



OAI install (compression)


#PHY patch from OAI


 phy_E.zip 3.4KB

#configure file from OAI

 mwc_20899_newfhi_E_3450.zip 3.5KB

 usecase_du_3450.zip 1.0KB

 config_o_du_3450_E.dat 5.7KB

 config_o_du_3450_E.dat 5.7KB

doc/ORAN_FHI7.2_Tutorial.md · fhidriver_E · oai / ope...

Openairinterface 5G Wireless Implementation



<https://gitlab.eurecom.fr/oai/openairinterface5g/-/blob/fhi...>



doc/ORAN_FHI7.2_Tutorial.md · use_msgq_new_fhidri...

Openairinterface 5G Wireless Implementation



<https://gitlab.eurecom.fr/oai/openairinterface5g/-/blob/us...>



- ▶ cpu
- ▶ os and original kernel
- ▶ nic
- ▶ Add sudoer
- ▶ register redhat
- ▶ install RT kernel
- ▶ RT kernel version
- ▶ Add RT profile
- ▶ install gcc11
- ▶ install python3 and meson
- ▶ install ninja
- ▶ configs - config_o_du_3450_E.dat
- ▶ configs - mwc_20899_newfhi_E_3450.conf

► configs - usecase_du_3450.cfg

gcc 11

```
sudo scl enable gcc-toolset-11 bash
```

PTP

```
git clone http://git.code.sf.net/p/linuxptp/code linuxptp cd linuxptp git  
checkout v2.0 make ./ptp4l -i ens1f2 -m -H -2 -s -f configs/default.cfg  
./phc2sys -w -m -s ens1f2 -R 8 -f configs/default.cfg ./ptp4l -i ens1f0 -  
m -H -2 -f configs/default.cfg
```

DPDK install

```
wget http://fast.dpdk.org/rel/dpdk-20.11.7.tar.xz tar xvf dpdk-  
20.11.7.tar.xz && cd dpdk-stable-20.11.7 # use gcc 11 environment sudo  
scl enable gcc-toolset-11 bash /usr/local/bin/meson build ninja -C build  
sudo ninja install -C build
```

On Fedora-based OS, you may not have the `/usr/local/lib` or `/usr/local/lib64` paths in the `LD_LIBRARY_PATH`:

```
sudo echo "/usr/local/lib" > /etc/ld.so.conf.d/local-lib.conf sudo echo  
"/usr/local/lib64" >> /etc/ld.so.conf.d/local-lib.conf sudo ldconfig -v |  
grep rte_
```

Check if the PDK-CONFIG tool discovers the libraries:

```
# command pkg-config --libs libdpdk --static # result -lrte_node -
lrte_graph -lrte_bpf -lrte_flow_classify -lrte_pipeline -lrte_table -
lrte_port -lrte_fib -lrte_ipsec -lrte_vhost -lrte_stack -lrte_security -
lrte_sched -lrte_reorder -lrte_rib -lrte_rawdev -lrte_pdump -lrte_power -
lrte_member -lrte_lpm -lrte_latencystats -lrte_kni -lrte_jobstats -
lrte_ip_frag -lrte_gso -lrte_gro -lrte_eventdev -lrte_efd -
lrte_distributor -lrte_cryptodev -lrte_compressdev -lrte_cfgfile -
lrte_bitratestats -lrte_bbdev -lrte_acl -lrte_timer -lrte_hash -
lrte_metrics -lrte_cmdline -lrte_pci -lrte_ethdev -lrte_meter -lrte_net -
lrte_mbuf -lrte_mempool -lrte_rcu -lrte_ring -lrte_eal -lrte_telemetry -
lrte_kvargs -Wl,--whole-archive -lrte_common_cpt -lrte_common_dpaa -
lrte_common_iavf -lrte_common_octeontx -lrte_common_octeontx2 -
lrte_bus_dpaa -lrte_bus_fslmc -lrte_bus_ifpga -lrte_bus_pci -
lrte_bus_vdev -lrte_bus_vmbus -lrte_mempool_bucket -lrte_mempool_dpaa -
lrte_mempool_dpaa2 -lrte_mempool_octeontx -lrte_mempool_octeontx2 -
lrte_mempool_ring -lrte_mempool_stack -lrte_pmd_af_packet -lrte_pmd_ark -
lrte_pmd_atlantic -lrte_pmd_avp -lrte_pmd_axgbe -lrte_pmd_bond -
lrte_pmd_bnxt -lrte_pmd_cxgbe -lrte_pmd_dpaa -lrte_pmd_dpaa2 -
lrte_pmd_e1000 -lrte_pmd_ena -lrte_pmd_enetc -lrte_pmd_enic -
lrte_pmd_failsafe -lrte_pmd_fm10k -lrte_pmd_i40e -lrte_pmd_hinic -
lrte_pmd_hns3 -lrte_pmd_iavf -lrte_pmd_ice -lrte_pmd_igc -lrte_pmd_ixgbe -
lrte_pmd_kni -lrte_pmd_liquidio -lrte_pmd_memif -lrte_pmd_netvsc -
lrte_pmd_nfp -lrte_pmd_null -lrte_pmd_octeontx -lrte_pmd_octeontx2 -
lrte_pmd_pfe -lrte_pmd_qede -lrte_pmd_ring -lrte_pmd_sfc -
lrte_pmd_softnic -lrte_pmd_tap -lrte_pmd_thunderx -lrte_pmd_vdev_netvsc -
lrte_pmd_vhost -lrte_pmd_virtio -lrte_pmd_vmxnet3 -
lrte_rawdev_dpaa2_cmdif -lrte_rawdev_dpaa2_qdma -lrte_rawdev_ioat -
lrte_rawdev_ntb -lrte_rawdev_octeontx2_dma -lrte_rawdev_octeontx2_ep -
lrte_rawdev_skeleton -lrte_pmd_caam_jr -lrte_pmd_dpaa_sec -
lrte_pmd_dpaa2_sec -lrte_pmd_nitrox -lrte_pmd_null_crypto -
lrte_pmd_octeontx_crypto -lrte_pmd_octeontx2_crypto -
lrte_pmd_crypto_scheduler -lrte_pmd_virtio_crypto -
lrte_pmd_octeontx_compress -lrte_pmd_qat -lrte_pmd_ifc -
lrte_pmd_dpaa_event -lrte_pmd_dpaa2_event -lrte_pmd_octeontx2_event -
lrte_pmd_opdl_event -lrte_pmd_skeleton_event -lrte_pmd_sw_event -
lrte_pmd_dsw_event -lrte_pmd_octeontx_event -lrte_pmd_bbdev_null -
lrte_pmd_bbdev_turbo_sw -lrte_pmd_bbdev_fpga_lte_fec -
lrte_pmd_bbdev_fpga_5gnr_fec -Wl,--no-whole-archive -lrte_node -
lrte_graph -lrte_bpf -lrte_flow_classify -lrte_pipeline -lrte_table -
lrte_port -lrte_fib -lrte_ipsec -lrte_vhost -lrte_stack -lrte_security -
lrte_sched -lrte_reorder -lrte_rib -lrte_rawdev -lrte_pdump -lrte_power -
lrte_member -lrte_lpm -lrte_latencystats -lrte_kni -lrte_jobstats -
lrte_ip_frag -lrte_gso -lrte_gro -lrte_eventdev -lrte_efd -
lrte_distributor -lrte_cryptodev -lrte_compressdev -lrte_cfgfile -
lrte_bitratestats -lrte_bbdev -lrte_acl -lrte_timer -lrte_hash -
lrte_metrics -lrte_cmdline -lrte_pci -lrte_ethdev -lrte_meter -lrte_net -
```

```
lrte_mbuf -lrte_mempool -lrte_rcu -lrte_ring -lrte_eal -lrte_telemetry -
lrte_kvargs -Wl,-Bdynamic -pthread -lm -ldl
```

Once again on Fedora-based OS, you may not have the `/usr/local/lib` or `/usr/local/lib64` paths in the `PKG_CONFIG_PATH`:

```
export PKG_CONFIG_PATH=$PKG_CONFIG_PATH:/usr/local/lib64/pkgconfig/ pkg-
config --libs libdpdk --static
```

PHY

```
export XRAN_LIB_DIR=/home/liteon/phy/fhi_lib/lib/build export
XRAN_DIR=/home/liteon/phy/fhi_lib export RTE_SDK=/home/liteon/dpdk-
stable-20.11.7 export RTE_TARGET=x86_64-native-linuxapp-gcc export
RTE_INCLUDE=/usr/local/include
```

[gerrit.o-ran-sc Code Review - o-du/phy.git/summary](https://gerrit.o-ran-sc.org/r/o-du/phy.git/summary)

```
git clone https://gerrit.o-ran-sc.org/r/o-du/phy.git cd phy git checkout
oran_e_maintenance_release_v1.0 git apply phy_E.patch # install gcc 11 su
do yum remove --skip-broken gcc sudo yum install gcc-toolset-11
```

```
cd ~/phy/fhi_lib/lib make XRAN_LIB_SO=1
```

install openairinterface5g

```

git clone https://gitlab.eurecom.fr/oai/openairinterface5g.git git
checkout remotes/origin/fhdriver_E cd ~/openairinterface5g/cmake_targets
./build_oai --gNB --ninja -t oran_fhlib_5g (Add, -I if you are building
for the first time on server for installing external dependencies) # if
it occurs error message when doing command “./build_oai --gNB --ninja -t
oran_fhlib_5g” # and the error message is about “No asn1c found!”, doing
the following commands. sudo dnf install libtool sudo dnf install blas
sudo dnf install lapack cd ~ git clone https://github.com/vlm/asn1c.git
cd asn1c test -f configure || autoreconf -iv ./configure make sudo make
install cd ~/openairinterface5g/cmake_targets ./build_oai --gNB --ninja -
t oran_fhlib_5g --cmake-opt -DASN1C_EXEC=/opt/asn1c/bin/asn1c # install
lack lib from build rpm... https://rpmfind.net/linux/rpm2html/search.php?
query=epel-release download epel-release-8-19.el8.noarch.rpm sudo yum
localinstall epel-release-8-19.el8.noarch.rpm wget
https://vault.centos.org/centos/8/PowerTools/x86_64/os/Packages/libconfig-
devel-1.5-9.el8.x86_64.rpm sudo yum localinstall libconfig-devel-1.5-
9.el8.x86_64.rpm wget
https://vault.centos.org/centos/8/PowerTools/x86_64/os/Packages/lapack-
devel-3.8.0-8.el8.x86_64.rpm sudo yum localinstall lapack-devel-3.8.0-
8.el8.x86_64.rpm wget
https://vault.centos.org/centos/8/PowerTools/x86_64/os/Packages/ninja-
build-1.8.2-1.el8.x86_64.rpm sudo yum localinstall ninja-build-1.8.2-
1.el8.x86_64.rpm wget
https://vault.centos.org/centos/8/PowerTools/x86_64/os/Packages/guile-
devel-2.0.14-7.el8.x86_64.rpm sudo yum localinstall guile-devel-2.0.14-
7.el8.x86_64.rpm wget
https://vault.centos.org/centos/8/PowerTools/x86_64/os/Packages/blas-
devel-3.8.0-8.el8.x86_64.rpm sudo yum localinstall blas-devel-3.8.0-
8.el8.x86_64.rpm # change user to liteon cd ~ sudo chown -R liteon:liteon
dpdk-stable-20.11.7 sudo chown -R liteon:liteon phy sudo chown -R
liteon:liteon openairinterface5g # not sure if it needs to be done sudo
vi /etc/ld.so.conf # the contents of /etc/ld.so.conf include
ld.so.conf.d/*.conf /usr/local/lib /usr/local/lib64 sudo ldconfig sudo cp
~/phy/fhi_lib/lib/build/libxran.so /usr/local/lib

```

run openairinterface5g

```
sudo su sudo echo "2" > /sys/class/net/ens1f0/device/sriov_numvfs sudo ip
link set ens1f0 vf 0 mac 00:11:22:33:44:66 vlan 564 spoofchk off sudo ip
link set ens1f0 vf 1 mac 00:11:22:33:44:66 vlan 564 spoofchk off modprobe
vfio_pci exit # 12:02.0 -> use "lspci | grep Virtual" to check sudo
python3 /usr/local/bin/dpdk-devbind.py --bind vfio-pci 12:02.0 sudo
python3 /usr/local/bin/dpdk-devbind.py --bind vfio-pci 12:02.1 sudo
modprobe sctp # 5gc sudo ifconfig ens1f1 192.168.120.68/24 ping
192.168.120.12 # execute program cd
~/openairinterface5g/cmake_targets/ran_build/build/ sudo
LD_LIBRARY_PATH=. ./nr-softmodem -O mwc_20899_newfhi_E_3450.conf --sa --
reorder-thread-disable
```

sctp in redhat 8.7