

O-DU High and Low Integration

This page describes O-DU High/Low pairwise testing procedure in Timer mode.

Demo Video

Your browser does not support the HTML5 video element

Delivery Status

 **DO NOT EDIT**

Only the Integration PTL should edit the delivery status table to track the release validation progress

		OTF	INF	OAM	NONRTRIC	RICP	RICAPP	O-DU	O-CU	Test Result	Notes
Deploymen t Artifa cts	Dock er Conta iner										Dockerfiles are released, however, containers are not generated and te
	Helm Charts										
	Deploymen t scripts										
	OS Image										
E2E Flows	WLS interf ace ready										
	UL IQ sampl e reque st										
	UL IQ sampl e respo nse										
	Config reque st										
	Config respo nse										
	Start reque st										
	Slot indica tion										

1. Cloning O-DU High code

```
mkdir odu_high
cd odu_high
git clone "https://gerrit.o-ran-sc.org/r/o-du/l2"
```

2. Cloning O-DU Low code

```
mkdir odu_low
cd odu_low
- git clone "https://gerrit.o-ran-sc.org/r/o-du/phy"
- Download code from "https://github.com/intel/FlexRAN"
```

3. Install O-DU High pre-requisite libraries by following <https://docs.o-ran-sc.org/projects/o-ran-sc-o-du-l2/en/latest/installation-guide.html> .
4. Install O-DU Low by following <https://docs.o-ran-sc.org/projects/o-ran-sc-o-du-phy/en/latest/index.html> .
5. Compilation Preparation

```
mkdir odu_high/l2/src/wls_lib
mkdir odu_high/l2/src/dpdk_lib

cp odu_low/phy/wls_lib/wls_lib.h odu_high/l2/src/wls_lib/
cp odu_low/dpdk-19.11/x86_64-native-linuxapp-gcc/include/rte_* odu_high/l2/src/dpdk_lib/
```



DPDK library

O-DU low instructs to build DPDK using x86_64-native-linuxapp-icc

O-DU high uses x86_64-native-linuxapp-gcc, or library will be missing.

6. Compilation

```
cd odu_high/l2/build/odu
make odu PHY=INTEL_L1 PHY_MODE=TIMER MACHINE=BIT64 MODE=FDD
```



Hardcoded Library Location

The makefile of odu assumes the required libraries is located at /opt/intel

Modification of the makefile is needed if the libraries are located at different location.

7. Execution - Bringing up L1 of O-DU Low

```
cd odu_low/phy
source ./setupenv.sh
cd odu_low/FlexRAN/l1/bin/nr5g/gnb/l1
./l1.sh -e
```

Non BBU threads in application

```
=====
==
nr5g_gnb_phy2mac_api_proc_stats_thread: [PID: 8659] binding on [CPU 0] [PRIO: 0] [POLICY: 1]
wls_rx_handler (non-rt): [PID: 8663] binding on [CPU 0]
=====
==
```

PHY>welcome to application console



Dynamic Library Path

May need to include the paths to the following libraries in the environment variable LD_LIBRARY_PATH

```
./odu_low/FlexRAN/libs/cpa/bin
./odu_low/phy/wls_lib
./odu_low/phy/fhi_lib/lib/build
```

8. Execution - Bringing up FAPI Translator of O-DU Low

```
cd odu_low/phy
source ./setupenv.sh
cd odu_low/phy/fapi_5g/bin/
./oran_5g_fapi -cfg=oran_5g_fapi.cfg
```

9. Assign virtual IP addresses as follows:

```
ifconfig <interface name>:ODU "192.168.130.81"

ifconfig <interface name>:CU_STUB "192.168.130.82"

ifconfig <interface name>:RIC_STUB "192.168.130.80"
```

10. Execution - Running CU Stub

```
cd odu_high/bin/cu_stub
./cu_stub
```

11. Execution - Running RIC Stub

```
cd odu_high/bin/ric_stub
./ric_stub
```

12. Execution - Running O-DU High

```
cd odu_high/bin/odu
export LD_LIBRARY_PATH=odu_low/phy/wls_lib/lib:$LD_LIBRARY_PATH
./odu
```