



Shared RQ Mode

When creating 1 send queue (SQ) and 1 receive queue (RQ), each representor consumes ~3MB memory per single channel. Scaling this to the desired 1024 representors (SFs and/or VFs) would require ~3GB worth of memory for single channel. A major chunk of the 3MB is contributed by RQ allocation (receive buffers and SKBs). Therefore, to make efficient use of memory, shared RQ mode is implemented so PF/VF/SF representors share receive queues owned by the uplink representor.

The feature is enabled by default. To disable it:

1. Edit the field `ALLOW_SHARED_RQ` in `/etc/mellanox/mlnx-bf.conf` as follows:

```
ALLOW_SHARED_RQ="no"
```

2. Restart the driver. Run:

```
/etc/init.d/openibd restart
```

To connect from the host to NVIDIA® BlueField® networking platform (DPU or SuperNIC) in shared RQ mode, please refer to section [Verifying Connection from Host to BlueField](#).

Note

PF/VF representor to PF/VF communication on the host is not possible.

The following behavior is observed in shared RQ mode:

- It is expected to see a `0` in the `rx_bytes` and `rx_packets` and valid `vport_rx_packets` and `vport_rx_bytes` after running traffic. Example output:

```
# ethtool -S pf0hpf
```

NIC statistics:

```
rx_packets: 0
rx_bytes: 0
tx_packets: 66946
tx_bytes: 8786869
vport_rx_packets: 546093
vport_rx_bytes: 321100036
vport_tx_packets: 549449
vport_tx_bytes: 321679548
```

- Ethtool usage – in this mode, it is not possible to change/set the ring or coalesce parameters for the RX side using ethtool. Changing channels also only affects the TX side.

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