Chair of Network Architectures and Services
Department of Informatics
Technical University of Munich

Network Coding
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Installing libmoep and the PTM

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The frame injection library `libmoep` is available via:

```
wget https://nc.net.in.tum.de/source/libmoep-2.0-nc.tar.xz
```

First, install the required dependencies for `libmoep`:

```
apt install pkg-config libnl-3-dev libnl-route-3-dev libnl-genl-3-dev libtool libconfig-dev
```

Then compile and install the library:

```
tar xvf libmoep-2.0-nc.tar.gz
cd libmoep-2.0-nc
./configure --enable-examples
make -j4 && make install && ldconfig
```

You find the source code and binary for the Packet Transfer Module `ptm` in the subfolder `examples`. Make yourself familiar with the various options (type `./ptm -help`) and try it out with your neighbor. For instance, you may start the PTM on a 2 GHz capable interface using:

```
./ptm wlp1s0 2412M -i 10.0.1.x -h20 -r 7
```

Replace `x` bei the number of your APU to avoid addressing conflicts with other sutdents. The option `-h20` tells the `PTM` to use HT transfer modes with 20 MHz channel width. The option `-r 7` specifies MCS index 7.

After successfully starting it with compatible parameters and meaningfull IP addresses, you should have TAP interfaces with the respective addresses. You should be able to contact your team partner using `ping`.

In contrast to ordinary wireless links, no link-layer acknowledgements are sent. Packet loss is therefore not compensated.

Important notes:

- Obviously, you can choose only those frequencies that are supported and enabled. Run `iw phy` to get a list of supported frequencies.
- Normally, the physical interface must not be activated. The `PTM` creates a virtual monitor interface itself and activiates it. If you get an error message such as “Device or resource busy” or “Operation not supported”, make sure the physical interface is down and the chosen settings are supported by hardware.

Prof. Dr.-Ing. Georg Carle carle@tum.de
Prof. Dr.-Ing. Stephan Günther nc@net.in.tum.de