Belgian HOWTO

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

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1. Introduction

1.1. Why this document?

Since there was no information anywhere on the net for Belgian Linux users around 1998, 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.wieers.com/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@wieers.com> and is found at: http://dag.wieers.com/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 <wvdputte@reptile.rug.ac.be>
- Pablo Saratxaga <srtxg@ping.be>
- Christophe Lambin <clambin@skynet.be>
- Geert Uytterhoeven <geert@linux−m68k.org>
- Herman Bruyninckx <Herman.Bruyninckx@mech.kuleuven.ac.be>

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

1.5. The Linux.be−domain debacle

As you might have heard, Belgium also has its problem with the Linux.be domain. Similar to the Linux.nl case. Around March 1999, someone tricked the DNS administration about the trademark 'Linux' in Belgium by using 'Linux' as a commercial representation of the company ('uithangbord') which was according to the rules of the DNS administration at that time. The company in fact was one that sold motor−parts and the registration was done with a fake fax containing a penguin.

It is sad that the person who registered the Linux.be−domain name, did this behind the back of some Open Source volunteers who were planning to register a not−for−profit organisation to hold the domain name to prevent any abuse.

Afterwards there were several meetings with this person to work out an agreement so that the domain was not used for commercial purposes and handed over to a neutral organisation. But after several attempts it was very clear that the owner wanted full control over the domain, which he later emphasized by 'handing it over' to his own not−for−profit organisation. He stated several times he wanted to keep the right to add advertissements to the website, but wouldn't mind that volunteers added content to the site (that was empty at the time). After this, no one was willing to work voluntarily for the content of the site. Sadly he managed to get some people volunteer for it after all.

1.6. 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.

1.7. Copyright information

1.8. 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!)

- Add more information about ADSL
- Update the locale−section, preferably link to a related document.

---

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**.

2.1.1. 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 adds 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 differently. Most distributions have a simple program (like **kbdconfig** in Red Hat, **install−keymap** in Debian or **yast** in SuSE) to change the behaviour of these scripts.

2.1.2. 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 behaviour). This file is called `XF86Config-4` or `XF86Config` and is usually located in `/etc/X11` or `/etc`

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 don'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
```

2.1.3. Compose key

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

```
Compose-' e    =>    é
Compose-/ o    =>    ø
Compose-c ,    =>    ç
Compose-c o    =>    ©
Compose-s s    =>    ß
```

For XFree86, the solution is to enter **`xmodmap -e "keycode xx = Multi_key"`** or **`xmodmap -e "keysym yy = Multi_key"`** where 'xx' is the keycode or 'yy' the keysym 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.

For the console, you could do something similar with loadkeys. **`echo "altgr keycode 52 = Compose" | loadkeys`** to use AltGr-/ as a 'Compose'-key.

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.

2.2.1. 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 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
```

2.2.2. 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.

There's more information in the Euro Character Support mini HOWTO

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!

Different distributions have different paths, zoneinfo can be located in `/usr/share` or such...

Another note!

Red Hat 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 also run broken OS's, you must), you can do:

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

[Noticed the 1 hour difference ? ;p]

If your computer has Internet-access you can use NTP (Network Time Protocol) to keep your system clock in sync. One way of doing this is by starting ntpdate from cron by adding

```
05 0 * * * root /usr/sbin/ntpdate -s ntp.belnet.be > /dev/null 2>&1
```

to your */etc/crontab*. Check the ISP-information below to see if your ISP has a NTP-server available.

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 Dutch ?

2.4.1. 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.

2.4.2. 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.

2.4.3. 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.

2.4.4. Walloon

For Walloon locale support you can find files and information at: http://chanae.stben.be/linux/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
```

2.6. Ispell

Contributed by Dany Vanderroost <danyv@euronet.be>

2.6.1. Install and setup

Ispell is composed of different components: the main software and one or more dictionaries. The default dictionary is `/usr/lib/ispell/english.hash`. To override this default you have 2 options. Either you can set the `DICTIONARY`−variable or launch it with the "−d" option.

You can create custom dictionaries in your home−directory like `~/.ispell_english`.

2.6.2. Dutch

```
export DICTIONARY=nederlands
```

or

```
ispell −d nederlands file_name
```

2.6.3. French

```
export DICTIONARY=francais
```

or

```
ispell −d francais file_name
```

2.6.4. German

```
export DICTIONARY=deutsch
```

or

```
ispell −d deutsch file_name
```

2.6.5. Walloon

```
export DICTIONARY=walon
```

or

```
ispell −d walon file_name
```

2.6.6. Multilanguage spelling

By default Ispell will not work with multiple dictionaries but the solution is to work with the `~/.ispell_words` file.

If you don't want to make multi instance with Ispell, You can build `~/.ispell_words` with the words package by **`cp /usr/dict/words ~/.ispell_words; chmod +w ~/.ispell_words`**.

2.7. Setting up Internet

2.7.1. 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.

2.7.1.1. 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.

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.

2.7.1.2. 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 B
                                PASSWORD='your_pass'        # The password for this account (and
                        INITSTRING='AT&F&C1&D2Z'# Modem initstring
                        IPLOCAL=0.0.0.0             # Local IP address if known. Dynamic = 0.0.0.
                        IPREMOTE=0.0.0.0            # Remote IP address if desired. Normally 0.0.
                        DEVICE=/dev/ttyS1           # Serial Device com1=ttyS0, com2=ttyS1,...
                        SPEED=57600                 # 19200, 38400 or 57600 (don't try something
                        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.

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 !

2.7.1.3. 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       *
```

2.7.1.4. Network

To configure your nameservers, change `/etc/resolv.conf`. If dialing in is succesful, 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
```

2.7.1.5. 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
```

2.7.1.6. Dial + Hangup

Then if `/usr/local/bin` is in your `PATH`, you can easily dial in with **`ppp on`**, hangup with **`ppp off`** and to get some statistics, you do: **`ppp status`**.

2.7.2. 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.

2.7.2.1. 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 it from CVS at ftp://ftp.suse.com/pub/isdn4linux/. For more information, check: http://www.brisse.dk/site/linux/docs/isdn.htm

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.

2.7.2.2. 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/

2.7.2.3. 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
        useeifip
        -vj
        -vjccomp

        #idle 360
        #persistent
```

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.

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 ?

2.7.2.4. 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       *
```

2.7.2.5. 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
```

2.7.2.6. 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
```

2.7.2.7. 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. Belgian ISP information

3.1. PPP/ISDN

3.1.1. Brutélé

Web
: http://www.brutele.be/

Support
: no official Linux support yet

3.1.2. Cable&Wireless (Online, TijdNet)

Authentication
: text−based / PAP

Extra options
: noccp

Nameservers
: 62.112.0.7, 194.88.127.7

NTP−server
: ntp.antw.online.be, ntp.brus.online.be, ntp.gent.online.be

Web
: http://www.online.be/

Support
: no official Linux support yet

3.1.3. KPN Belgium (Eunet)

Authentication
: text−based

Extra options
: proxyarp

Nameservers
: 193.74.208.135, 193.74.208.65, 193.121.171.135

Web
: http://www.eunet.be/

Support
: http://support.eunet.be/

3.1.4. Planet Internet (Ping)

Authentication
: CHAP

Nameservers
: 194.119.232.3, 194.119.232.2

NTP−server
: ntp.pi.be

Web

http://www.planetinternet.be/

Support

http://www.ping.be/Support/redhat.shtml (Ping)

3.1.5. Skynet (Belgacom)

Authentication

PAP

Extra options

defaultroute

Nameservers

195.238.2.21, 195.238.2.22

NTP−server

ntp.skynet.be

Web

http://www.skynet.be/

Support

http://help.skynet.be/linux/indexen.html

3.1.6. Tiscalinet (Freegates, FreeBel)

Authentication

text−based ?

Nameservers

212.35.2.1, 212.35.2.2

NTP−server

ntp.tiscalinet.be

Web

http://www.tiscalinet.be/

Support

no official Linux support yet

3.1.7. UUNet (VT4)

Authentication

PAP

Nameservers

194.7.1.4, 194.7.15.70

Web

http://www.uunet.be/, http://www.vt4.net/

Support

no official support yet

3.1.8. Wanadoo (Euronet)

Authentication

text−based / PAP

Nameservers

195.74.193.12, 194.134.0.12

Web
: http://www.wanadoo.be/

Support
: no official Linux support yet

3.1.9. World Online

Authentication
: CHAP

Nameservers
: 212.233.1.34, 212.233.2.34

Web
: http://www.worldonline.be/

Support
: http://help.worldonline.be/en/linux/index.htm

3.1.10. XS4ALL

Authentication
: PAP

Nameservers
: 194.109.6.66, 194.109.9.99

NTP−server
: ntp.xs4all.be

Web
: http://www.xs4all.be/

Support
: http://helpdesk.xs4all.be/ned/linux/index.html

3.1.11. Yucom (DMA)

Authentication
: CHAP

Nameservers
: 212.8.180.122, 212.8.180.126

NTP−server
: ntp.yucom.be

Web
: http://www.yucom.be/

Support
: no official Linux support yet

3.2. Cable

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 from the infamous document of John Wobus at http://www.dhcp.org/ 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 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.

3.2.1. Telenet (Pandora)

Automatic proxy
: http://pac.telenet.be:8080

HTTP proxy
: export http_proxy="http://proxy.telenet.be:8080/"

NTP−server
: ntp.telenet.be

Web
: http://www.telenet.be/

Support
: no official support yet

More information
: http://helpdesk.telenet.be/

: http://users.pandora.be/bdr/DHCP/

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

3.2.2. UPC Belgium (Chello, TVD)

NTP−server
: time.chello.be

Web
: http://www.upcbelgium.be/

Support
: no official support yet

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

3.3. ADSL

3.3.1. Easynet

Web
: http://www.easynet.be/

Support
: http://support.easynet.be/

3.3.2. KPN Belgium (Eunet)

Web
: http://www.eudsl.be/

Support

http://support.eunet.be/

3.3.3. Turboline (Belgacom)

Web

http://www.turboline.be/

Support

no official support yet

More information

http://minf.vub.ac.be/~fquestie/turbo/

4. Belgian Linux organisations

More information can be found in the User Group HOWTO A complete list of Linux User Groups is at: http://www.ssc.com/linux/glue/ and at: http://lugww.counter.li.org/

4.1. ALUG (Antwerp)

Address

Van Luppenstraat 70
B−2018 Antwerp

Phone

+32 (0)3 218 63 54

Email

<alug@pandora.be>

Web

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

Meetings

In ACCB (HVR), Herentalsebaan 212 te Deurne

Contact

Armand Verachtert <alug@pandora.be>

4.2. BeLUGa (Brussels)

Address

Building F, room 218
Vrije Universiteit Brussel
Pleinlaan 2
B−1050 Brussel

Email

<info@linux.rave.org>

Web

http://linux.rave.org/

Mailinglist

http://linux.rave.org/mlist.html

4.3. BxLUG (Brussels)

Address

Avenue Alexandre Galopin, 2
B−1040 Brussels

Email

<information@bxlug.be>

Web
http://www.bxlug.be/
Contact
Jérôme Warnier <information@bxlug.be>
Mailinglist
http://www.bxlug.be/mailman/listinfo

4.4. Charleroi LUG (Charleroi)

Email
<lug_charleroi@caramail.com>
Web
http://charleroi.linuxbe.org/
Mailinglist
http://charleroi.linuxbe.org/mailing/mail.html

4.5. Computer Forum KaHo (Leuven)

Email
<cfk@kahosl.be>
Web
http://eduserv.kahosl.be/cfk/

4.6. HCC Limburg (Genk)

Email
<hcc-limburg@iname.com>
Web
http://www.limburg.hccnet.nl/
Contact
Stijn Croes <stijncroes@hotmail.com>

4.7. HCC Leuven (Leuven)

Address

Diegemstraat 61
B-1930 Zaventem
Email
<Michel.Cuppens@village.uunet.be>
Web
http://www.leuven.hccnet.nl/linux.html
Contact
Ivo Jossart <cartoonlover@pi.be> or Michel Cuppens
<Michel.Cuppens@village.uunet.be>

4.8. IGUANA (Brussels)

Address

Milcampslaan 101
B−1040 Schaarbeek

Phone

+32 (0)2 582 66 50

Fax

+32 (0)2 582 66 50

Email

<info@iguana.be>

Web

http://www.iguana.be/

4.9. Infogroep − IGWE (Brussels)

Address

5F218 (building F)
Pleinlaan 2
B−1050 Brussels

Phone

+32 (0)2 629 33 56

Fax

+32 (0)2 629 33 89

Email

<ig@igwe.vub.ac.be>

Web

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

4.10. ISW (Leuven)

Address

KHLeuven departement Rega
Lokaal 004
St−Maartenstraat 55d
B−3000 Leuven,

Email

<isw@student.khleuven.be>

Web

http://isw.student.khleuven.be/

Extra

Exclusive to KHLeuven students

4.11. Leuven Linux Users (Leuven)

Email
: <info@l2u.iguana.be>

Web
: http://l2u.iguana.be/

Meetings
: First and third thursday every month in Freinetschool De Zevensprong, Vital Decosterstraat 67, B−3000 Leuven

Mailinglist
: http://l2u.iguana.be/mailman/listinfo/members

4.12. LiLiT (Liège)

Email
: <f.berger@student.ulg.ac.be>

Web
: http://www.lilit.be/

4.13. Linux for Life (Berchem)

Email
: <fvos@vosberg.be>

Web
: http://www.vosberg.be/lug/

Mailinglist
: http://www.vosberg.be/lug/mailinglist.shtml

Contact
: Frederik Vos <fvos@vosberg.be>

4.14. Louvain−Li−nux (Louvain−La−Neuve)

Address
: Louvain−la−neuve Linux User Group
Place des paniers 5/014
B−1348 Louvain−La−neuve

Phone
: +32 (0)10 454 761

Email
: <lln@udev.org>

Web
: http://lln.udev.org/

Contact
: Benjamin Henrion <benjamin.henrion@linuxbe.org>

4.15. LugWV (Brugge)

Email
<info@lugwv.be>
Web
http://www.lugwv.be/

4.16. LUMUMBA (Diepenbeek)

Address

Filii Lamberti
Universiteitslaan 1
B−3590 Diepenbeek
Email
<helpdesk@lumumba.luc.ac.be>
Web
http://lumumba.luc.ac.be/
Mailinglist
<minordomo@lumumba.luc.ac.be>

4.17. Mons LUG (Mons)

Email
<stephane.wirtel@belgacom.net>
Web
http://mons.linuxbe.org/

4.18. Namur LUG (Namur)

Email
<info@namurlug.org>
Web
http://namurlug.org/

4.19. Open Technology Assembly (Brussels)

Address

Kruipstraat 14
B−1850 Grimbergen
Phone
+32 (0)11 275 898
Fax
+32 (0)11 270 389

Email
<info@ota.be>
Web
http://www.ota.be/
Contact
Jan Vanhercke <jan.vanhercke@c-cure.be>

4.20. OS3B (Charleroi)

Address

29, Boulevard Audent
B-6000 Charleroi
Email
<info@os3b.org>
Web
http://www.os3b.org/
Meetings
Every thursday evening and saturday afternoon.
Mailinglist
http://carolo.net/mailman/listinfo/os3b

4.21. Ouverture

Email
<info@ouverture.be>
Web
http://www.ouverture.be/
Mailinglist
http://www.linuxcompanies.be/archive/

4.22. PC Aktief Computerclub (Sint-Niklaas)

Address

PC Aktief Computerclub
Web
http://www.pcaktief.be/
Meetings
Second tuesday every month in 'Ons Huis', Schoolstraat 270, B-9100 Sint-Niklaas
Contact
Johan De Baere <webmaster@pcaktief.be>

4.23. Student Information Networking (Geel)

Address

Kleinhoefstraat 4
B−2440 Geel

Email

<sin@sin.khk.be>

Web

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

4.24. TINA (Antwerp)

Contact

Tina gebruikers <vraagtina@digibel.org>

Web

http://tina.kangaroot.net/

Meetings

Hof van Rieth, Molenlei 68, B−2640 Mortsel

Mailinglist

<mailinglist@tina.kangaroot.net>

4.25. ULYSSIS (Leuven)

Address

Holleberg
Schapenstraat 37, lokaal 91 97
B−3000 Leuven

Mail−address

Residentie Vinckenbosch
Parkstraat 137−139, flat 305
B−3000 Leuven

Email

<ulyssis@ulyssis.org>

Web

http://www.ulyssis.org/

Extra

Only for KULeuven students and KULeuven personnel

4.26. WOLF (Mechelen)

Email

<TeeCee@WOLF−Mechelen.be>

Web
http://www.wolf−mechelen.be/

4.27. Zeus WPI (Gent)

Address

Krijgslaan 281 S9
B−9000 Gent
Phone
+32 (0)9 264 47 51
Email
<info@zeus.rug.ac.be>
Web
http://www.zeus.rug.ac.be/
Comment
Restricted to RUG students

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

Address

Avenue du Pesage, 31−33
B−1050 Brussels

Phone

+32 (0)2 646 00 76

Email

<sales@adoc−services.com>

Web

http://www.adoc−services.com/

5.2. Ampersant

Address

Dr. Jacobsstraat 3
B−2570 Duffel

Phone

+32 (0)15 323 619

Fax

+32 (0)15 323 790

Contact

<jeff.verheyen@ampersant.be>

Web

http://www.ampersant.be/

Type of support

Installation, configuration, support, (onsite) maintenance, training, webdevelopment.

Special expertise

'Astaro Security Linux' partner. Distribution, installation and support for these Linux based firewalls.

5.3. Arafox

Address

Avenue Joseph Wybranlaan 40
B−1070 Brussels

Phone

+32 (0)2 529 59 91

Fax

+32 (0)2 529 59 92

Email

<info@arafox.com>

Web

http://www.arafox.com/

5.4. Aragne

Address

Boulevard Général Michel 1E
B−6000 Charleroi

Phone

+32 (0)71 270 389

Email

<info@aragne.com>

Web

http://www.aragne.com/

Contact

Denis Frère <denis.frere@aragne.com>

Special expertise

GNU/Linux services, specially Python and Zope solutions (websites, intranet, Internet connectivity, ...)

5.5. Better Access nv

Address

Geldenaakse Vest 6
B−3000 Leuven

Phone

+32 (0)16 298 045

Fax

+32 (0)16 298 046

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.

5.6. Consultux

Address

Alfons Jeurissenstraat 53
B−3500 Hasselt

Phone

+32 (0)474 91 55 61

Email

<info@consultux.be>

Web

http://www.consultux.be/

5.7. CoreSequence Consultancy & Training

Address

Tiensestraat 243/3
B−3000 Leuven

Phone

+32 (0)472 689 497

Fax

+32 (0)16 29 99 32

Email

<info@coresequence.com>

Web

http://www.coresequence.com/

Contact

Machtelt Garrels <sales@coresequence.com>

Special expertise

Consultancy: disaster recovery, troubleshooting. Training: Dutch/French/English speaking trainers.

5.8. CSS nv

Address

Henneaulaan 366
B−1930 Zaventem

Phone

+32 (0)2 718 53 33

Fax

+32 (0)706 53 306

Type of support

support on networking, installation, hardware maintenance, Red Hat certified reseller

Special expertise
Red Hat RHCE

5.9. D. Connect

Address

Av. Van Goidtsnoven 33
B−1180 Uccle
Email
<webmaster@dconnect.be>
Web
http://www.dconnect.be/

5.10. Digibel

Address

Oude Leuvensebaan 57
B−3460 Bekkevoort
Phone
+32 (0)473 269 112
Fax
+32 (0)13 55 66 99
Email
<info@digibel.be>
Web
http://www.digibel.be/
Contact
Joan Lavrijs <joan@digibel.be>
Type of support
Digibel (since 1995) uses its competence in Open Source software to deliver solutions, consultancy, development, remote administration, training and support with a strong focus on security. All our consultants have been using Linux since 1995 and have extensive Open Source experience.
Special expertise
We maintain the qmail−sql patch in which qmail gets integrated with MySQL or PostgreSQL databases. Our unique key product is the SUS (Security Update Service) in which we intensively manage the security of servers. Closely related to SUS are our high quality VPN/Firewall/Router−solutions. We also deliver virtually all kind of company−servers (file−,web−,fax−,mail−,name−,print−,database−,.. servers). We have acquired a special expertise with the Red Hat distributions.

5.11. Dolmen

Address

Industriepark Zenneveld
Vaucampslaan 42
B−1654 Huizingen

Phone
+32 (0)2 362 55 55

Fax
+32 (0)2 362 55 99

Email
<info@dolmen.be>

Web
http://www.dolmen.be/

5.12. DS Improve bvba

Address

European Erasmus Business & Innovation Center
Joseph Wybranlaan 40
B−1070 Brussels

Phone
+32 (0)2 529 59 41

Fax
+32 (0)2 529 59 54

Email
<info@dsimprove.be>

Web
http://www.dsimprove.be/

5.13. EMMO Service

Address

Jan Van Harcourtlaan 7
B−3200 Aarschot

Phone
+32 (0)16 565 708

Fax
+32 (0)16 569 963

Email
<info@emmo.be>

Web
http://www.emmo.be/

5.14. FKS bvba

Address

Luikersteenweg 65
B−3500 Hasselt

Phone

+32 (0)11 214 911

Fax

+32 (0)11 220 419

Email

<info@fks.be>

Web

http://www.fks.be/

5.15. Glasshouse Business Networks bvba

Address

Hessenstraatje 20 loft 1.1
B−2000 Antwerp

Phone

+32 (0)3 234 96 96

Fax

+32 (0)3 234 96 97

Email

<info@glasshouse.be>

Web

http://www.glasshouse.be/

5.16. Grmbl productions

Address

Korte Vuldersstraat 30
B−8000 Brugge

Phone

+32 (0)50 674 512

Fax

+32 (0)50 342 623

Email

<info@grmbl.com>

Web

http://www.grmbl.com/

5.17. Hellea sprl

Address

Rue de Prague 61
B−1060 Brussels

Web

http://www.hellea.be/

5.18. IBM Belgium sa/nv

Address

Square Victoria Regina 1
B−1210 Brussels

Phone

+32 (0)2 225 33 33

Fax

+32 (0)2 225 24 73

Email

<blueline@be.ibm.com>

Web

http://www.ibm.com/be/

Contact

Sam Versluys <sam_versluys@be.ibm.com>

5.19. IP Net generation

Address

Cyriel Verschaevelaan 12
B−2980 Zoersel

Phone

+32 (0)477 513 987

Email

<info@ipng.be>

Web

http://www.ipng.be/

Special expertise

IPnG focuses on Open Source software development.

5.20. Kangaroot Linux Solutions

Address

Grote Steenweg 91
B−2600 Berchem (Antwerp)

Phone
+32 (0)3 286 17 17

Fax
+32 (0)3 281 23 49

Email
<info@kangaroot.net>

Web
http://www.kangaroot.net/

Contact
Peter Dens <peter@kangaroot.net>

5.21. Linugen

Address

Borkelstraat 2/4
B−2900 Schoten

Phone
+32 (0)3 685 39 81

Fax
+32 (0)3 293 33 43

Email
<hello@linugen.com>

Web
http://www.linugen.com/

5.22. LinuxIdee

Address

Prins Albertstraat 35
B−8310 Brugge

Phone
+32 (0)494 607 037

Fax
+32 (0)50 364 341

Web
http://www.linuxidee.com/

Contact
Jurgen Defurne <jurgen.defurne@pandora.be>

5.23. Mind

Address

Vaartkom 11
B−3000 Leuven

Phone

+32 (0)16 309 666

Fax

+32 (0)16 309 644

Email

<info@mind.be>

Web

http://mind.be/

Contact

Peter Vandenabeele <peter.vandenabeele@mind.be>

Type of support

Device drivers, porting to new platforms, development (fixed price), set−up of development environment, on−site support (outsourcing), architecture study and training.

Special expertise

Mind uses Open Source software (Linux, RTLinux, RTAI, eCos, Wonka, gcc, gdb, etc.) to set up basic infrastructure for new embedded systems based on various embedded processors: ARM, StrongARM, XScale, PowerPC, MIPS, x86, ...

5.24. Minotaur Solutions

Address

Astridlaan 199
B−8310 Brugge

Phone

+32 (0)475 311 650

Email

<ldp@minotaur−solutions.com>

Web

http://www.minotaur−solutions.com/

Contact

Maarten Loose <maarten.loose@minotaur−solutions.com>

5.25. Neolabs

Address

Zwarte Zusterstraat 16
B−3000 Leuven

Phone

+32 (0)16 236 342

Fax

+32 (0)16 650 497

Email

<info@neolabs.be>

Web

http://www.neolabs.be/

Contact

Maarten Slaets <maarten.slaets@neolabs.be>

5.26. OpenSides

Address

Rue des Palais 44/33
B−1030 Brussels

Email

<info@opensides.be>

Phone

+32 (0)2 211 34 83

Fax

+32 (0)2 218 89 73

Web

http://www.opensides.be/

5.27. Phidani Software sprl

Address

Rue de l'autonomie 1
B−1070 Brussels

Email

<info@phidani.be>

Phone

+32 (0)2 552 06 63

Fax

+32 (0)2 522 09 30

Web

http://www.phidani.be/

5.28. Qbian Linux Systems

Address

Bischoppenhoflaan 289
B−2100 Antwerp

Email
<info@qbian.com>
Phone
+32 (0)9 328 93 28
Fax
+32 (0)9 326 08 88
Web
http://www.qbian.com/

5.29. Si−Lab

Email
<toon@si−lab.com>
Phone
+32 (0)486 149 048
Web
http://www.si−lab.com/
Contact
Toon Knapen <toon@si−lab.com>

5.30. Spier bvba

Address

Knaptandstraat 96−98
B−9100 Sint−Niklaas
Email
<info@spier.be>
Phone
+32 (0)3 765 90 61
Fax
+32 (0)3 765 90 62
Web
http://www.spier.be/

5.31. Stone−IT Belgium

Address

Minerva Office Brussels
Minervastraat 14b
B−1930 Zaventem
Email
<info@be.stone−it.com>
Phone
+32 (0)2 720 88 35
Fax

+32 (0)2 720 51 71

Web

http://www.be.stone−it.com/

Contact

Martijn Smit <smit@stone−it.com>

Type of support

Stone−IT is a 'one−stop' Linux provider for integrating business environments in which we offer: Linux Consulting, Linux Solutions, Linux Support and Linux Education.

Special expertise

Stone−IT offers high quality Linux expertise and can develop, test and implement Linux in several different business environments such as all kinds of servers (File−/Web−/Name−/Mail−/Print servers), as well as Clustering, VPN, Storage, Firewalls & Routers. Our support consists of Pro Active Monitoring, 24 hours a day, 7 days a week. Besides having trainers being a Red Hat Certified Engineer we offer Distribution Independent Education.

5.32. Supporting Open Source cvba

Address

Zijpstraat 14
B−2570 Duffel

Email

<info@sos.be>

Phone

+32 (0)15 310 271

Fax

+32 (0)15 310 381

Web

http://www.sos.be/

5.33. Sygmanet

Address

Hulststraat 8
B−3290 Diest

Email

<info@sygmanet.be>

Phone

+32 (0)13 312 203

Fax

+32 (0)13 312 203

Web

http://www.sygmanet.be/

5.34. Théridion sprlfs

Address

Rue de l'Aqueduc, 83
B−1050 Brussels

Email

<info@theridion.com>

Phone

+32 (0)2 539 32 28

Fax

+32 (0)2 539 19 54

Web

http://www.theridion.com/

Contact

Renaud Dans <renaud.dans@theridion.com>

5.35. UWYN

Address

Lambermontlaan 148
B−1030 Brussels

Email

<info@uwyn.com>

Phone

+32 (0)2 245 41 06

Web

http://www.uwyn.com/

5.36. VirgoPlus sprl

Address

Rue E. Solvay 29 A
B−4000 Liège

Phone

+32 (0)4 253 00 59

Fax

+32 (0)4 253 00 49

Email

<staff@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.

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6. Belgian Linux resources

6.1. Websites

6.1.1. Linux in Belgium

- Belgian HOWTO
- be.comp.os.linux FAQ
- Belgian LUGS
- LinuxBelgium.net

6.1.2. Dutch Linux−related sites

- Nederlandstalige Linux homepage _the_ Linux source for Flanders and the Netherlands
- Nederlandstalige Linux Documentatie Project most Linux HOWTOs translated to Dutch
- Linux Support Website
- EToS: Educatieve Toepassingen van Open Software
- A Flemish website about Open Standards
- Beginnen met Linux
- Installatie Handleiding RedHat 5.2
- Configure.help in het Nederlands
- Cursus Linux voor Informaticabeheer

6.1.3. French Linux−related sites

- LinuxBe.Org
- Association Electronique LIBRE
- Belgian HOWTO in french
- linux−france.org

6.1.4. Mirrors in Belgium

- Freshmeat at UPC Belgium (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 ;)

- HOWTO's at K.U.Leuven

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

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.

6.3.1. 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/.

6.3.2. French

French translations of HOWTO's can be found at:
http://www.ibiblio.org/pub/Linux/docs/HOWTO/translations/fr/

6.3.3. German

German translations of HOWTO's can be found at:
http://www.ibiblio.org/pub/Linux/docs/HOWTO/translations/de/

6.4. FTP

6.4.1. Kernel−source mirrors

- Official Mirror kernel−sources at Belnet
- Official Mirror kernel−sources at UPC Belgium (Chello,TVD)
- Kernel−sources at Tiscalinet

6.4.2. Distribution mirrors

- Red Hat Mirrors
    - Official Mirror at Belnet
    - Official Mirror at Easynet
    - Mirror at Pandora (Telenet)
    - Mirror at UPC Belgium (Chello,TVD)
- Debian
    - Official Mirror at Belnet
    - Official Mirror at KULeuven
    - Official Mirror at Pandora (Telenet)
    - Official Mirror at Easynet
    - Official Mirror at Tiscalinet

    - Mirror at Skynet
    - Mirror at spnet
- Mandrake
    - Mirror at Belnet
    - Mirror at UPC Belgium (Chello,TVD)
- SuSE
    - Mirror at Belnet
    - Mirror at Pandora (Telenet)

6.4.3. Mirrors in Belgium

- Mirrors at Belnet
- Mirrors at UPC Belgium (Chello,TVD)
- Mirrors at Pandora (Telenet)

6.5. Usenet/Newsgroups

- be.comp.os.linux at Google

6.6. IRC

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