

Package UMTS

Version 3.10.4

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1. Documentation Of Package UMTS

1.1. UMTS - Internet Connection Via UMTS

Connecting a fli4l to the Internet via UMTS. For proper operation other packages may be needed.

1.1.1. Configuration

OPT_UMTS Default setting: `OPT_UMTS='no'`
'yes' activates the package.

UMTS_DEBUG Default setting: `UMTS_DEBUG='no'`
If pppd should output additional debug information set `UMTS_DEBUG` to 'yes'. In this case pppd will write additional informations to the syslog interface.
IMPORTANT: To see this messages via syslogd `OPT_SYSLOGD` has to be set to 'yes'.

UMTS_PIN Default setting: `UMTS_PIN='disabled'`
Pin for the SIM card
Give a four digit number or the word 'disabled'

UMTS_DIALOUT Default setting: `UMTS_DIALOUT='*99***1#'`
Dialing parameters for the connection

UMTS_GPRS_UMTS Default setting: `UMTS_GPRS_UMTS='both'`
Which transfer mode should be used
Possible values (both, gprs, umts)

UMTS_APN Default setting: `UMTS_APN='web.vodafone.de'`

UMTS_USER Default setting: `UMTS_USER='anonymmer'`

UMTS_PASSWD Default setting: `UMTS_PASSWD='surfer'`
Specify data needed for dial-in.
Set username and password for the provider used. `UMTS_USER` is the username, `UMTS_PASSWD` the password.
Name of the APN (Access Provider Node) for some german providers

- <http://www.teltarif.de/mobilfunk/internet/einrichtung.html>

Dial-in data of some german providers

| Provider | APN | Username | Password |
|---------------------|-----------------------|-----------|-----------|
| T-Mobile | internet.t-mobile | arbitrary | arbitrary |
| Vodafone | web.vodafone.de | arbitrary | arbitrary |
| E-Plus | internet.eplus.de | eplus | gprs |
| O2 (Vertragskunden) | internet | arbitrary | arbitrary |
| O2 (Prepaid-Kunden) | pinternet.interkom.de | arbitrary | arbitrary |
| Alice | internet.partner1 | arbitrary | arbitrary |

UMTS_NAME Default setting: UMTS_NAME='UMTS'

Set a name for the circuit here - maximum 15 chars. It will be shown in the imon-client imonc. Blanks are not allowed.

UMTS_HUP_TIMEOUT Default setting: UMTS_TIMEOUT='600'

Specify a hangup time in seconds here if no traffic is detected over the UMTS connection. A timeout '0' is equal to no timeout.

UMTS_TIMES Default setting: UMTS_TIMES='Mo-Su:00-24:0.0:Y'

Times mentioned here determine when the circuit becomes active and at what costs. This allows to use different circuits and default routes at different times (Least-Cost-Routing). The daemon imond will control routing.

UMTS_CHARGEINT Default setting: UMTS_CHARGEINT='60'

Charge-Interval: Timespan in seconds, that will be used for calculating online costs.

UMTS_USEPEERDNS Default setting: UMTS_USEPEERDNS='yes'

Use the provider's DNS server or not.

UMTS_FILTER Default setting: UMTS_FILTER='yes'

fli4l automatically hangs up if no traffic is going over the ppp0 interface in the hangup timeout time. Unfortunately also data transfers from outside count as relevant traffic i.e. P2P-clients like eDonkey. Since you will be nearly permanently contacted from outside nowadays it may happen that fli4l never hangs up an UMTS connection.

Option UMTS_FILTER is helping here. If set to 'yes' only traffic generated by your own machine is monitored and external traffic will be ignored completely. Since incoming traffic normally leads to a reaction from the router or the machines behind it (i.e. denying or dropping the packets) some additional outgoing packets will be ignored too.

UMTS_ADAPTER (optional)

Specify here if the hardware is a PCMCIA card, an USB adapter or a phone connected via an USB cable.

If omitting this variable only the files necessary for an USB adapter will be copied.

Possible values: (pcmcia,usbstick,usbphone)

All variables that follow are optional and only needed if the automatic detection fails.

UMTS_IDVENDOR (optional) UMTS_IDVENDOR='xxxx'

Vendor ID after plugging/starting the adapter

UMTS_IDDEVICE (optional) UMTS_IDDEVICE='xxxx'

Product ID after plugging/starting the adapter

Specifying the following two parameters is only needed if the ID changes after initialisation

UMTS_IDVENDOR2 (optional) UMTS_IDVENDOR2='xxxx'

Vendor ID after initialisation of the adapter

UMTS_IDDEVICE2 (optional) UMTS_IDDEVICE2='xxxx'

Product ID after initialisation of the adapter

UMTS_DRV (optional) UMTS_DRV='xxxx'

Driver for the adapter, if omitted 'usbserial' is used

UMTS_SWITCH (optional) UMTS_SWITCH='-v 0x0af0 -p 0x6971 -M 555...000 -s 10'

Parameters for usb-modeswitch initialisation of the modem (see Website usb-modeswitch). With a few exceptions all modems mentioned on the website should be recognized automatically.

- http://www.draisberghof.de/usb_modeswitch/

UMTS_DEV (optional)

In case of problems the data interface for pppd can be set here. The most usual for adapters are:

```
ttyUSB0 for usbstick
ttyS2   for pcmcia
ttyACM0 for usbphone
```

UMTS_CTRL (optional)

Some adapter have more interfaces for modem control. If only one is existig status informations can only be read in 'Offline' state. For Option Fusion UMTS Quad the interface is i.e. ttyUSB2.

1.1.2. Sample Configuration For RRDTOOL

Depending on hardware it is possible to display signal strength and bit errors in [OPT_HTTPD](#) (Page ??). With OPT_RRDTOOL you can even record these values. With some hardware this does not make sense because status informations can only be read in in 'Offline' state. Set 'umts' as data source for RRD.

Sample configuration for rrdtool:

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```
RRDTOOL_x_SOURCE='umts'  
RRDTOOL_x_LABEL='UMTS status'  
RRDTOOL_x_OPTIONS_N='2'  
RRDTOOL_x_OPTIONS_1='signal'  
RRDTOOL_x_OPTIONS_1_LABEL='signal strength'  
RRDTOOL_x_OPTIONS_2='error'  
RRDTOOL_x_OPTIONS_2_LABEL='Bit errors'
```

A. Appendix For Package UMTS

A.1. UMTS

A.1.1. Supported Hardware

This package supports the following UMTS-hardware:
For proper operation other packages may be needed.
For USB-Adapters Package USB has to be activated.
OPT_USB='yes'

| Hardware: | tested | additional packages |
|--|--------|------------------------|
| Novatel Adapters: | | |
| Merlin U530 | yes | PCMCIA, TOOLS (serial) |
| Merlin U630 | no | PCMCIA, TOOLS (serial) |
| MC950D | yes | USB |
| OPTION Adapters: | | |
| 3G Datacard | no | PCMCIA, USB |
| GT 3G Quad | yes | PCMCIA, USB |
| GT Fusion | no | PCMCIA, USB |
| GT MAX HSUPA GX0301 | yes | PCMCIA, USB |
| for the four Cardbus-adapters set PCMCIA_PCIC='yenta_socket' | | |
| Icon 225 (GI0225) | yes | USB |
| Huawei Adapter: | | |
| E220, E230, E270 | yes | USB |
| E510 | yes | USB |
| E800 | yes | USB |
| K3520 | yes | USB |
| ZTE Adapter: | | |
| MF110 | yes | USB |
| MF190 | yes | USB |

A.1.2. Modem Interface Not Activated

For some OPTION UMTS Sticks it may occur that the Modem interface which is needed for pppd is not activated.

A. Apendix For Package UMTS

Example using GIO225 adapter

check via:

```
grep "" /sys/bus/usb/devices/*/tty*/hsotype
```

Output should look like this:

```
/sys/bus/usb/devices/2-1:1.0/tty/ttyHS0/hsotype:Control
/sys/bus/usb/devices/2-1:1.0/tty/ttyHS1/hsotype:Application
/sys/bus/usb/devices/2-1:1.1/tty/ttyHS2/hsotype:Diagnostic
```

hsotype:Modem is missing here.

Check the interface configuration via this comman:

```
chat -e -t 1 '' "AT_OIFC?" OK >/dev/ttyHS0 </dev/ttyHS0
```

Output should look like this:

```
AT_OIFC?
_OIFC: 3,1,1,0
```

OK

If you see this

```
AT_OIFC?
_OIFC: 2,1,1,0
```

OK

you can activate the modem interface via the command:

```
chat -e -t 1 '' "AT_OIFC=3,1,1,0" OK >/dev/ttyHS0 </dev/ttyHS0
```

After that unplug the adapter and replug it afterwards.

Now check via:

```
grep "" /sys/bus/usb/devices/*/tty*/hsotype
```

for a modem entry.

```
/sys/bus/usb/devices/2-1:1.0/tty/ttyHS0/hsotype:Control
/sys/bus/usb/devices/2-1:1.0/tty/ttyHS1/hsotype:Application
/sys/bus/usb/devices/2-1:1.1/tty/ttyHS2/hsotype:Diagnostic
/sys/bus/usb/devices/2-1:1.2/tty/ttyHS3/hsotype:Modem
```


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