           '\nNO CARRIER\r'                \
        ABORT           '\nNO DIALTONE\r'               \
        ABORT           '\nRINGING\r\n\r\nRINGING\r'    \
        ABORT           'Invalid Login'                 \
        ABORT           'Login incorrect'               \
        ''              "\r$INITSTRING\r"               \
        'OK-+++\c-OK'   'ATH0'                          \
```

```
            TIMEOUT         45                              \
            OK              "ATDT$TELEPHONE"                \
            CONNECT         '\d\c'                          \
            ogin:--ogin:    "$ACCOUNT"                      \
            ord:            "$PASSWORD"
```

You can remove the `-v` once everything looks normal.

The pppd command uses */etc/ppp/options* to list its options, change these options to whatever fits. These defaults normally work in most cases.

```
asyncmap 20a0000
crtscts
debug
default-mru
defaultroute
detach
escape 11,13,ff
hide-password
ipcp-accept-local
ipcp-accept-remote
lcp-echo-failure 4
lcp-echo-interval 400
lock
modem
mtu 1500
netmask 255.255.255.0
noipdefault
passive

#idle 300
#kdebug 0
#-vj
```

Once dialing in works like a charm, you can leave `debug` out.

Beware: it is important to emphasize that every special character, thus every character that is not [a–ZA–Z0–9] and '_', should be escaped by preceding it with a '\'–character. Thus "e!b$l+" would become "e\!b\$l\+". Try it if you are having troubles !

pap–secrets / chap–secrets

If your ISP requires CHAP or PAP, you need one of these files with their proper username and password:

/etc/ppp/pap–secrets or */etc/ppp/chap–secrets*

```
#client         server  secret          IP
your_login      *       your_pass       *
```

Network

To configure your nameservers, change */etc/resolv.conf*. If dialing in is succesfull, but you can't get it to connect to URL's: this is probably the cause.

```
domain domain_of_your_isp
nameserver your_primary_nameserver
nameserver your_secondary_nameserver
```

File permissions

Before you can run a (shell)script, it must be set executable. Be sure that you set the permissions so that other users cannot see the passwords stored in the files. If you want other users to be able to dial in, you might want to consider using `sudo`. You might want to do the following:

```
chmod u+rw og-rwx -R /etc/ppp
chmod u+x /etc/ppp/ppp-on-dialer /usr/local/bin/ppp
```

Dial + Hangup

Then if */usr/local/bin* is in your `PATH`, you can easily dial in with:

```
ppp on
```

and hangup with:

```
ppp off
```

and to get some statistics, you do:

```
ppp status
```

ISP−dependant information

Digibel:

Authentication:

PAP

Nameservers:

194.119.240.62

Web:

http://www.digibel.org/

Support:

http://support.digibel.be/linuxsup.htm

DMA:

Authentication:

text−based

Nameservers:

195.13.24.1

Web:

http://www.dma.be/

Support:

http://bewoner.dma.be/robvdw/ned/dma−nl.txt

FreeBel:

Authentication:

PAP

Nameservers:

194.149.160.9, 194.149.160.1

Web:

http://www.freebel.net/

Support:

no official Linux support yet

Tiscalinet (Freegates):

Authentication:

text−based ?

Nameservers:

212.35.2.1, 212.35.2.2

Web:

http://www.freegates.be/

Support:

no official Linux support yet

KPN Belgium (Eunet):

Authentication:

text−based

Extra options:

proxyarp

Nameservers:

193.74.208.135

Web:

http://www.kpnbelgium.be/internet/index.asp?ID=3&REF=EUnet

Support:

http://www.kpnbelgium.be/support/Support.asp?ID=3&SupportID=11

Online / TijdNet:

Authentication:

text−based / PAP

Extra options:

noccp

Nameservers:

62.112.0.7, 194.88.127.7

Web:

http://www.online.be/

Support:

no official Linux support yet

Ping:

Authentication:

text−based

Web:

http://www.ping.be/

Support:

http://www.ping.be/Support/redhat.shtml

Planet Internet:

Authentication:

CHAP

Nameservers:

194.119.232.3, 194.119.232.2

Web:

http://www.planetinternet.be/

Support:

no official Linux support yet

Skynet (Belgacom):

Authentication:

PAP

Extra options:

defaultroute

Nameservers:

195.238.2.21, 195.238.2.22

Web:

http://www.skynet.be/

Support:

no official Linux support yet

UUNet:

Authentication:

PAP

Nameservers:

194.7.1.4, 194.7.15.70

Web:

http://www.uunet.be/

Support:

no official support yet

VT4:

Authentication:

PAP

Web:

http://www.vt4.net/

Support:

no official Linux support yet

Wanadoo (Euronet):

Authentication:

text−based / PAP

Nameservers:

195.74.193.12, 194.134.0.12

Web:

http://www.euronet.be/ http://www.wanadoo.be/

Support:

http://www.euronet.be/support/uk/linux/

World Online:

Authentication:

CHAP

Nameservers:

212.233.1.34, 212.233.2.34

Web:

http://www.worldonline.be/

Support:

no official Linux support yet

XS4ALL:

Authentication:

PAP

Nameservers:

194.109.6.66, 194.109.9.99

Web:

http://www.xs4all.be/

Support:

http://pws1.xs4all.be/~helpdesk/new/linux/linuxconnect.html

Yucom:

Authentication:

CHAP

Web:

http://www.yucom.be/

Support:

no official Linux support yet

3.2 Dialing in with your ISDN−modem

Contributed by Christophe Lambin clambin@skynet.be

This section does not aim to be a definitive guide on ISDN for Linux. For a more detailed discussion on the topic, see Paul Slootman's ISDN4Linux HOWTO and ISDN4Linux−FAQ.

Updating the kernel

If you're using a 2.2 kernel, it's recommended to get an updated version of the ISDN code. You can retrieve the CVS at ftp://ftp.suse.com/pub/isdn4linux/. For more information, check: http://www.brisse.dk/site/linux/docs/isdn.htm

Warning: if you've recently purchased an Eicon Diva 2.0 PCI (eg, via Belgacom), there's a good chance you've actually got a Diva 2.01.In this case, you must get a version dated 1 July 1999 or later !

Once the ISDN is in place, you can start up the driver. Eg:

```
        modprobe hisax type=11 protocol=2
```

Refer to the Readme's for the right parameters and values for your card.

ISDN4Linux toolkit

Next, you'll need the ISDN4Linux toolkit. You can retrieve the latest version of the toolkit at: ftp://ftp.suse.com/pub/isdn4linux/

Configuring the interface

With the tools installed and configured, write a script to configure the interface, to be used for the ISDN connection. As always in Linux, there's no one correct way of doing this. I've put these in a script

/etc/rc.d/rc.isdn:

```
        #!/bin/sh
        MSNREMOTE='555-1212'    # Phone number of ISP
        MSNLOCAL='555-1313'     # my number, without 0, with areacode
        ACCOUNT='george'        # The account for logon (as 'George Burns')
        IPLOCAL=10.0.0.2        # my fixed IP (use 10.0.0.2 if no fixed)
        IPREMOTE=0.0.0.0        # IP number of ISP
        INTERFACE=ippp0
        /sbin/modprobe hisax type=11 protocol=2
        /sbin/isdnctrl verbose 3 system on
        /sbin/isdnctrl addif $IF
        /sbin/isdnctrl secure $IF on
        /sbin/isdnctrl addphone $IF out $MSNREMOTE
        /sbin/isdnctrl eaz $IF $MSNLOCAL
        /sbin/isdnctrl huptimeout $IF 300
        /sbin/isdnctrl l2_prot $IF hdlc
        /sbin/isdnctrl l3_prot $IF trans
        /sbin/isdnctrl encap $IF syncppp
#       /sbin/isdnctrl dialmode $IF auto
        /sbin/ifconfig $IF $IPLOCAL pointopoint $IPREMOTE -arp -broadcast
        /sbin/ipppd /dev/ippp0 user $ACCOUNT $IPLOCAL:$IPREMOTE
```

To start this at boot time, make it executable and append the following to */etc/rc.d/rc.local*:

```
        if [ -x /etc/rc.d/rc.isdn ]; then
                . /etc/rc.d/rc.isdn
        fi
```

The ipppd command gets its parameters passed through a file, */etc/ppp/ioptions*:

```
-ac
-bsdcomp
debug
defaultroute
ipcp-accept-local
ipcp-accept-remote
mru 1524
mtu 1500
noipdefault
-pc
useifip
-vj
-vjccomp

#idle 360
#persistent
```

Warning: do NOT specify +pap or +chap in this file. This specifies the authentication that ipppd should use for an INCOMING client. If you were to use this to connect to your ISP, ipppd would wait for the ISP to authenticate itself using the specified protocol.

Beware: it is important to emphasize that every special character, thus every character that is not [a−ZA−Z0−9] and '_' should be escaped by preceding it with a '\'−character. Thus 'e!b$l+' would become 'e\!b\$l\+'. Try it if you are having troubles !

Finally, create */etc/ppp/ip−down.local* to handle the shutdown of the interface:

```
#!/bin/sh
/sbin/ifconfig $1 down
sleep 1
/sbin/ifconfig $1 10.0.0.2 pointopoint
```

Note: this is to handle some problems with routes on shutdowns. Anyone know of a clean(er) solution ?

pap−secrets / chap−secrets

If your ISP uses PAP or CHAP, create a file */etc/ppp/pap−secrets* or */etc/ppp/chap−secrets*. Its format is:

```
#client         server  secret          IP
your_login      *       your_pass       *
```

Network

Not really related to ISDN, but a lot of people forget this step (too eager to try out all the stuff they typed in above ? :−)).

Anyway, you need to configure the DNS, by creating a file */etc/resolv.conf*:

```
domain your_domain_of_your_isp
nameserver your_primary_nameserver
nameserver your_secondary_nameserver
```

File permissions

Before you can run a (shell)script, it must be set executable. Be sure that you set the permissions so that other users cannot see the passwords stored in the files. If you want other users to be able to dial in, you might want to consider using `sudo`. You might want to do the following:

```
chmod u+rw og-rwx -r /etc/ppp
chmod u+x /etc/rc.d/rc.isdn /etc/ppp/ip.down-local /usr/local/bin/isdn
```

Dial + Hangup

Finally, you can write a little wrapper to start and stop the ISDN connection. I've put this as */usr/local/bin/isdn*:

```
#!/bin/bash
case $1 in
        on|start)
        /sbin/isdnctrl dial ippp0
        ;;
        off|stop)
        /sbin/isdnctrl hangup ippp0
        ;;
        info|status)
        /sbin/isdnctrl list ippp0
        ;;
        *)
        echo "Usage: isdn on|off|info|start|stop|status"
        ;;
esac
```

Then if */usr/local/bin* is in your `PATH`, you can easily dial in with:

```
isdn on
```

and hangup with:

```
isdn off
```

3.3 Cablemodem (DHCP)

DHCP was designed to make life easier, and most of the times it does ;) More information to set up your DHCP client can be found at: http://www.oswg.org/oswg−nightly/DHCP.html and a list of Frequently Asked Questions at: http://web.syr.edu/~jmwobus/comfaqs/dhcp.faq.html which describes everything you need to know. Along with the information in the Cable−Modem HOWTO (http://www.oswg.org/oswg−nightly/Cable−Modem.html).

Lots of people want to connect a whole network to their cablemodem, that's not a problem. You'll need IP−Masquerading (http://www.linuxdoc.org/HOWTO/IP−Masquerade−HOWTO.html) and make sure the interface (that speaks to the cablemodem) has the right MAC−address !! Another solution (in case of problems) is to reset your cablemodem.

UPC Belgium (Chello/TVD):

Web:

http://www.chello.be/

Support:

no official support yet

More information:

http://foobar.starlab.net/~soggie/tvd_linux/

Pandora (Telenet):

Automatic proxy:

http://pac.pandora.be:8080

HTTP proxy:

export http_proxy="http://proxy.pandora.be:8080/"

Web:

http://www.pandora.be/

Support:

no official support yet

More information:

http://users.pandora.be/de.boeve/pandora.html

3.4 ADSL

Easynet:

Web:

http://www.easynet.be/

Support:

http://support.easynet.be/

Turboline (Belgacom):

Web:

http://www.turboline.be/

Support:

no official support yet

More information:

http://foobar.starlab.net/~soggie/turboline/ and http://minf.vub.ac.be/~fquestie/turbo/

---

4. Belgian Linux user groups

More information can be found in the User Group HOWTO located at: http://www.linuxdoc.org/HOWTO/User−Group−HOWTO.html A complete list of Linux User Groups is at: http://www.ssc.com/linux/glue/ and at: http://limestone.uoregon.edu/woven/lugww/

4.1 ALLIN Linux User Group

```
Mechelbaan 260
B-3130 Begijnendijk
```

Email:

allin@linuxfreak.com

Web:

http://come.to/allin/

Contact:

Paul Terweduwe paul@faes.be

Last modified:

13 April 1999.

4.2 Antwerp Linux User Group (ALUG)

```
Van Luppenstraat 70
B-2018 Antwerp
```

Phone:

+32 3 218 63 54

Email:

fv.alug@advalvas.be

Web:

http://sunsite.belnet.be/alug/

Contact:

Patrick Op de Beeck alug@pandora.be

Last modified:

26 December 1999.

4.3 Brussels Linux User Group (BeLUGa)

```
Brussels Linux User Group (BeLUGa)
Infogroep, Building F, room 218
Vrije Universiteit Brussel
Pleinlaan 2
B-1050 Brussel
```

Email:

johanb@linux.rave.org

Web:

http://linux.rave.org/

Last modified:

25 February 2000.

4.4 HCC Limburgse Linux Gebruikers Groep (HLLGG)

```
HCC Limburgse Linux Gebruikers Groep
```

Email:

Linuxgg@hotmail.com

Web:

http://www.uunet.be/hcc/Limburg/Linuxgg

Contact:

Andy Peeters & Bruno Tony

Last modified:

31 May 1999.

4.5 HCC Linux Gebruikers Groep Leuven

```
Diegemstraat 61
B-1930 Zaventem
```

Email:

Yvo.Dries@village.uunet.be

Web:

http://www.uunet.be/hcc/

Contact:

Yvo Dries Yvo.Dries@village.uunet.be

Last modified:

2 August 1999.

4.6 Independent Group of Unix−Alikes and Network Activists (IGUANA)

```
Milcampslaan 101
B-1040 Schaarbeek
```

Phone:

+32 2 657 77 36

Fax:

+32 2 657 77 38

Email:

info@iguana.be

Web:

http://www.iguana.be/

Last modified:

5 March 1999.

4.7 Infogroep (IGWE)

```
Pleinlaan 2, 5F218 (building F)
B-1050 Brussels
```

Phone:

+32 2 629 33 56

Fax:

+32 2 629 33 89

Email:

ig@igwe.vub.ac.be

Web:

http://igwe.vub.ac.be/

Last modified:

6 July 1999.

4.8 Leuvense Linux Users (L2U)

```
Leuvense Linux Users (L2U)
```

Email:

darkcompanion@village.uunet.be

Web:

http://l2u.iguana.be/

Last modified:

28 November 1999.

4.9 Limburgse Linux User Group (LILUG)

```
Limburgse Linux User Group (LILUG)
```

Email:

frank.eersels@ping.be

Web:

http://lilug.linuxatwork.at/

Contact:

Frank Eersels frank.eersels@ping.be

Last modified:

6 May 1999.

4.10 Linux.be vzw/asbl

```
Linux.be vzw/asbl
Non-proft organization to promote Linux in Belgium
```

Email:

info@linux.iguana.be

Web:

http://linux.iguana.be/

Last modified:

23 September 1999.

4.11 Linux Belgian Team

```
Rue d'Aineffe 4
B-4317 Borlez Faimes
```

Email:

manu@rtfm.be

Web:

http://linux.rtfm.be/

Contact:

Alexandre J.D. Dulaunoy adulau@rtfm.be

Last modified:

25 February 1999.

4.12 Linux Gebruikers Oost−Vlaanderen (LGOVL)

```
Linux Gebruikers Oost-Vlaanderen
```

Email:

dennis@lgovl.freeservers.com

Web:

http://lgovl.freeservers.com/

Last modified:

25 February 1999.

4.13 Linux User Group De Bruxelles (BxLUG)

```
Linux User Group De Bruxelles (BxLUG)
```

Email:

bxl_information@linuxbe.org

Web:

http://bxlug.linuxbe.org/

Contact:

Raphael Bauduin bxl_information@linuxbe.org

Last modified:

17 July 1999.

4.14 Linux User Group De Namur

```
Linux User Group De Namur
```

Email:

namur@linuxbe.org

Web:

http://namur.linuxbe.org/

Last modified:

17 July 1999.

4.15 Linux User Group Mons

```
Linux User Group Mons
```

Email:

webmaster@linuxwallonie.org

Web:

http://www.linuxwallonie.org/

Last modified:

26 May 1999.

4.16 Linux User Movement Underground Mad Belgian Aliens (LUMUMBA)

```
Universiteitslaan 1, Filii Lamberti
3590 Diepenbeek
```

Email:

helpdesk@lumumba.luc.ac.be

Web:

http://lumumba.luc.ac.be/

Last modified:

25 February 1999.

4.17 linuxbe.org

```
linuxbe.org
```

Email:

team@linuxbe.org

Web:

http://linuxbe.org/

Contact:

Cedric Gavage niddle@linuxbe.org

Last modified:

7 February 2000.

4.18 Louvain−Li−nux (LLN)

```
Louvain-Li-nux (LLN)
Louvain-la-neuve Linux User Group
Place des paniers 5/014
B-1348 Louvain-La-neuve
```

Phone:

+32 10 45 47 61

Email:

lln@udev.org

Web:

http://lln.udev.org/

Contact:

Benjamin Henrion benjamin.henrion@linuxbe.org

Last modified:

15 October 2000.

4.19 Open Technology Assembly Linux Special Interest Group

```
Kruipstraat 14
B-1850 Grimbergen
```

Phone:

+32 11 27 58 98

Fax:

+32 11 27 03 89

Email:

info@ota.be

Web:

http://www.ota.be/sigs/linux/

Contact:

Jan Vanhercke jan.vanhercke@c−cure.be

Last modified:

4 March 1999.

4.20 Python Blanc Blue Belge (P3B)

```
Python Blanc Blue Belge (P3B)
```

Web:

http://www.p3b.org/

Last modified:

15 October 2000.

4.21 Student Information Networking (SIN)

```
Kleinhoefstraat 4
B-2440 Geel
```

Email:

sin@sin.khk.be

Web:

http://www.sin.khk.be/

Last modified:

12 June 1999.

4.22 TINA

Contact:

Tina gebruikers vraagtina@digibel.org

Web:

http://tina.digibel.org/

Last modified:

25 February 2000.

4.23 Unix Lovers Yield Student Services & Internet Support (ULYSSIS)

```
Blijde Inkomsstraat 21, lokaal 01.17
B−3000 Leuven
```

Phone:

+32 16 32 48 61

Email:

ulyssis@ulyssis.student.kuleuven.ac.be

Web:

http://www.ulyssis.student.kuleuven.ac.be/org/ulyssis/

Last modified:

25 February 1999.

4.24 Zeus WPI – Werkgroep Informatica RUG

```
Krijgslaan 281 S9
B-9000 Gent
```

Phone:

+32 09 264 47 51

Email:

info@zeus.rug.ac.be

Web:

http://www.zeus.rug.ac.be/

Comment:

Restricted to RUG students

Last modified:

22 June 1999.

---

5. Belgian Linux businesses

The Linux Documentation Project contains worldwide lists of Linux businesses, Linux Consultants HOWTO and V.A.R. HOWTO, and can be found at: http://www.linuxports.com/.

5.1 aDOC Services

```
Avenue du Pesage, 31-33
B-1050 Brussels
```

Phone:

+32 2 646 00 76

Email:

sales@adoc−services.com

Web:

http://www.adoc−services.com/

Last modified:

25 February 1999.

5.2 Arafox

```
Avenue Joseph Wybranlaan 40
B-1070 Brussels
```

Phone:

+32 2 529 59 91

Fax:

+32 2 529 59 92

Email:

info@arafox.com

Web:

http://www.arafox.com/

Last modified:

11 February 2000.

5.3 Aragne

```
Aragne
```

Email:

contact@aragne.com

Web:

http://www.aragne.com/

Last modified:

15 October 2000.

5.4 Better Access N.V.

```
Geldenaakse Vest 6
```

```
 3000 Leuven
```

Phone:

+32 16 29 80 45

Fax:

+32 16 29 80 46

Email:

info@ba.be

Web:

http://www.ba.be/

Type of support:

After an onsite installation, we mainly support our customers with SSH remote administration. Most problems are reported by E−mail or by the inhouse−developped webbased supportsystem. This doesn't mean that once in a while a supportcall comes in.

Special expertise:

Security, systemadministration and setups, security (firewalling, tigerteaming, VPN, etc.) Networkdesign, wireless networking, Troubleshooting, product development, etc. Please visit http://www.ba.be for more info.

Last modified:

7 March 1999.

5.5 BIOS Consulting sa/nv

```
Chée de Neerstalle 240
B−1190 Bruxelles
```

Phone:

+32 (0)2 376 61 97

Fax:

+32 (0)2 376 23 99

Email:

info@biosconsulting.com

Web:

http://www.biosconsulting.com/

Last modified:

27 June 2000.

5.6 D. Connect

```
Av. Van Goidtsnoven 33
B−1180 Uccle
```

Email:

webmaster@dconnect.be

Web:

http://www.dconnect.be/

Last modified:

25 February 1999.

5.7 Double Barrel Consultancy and Productions

```
Sportstraat 28
B−9000 Gent
```

Phone:

+32 9 222 77 64

Fax:

+32 9 222 49 76

Email:

mvergall@double−barrel.be

Web:

http://www.double−barrel.be/

Contact:

Michael C. Vergallen mvergall@double−barrel.be

Type of support:

phone, email remote network admin, inhouse, onsite.

Special expertise:

installation, system admin. internet and intranet connectivity, sendmail, firewalls, proxys, nameservers, troubleshooting software & hardware.

Last modified:

5 March 1999.

5.8 grmbl productions

```
Korte Vuldersstraat
B−8000 Brugge
```

Phone:

+32 50 344366

Email:

info@grmbl.com

Web:

http://www.grmbl.com/

Last modified:

2 March 1999.

5.9 LIFE bvba

```
Mgr. Vanwaeyenberglaan 6/10
B−3000 Leuven
```

Phone:

+32 477 57 50 71

Email:

info@life.be

Web:

http://www.life.be/

Contact:

Jasper Nuyens jasper@life.be

Type of support:

LIFE is the first company in Europe to provide 24/7 professional support for Linux in Europe. LIFE also provides server and desktop installation services, educational services and fixed price development. Exclusive on the Linux operating system.

Special expertise:

Kernel driver development, database interconnectivity (VPN, wireless networking), security auditing (firewall, VPN, ethical hacking), e−commerce. See our website for more.

Last modified:

20 April 1999.

5.10 Mind Linux Solutions

```
Vaartstraat 12
B−3000 Leuven
```

Phone:

+32 (0)16 309 666 or +32 (0)478 274 069

Fax:

+32 (0)16 309 644

Email:

info@mind.be

Web:

http://mind.be/

Contact:

Peter Vandenabeele peter@mind.be

Type of support:

Installation & configuration, auditing & consultancy, support & maintenance, training & education, research & development.

Special expertise:

We are specialised in installing Linux servers for various purposes (Web−, File−, Print− or Mailservers, Routers, Firewalls, VPN, ...) in heterogenous networks. We provide support and training for Linux and Open Source products and we develop custom Linux solutions for our customers.

Last modified:

23 April 2000.

5.11 Phidani Software SPRL

```
Rue de l'autonomie 1
B−1070 Brussels
```

Email:

info@phidani.be

Web:

http://www.phidani.be/

Last modified:

25 February 1999.

5.12 Spier BVBA

```
Knaptandstraat 96−98
B−9100  Sint−Niklaas
```

Email:

info@spier,be

Web:

http://www.spier.be/

Last modified:

02 March 1999.

5.13 VirgoPlus sprl

```
Rue Dartois 1
B-4000 Liège
```

Phone:

+32 4 253 00 59

Fax:

+32 4 253 00 49

Email:

contact@virgoplus.com

Web:

http://www.virgoplus.com/

Contact:

Bruno Mairlot bruno@virgoplus.com

Type of support:

By phone, email, or remote networked administration, inhouse, onsite

Special expertise:

Installation, configuration, administration of Linux, internet connection, intranet developpment, firewalls, samba, netatalk, firewalls, proxys, DNS, web server (Apache), mod_perl, MySQL, Gui interface developpment (GTK+). We have acquired a special expertise with the Red Hat distributions.

Last modified:

28 June 1999.

---

6. Belgian Linux resources

6.1 Websites

Linux in Belgium

- Linux in Belgium
- Belgian HOWTO

Dutch Linux−sites

- http://nl.linux.org/doc/
- Nederlandstalige Linux Documentatie Project
- Linux Support Website
- EToS: Educatieve Toepassingen van Open Software
- Beginnen met Linux
- Installatie Handleiding RedHat 5.2

French Linux−sites

- LinuxBe.Org
- Belgian HOWTO in french
- Portail LinuxBe.Org
- linux−france.org

Mirrors in Belgium

- Freshmeat at Chello (TVD)
- Linuxberg at Wallonie Internet
- Linuxberg at Online
- Linuxberg at Pandora (Telenet)
- Linux Gazette at Belnet
- Linux Gazette at Linuxbe
- LinuxFocus
- Linux France

6.2 HOWTO

The most important collection of Linux information on the net. Please if you encounter erroneous information in one of them, do contact the author. Only that way it will be corrected and we all stand together ;)

Web

- HOWTO's at KULeuven
- HOWTO's at LinkLine
- HOWTO's at Double−Barrel
- HOWTO's at SIN
- HOWTO's at Linuxbe.org

FTP

- HOWTO's at Belnet

6.3 HOWTO translations

As Dutch is less wide–spread, it is the least supported. But work is being done to resolve this ;) (and maybe *you* can help ?!?) French and German translations obviously are already taken care of.

Dutch

A succesfull initiative is making progress, but there's still a lot to do. If you want to help, start translating and send it there. Check: http://nl.linux.org/doc/HOWTO/.

French

French translations of HOWTO's can be found at:
ftp://sunsite.unc.edu/pub/Linux/docs/HOWTO/translations/french/

German

German translations of HOWTO's can be found at:
ftp://sunsite.unc.edu/pub/Linux/docs/HOWTO/translations/german/

6.4 FTP

Most of the times, it doesn't matter where you got it from, as long as it works. But to save you some time and save us some bandwidth, it's much better to get it near you ;) Naturally I forgot some, please send your additions or corrections.

Kernel–sources

- Official Mirror kernel–sources at Chello (TVD)
- Mirror kernel–sources at linux.be.eu.org

Distributions

- Red Hat
    - Official Mirror at Belnet ftp://ftp.belnet.be/mirror/ftp.redhat.com/pub/redhat/redhat–*version*/*arch*
    - Mirror at Chello (TVD) ftp://ftp.chello.be/mirror/ftp.redhat.com/redhat/redhat–*version*/*arch*
    - Mirror at linux.be.eu.org
    - Mirror at Pandora (Telenet) ftp://mirrors.pandora.be/mirrors/ftp.redhat.com/redhat/redhat–*version*/*arch*
- Debian
    - Official Mirror at KULeuven
    - Official Mirror at spnet
    - Mirror at EUnet
    - Mirror at Pandora (Telenet)
- Mandrake
    - Mirror at Belnet
    - Mirror at Chello (TVD)

- SuSE
    - Mirror at Belnet
    - Mirror at Pandora (Telenet)
- Slackware
    - Mirror at Globe

Software

- Mirrors at Belnet
- Mirrors at Chello (TVD)
- Mirrors at linux.be.eu.org
- Mirrors at Pandora (Telenet)

6.5 Usenet

- news:be.comp.os.linux at Linux.iguana.be
- news:be.comp.os.linux at WebWatch

6.6 Mailinglists

Linux in Belgium

- info@linux.iguana.be
- discussions@linux.iguana.be
- builders@linux.iguana.be
- lugs@linux.iguana.be

Linux user groups

- BLUG Mailinglist
- L2U Mailinglist
- LILUG Mailinglist

6.7 IRC

The fastest medium to get support is IRC, but beware. Because IRC is rather anonymous it's also easy to fool people.

On IRCnet there's a channel called #linux.be that is closely related to bcol and the Belgian Linux−scene. The channel is still small, but it surely will grow in time. To get help in English, there's only one place #linux.

Also Dalnet has a #linux.be channel.
