Internet connectino Watchdog

this is about creating a raspberry pi based appliance that monitors your internet conenction and if it goes down, automatically debugs it and restarts stuff like modem / router etc. as necessary. the device should also be reachable via an on-demand gsm link that can be initated by sms to login to the device and debug the link manually

so far, this is just a collection of snippets of information and links, i'll write it up into a nice article one day, but not today ;)

software installation

```
apt update && apt install wvdial gammu gammu-smsd picocom
```

SMS

- Software: Gammu
- Hardware: TP-Link MA260
- on the tp-link stick the last serial device seems to be the one that can be used for sms (`gammu identify` only gets information from that device).

  ```
  gammu-detect | grep -B1 TP-LINK | grep ttyUSB | tail -n 1
  ```

  to get the device name for the config

- `/etc/gammu-smsdrc.template`

  ```
  # Configuration file for Gammu SMS Daemon

  # Gammu library configuration, see gammurc(5)
  [gammu]
  port = %PORT%
  connection = at
  #logformat = textall

  # SMSD configuration, see gammu-smsdrc(5)
  [smsd]
  service = null
  logfile = syslog
  # Increase for debugging information
  debuglevel = 0
  RunOnReceive = /opt/process-sms.sh
  ```

- `/root/.gammurc`

  ```
  [gammu]
  ```

```
device = %PORT%
connection = at
```

- /opt/updateModemPort.sh

  updateModemPort.sh

```
#!/bin/bash
port=$(gammu-detect | grep -B1 TP-LINK | grep ttyUSB | tail -n 1 |
awk -F = '{print $2}' | tr -d " ")
sed -e "s|%PORT%|${port}|" /etc/gammu-smsdrc.template >
/etc/gammu-smsdrc
sed -e "s|%PORT%|${port}|" /root/.gammurc.template >
/root/.gammurc
```

- installation:

```
apt install gammu gammu-smsd
```

- process-sms.sh

```
#!/bin/bash
for i in `seq $SMS_MESSAGES` ; do
    $numvar="SMS_${i}_NUMBER"
    $textvar="SMS_${i}_TEXT";
    echo "${!numvar}:${!textvar}" >> /tmp/messages
    if [ "${!textvar}" == "connect ]; then
      echo "connect!" >> /tmp/messages
    fi
done
```

GSM Link

- Hardware: See above
- Software: wvdial
- config: /etc/wvdial.conf

```
[Dialer Defaults]
Init1 = ATZ
Init2 = ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0
Init3 = AT+CGDCONT=1,"IP","internet"
Modem Type = Analog Modem
Baud = 9600
New PPPD = yes
Modem = /dev/ttyUSB5
```

```
ISDN = 0
Phone = *99#
Password = { }
Username = { }
```

Relay Card

- Hardware: Conrad electronics, part number 967720 (Relaiskarte 8Fach Seriell)
- Software: http://www.thomas-dohl.de/?Projekte__Relaiskarte

serial console to router

- via dual prolific basead usb to serial converter, one link goes to the relay card, the other to the serial terminal of the pfsense router.
- usb link is extended down to the basement via cat7 link, I simply cut a usb extension cord into two and attached RJ45 plugs to both ends with identical pin layout. works like a charm :)
- software: `picocom`

From:
http://wiki.psuter.ch/ - **pswiki**

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Last update: **17.06.2018 21:58**