ASSIGNMENT 8

Network Programming (IS F462)

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Userspace networking is done mainly to bypass to complicated linux network stack in the kernel and have most of the network stack working in the userspace itself. Several implementations have come up such as OpenOnload, Netmap, DPDK, Snabb etc.

	OpenOnload	**Netmap**	**DPDK**
API Used	Sockets	Packet + pcap	Packet + lib
HW Support	Solarflare	Intel, realtek	Intel
OS	Linux	FreeBSD, Linux, OSX	Linux
License	GPL	BSD	BSD
NIC Usage	Kernel NIC Access exists.	Kernel can't access NIC.	Kernel can't access NIC.
Latency	Medium	High	Low
Core Implementation	EF_VI Driver	Netmap fd rings	Hugepages

Setup Instructions for OpenFastPath

Some mandatory packages for accessing and building **ODP** and **OFP.**

- git
- aclocal
- libtool
- automake
- build-essential
- pkg-config

As **OFP** relies on supported version tag of **ODP**, so **ODP** needs to be downloaded first.

ODP Setup

```
git clone git://git.linaro.org/lng/odp.git
git checkout v1.17.0.0
```

Enter the odp directory, prepare for build.

```
./bootstrap
./configure
make
make install
```

(Note: “make install” may require root permissions)

OFP Setup

Access OFP source code

```
git clone https://github.com/OpenFastPath/ofp
```

Enter the ofp directory, prepare for build and build

```
./bootstrap
./configure
```

To run the example application:

```
ofp/example/fpm/fpm -i fp0
```

Screenshot for Sample Application

Was unable to run the sample application as the fpm script which was responsible wasn't available. Maybe a **make** error. And because of this the **start_device.sh** script just exits. Apparently it's some kernel related problem specific to IPv6. But not sure about this.