DPA All-to-all Application

Running on BlueField:

- 1. Login to BlueField
- 2. Enter the code folder

```
cd /opt/mellanox/doca/applications
```

- 3. MPI is used for compilation and running of this application. Make sure that MPI is installed on your setup. By default, DOCA All will provide openmpi but not mpicc. So, need to run below in addition before build the application:
- Check if mpicc is not installed

```
dpkg -l | grep mpich
```

• If not installed, install mpicc

```
apt-get install mpich
```

4. Build DOCA DPA All-to-all Application on BlueField

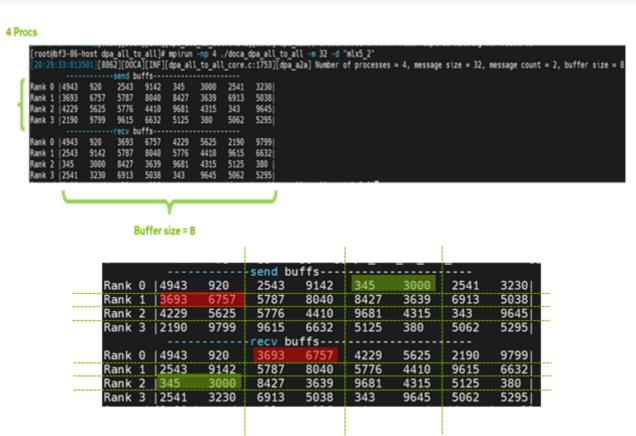
```
meson /tmp/build -Denable_all_applications=false -Denable_dpa_all_to_all=true
ninja -C /tmp/build
```

5. Check the mlx device name on BlueField

```
mst status -v
PCI devices:
-----
DEVICE_TYPE
                       MST
                                                     PCI
                                                               RDMA
                                                                            NET
NUMA
BlueField3(rev:1)
                       /dev/mst/mt41692_pciconf0.1
                                                     03:00.1
                                                               mlx5_1
                                                                            net-
en3f1pf1sf0,net-pf1hpf,net-p1
BlueField3(rev:1)
                                                               mlx5_0
                       /dev/mst/mt41692_pciconf0
                                                     03:00.0
                                                                            net-
en3f0pf0sf0,net-p0,net-pf0hpf
```

6. Run DPU All-to-all application with 4 processes, with 32 bytes as message size, and with mlx5 0 as the InfiniBand devices:

```
mpirun -np 4 /tmp/build/dpa_all_to_all/doca_dpa_all_to_all -m 32 -d "mlx5_0"
```



Notes:

- -d is the RDMA device shown in above step
- -m is the message size, represent the size of the sendbuf & recvbuf. It's divided to nProcs * Buffer size and BufSize further divided to message count * nProcs

FAQ

Remove previous compiliation

rm -rf /tmp/build