

Devlink

Problem

One physical device with multiple ports (NIC, switch ASIC):

- Port type setting (Eth/IB)
- Driver \leftrightarrow Hardware messages monitoring (Read-only)
- Splitter cable setup – split one port into multiple ones
- ASIC wide shared buffers setup – shared among all ports

```
butter:~$ dl help
Usage: dl [ OPTIONS ] OBJECT { COMMAND | help }
where  OBJECT := { dev | port | monitor }
       OPTIONS := { -v/--verbose }
```

```
butter:~$ dl dev show
0: devlink0: bus pci dev 0000:01:00.0
```

```
butter:~$ dl port help
Usage: dl port show [DEV/PORT_INDEX]
Usage: dl port set DEV/PORT_INDEX [ type { eth | ib | auto} ]
```

```
butter:~$ dl port show
devlink0/1: type ib ibdev mlx4_0
devlink0/2: type ib ibdev mlx4_0
```

```
butter:~$ sudo dl port set devlink0/1 type eth
```

```
butter:~$ dl port show
devlink0/1: type eth netdev ens4
devlink0/2: type ib ibdev mlx4_0
```

```
butter:~$ sudo dl port set devlink0/1 type auto
```

```
butter:~$ dl port show
devlink0/1: type eth(auto) netdev ens4
devlink0/2: type ib ibdev mlx4_0
```

```
sw:~$ dl port
devlink0/1: type eth netdev eth0
devlink0/3: type eth netdev eth1
devlink0/5: type eth netdev eth2
...
devlink0/63: type eth netdev eth31
```

```
sw:~$ dl port help
Usage: dl port show [DEV/PORT_INDEX]
Usage: dl port set DEV/PORT_INDEX [ type { eth | ib | auto} ]
Usage: dl port split DEV/PORT_INDEX count
Usage: dl port unsplit DEV/PORT_INDEX
```

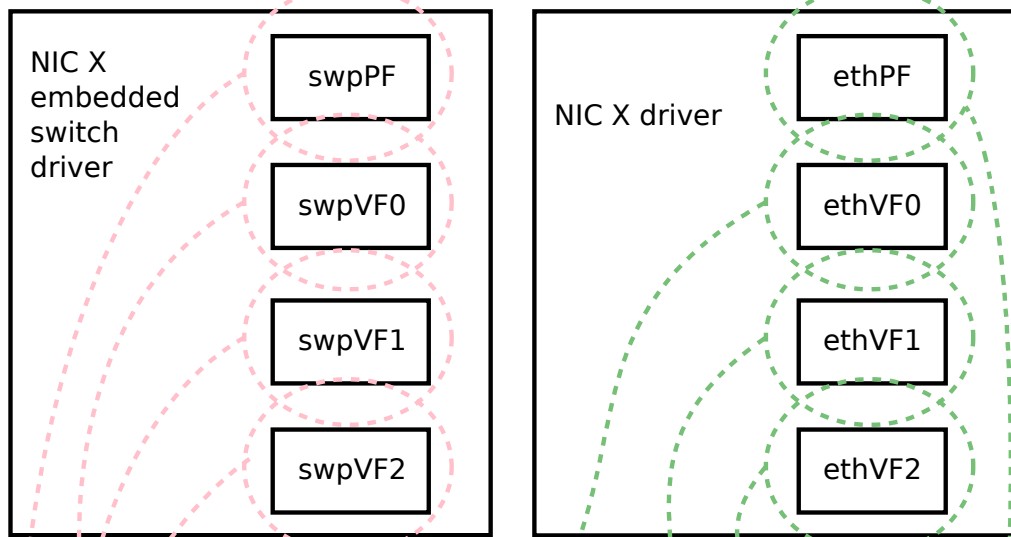
```
sw:~$ sudo dl port split devlink0/1 2
```

```
sw:~$ dl port
devlink0/3: type eth netdev eth1
devlink0/5: type eth netdev eth2
...
devlink0/63: type eth netdev eth31
devlink0/1: type eth netdev eth0
devlink0/2: type eth netdev eth32
```

```
sw:~$ sudo dl port unsplit devlink0/1
```

```
sw:~$ dl port
devlink0/3: type eth netdev eth1
devlink0/5: type eth netdev eth2
...
devlink0/63: type eth netdev eth31
devlink0/1: type eth netdev eth0
```

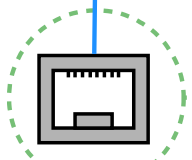
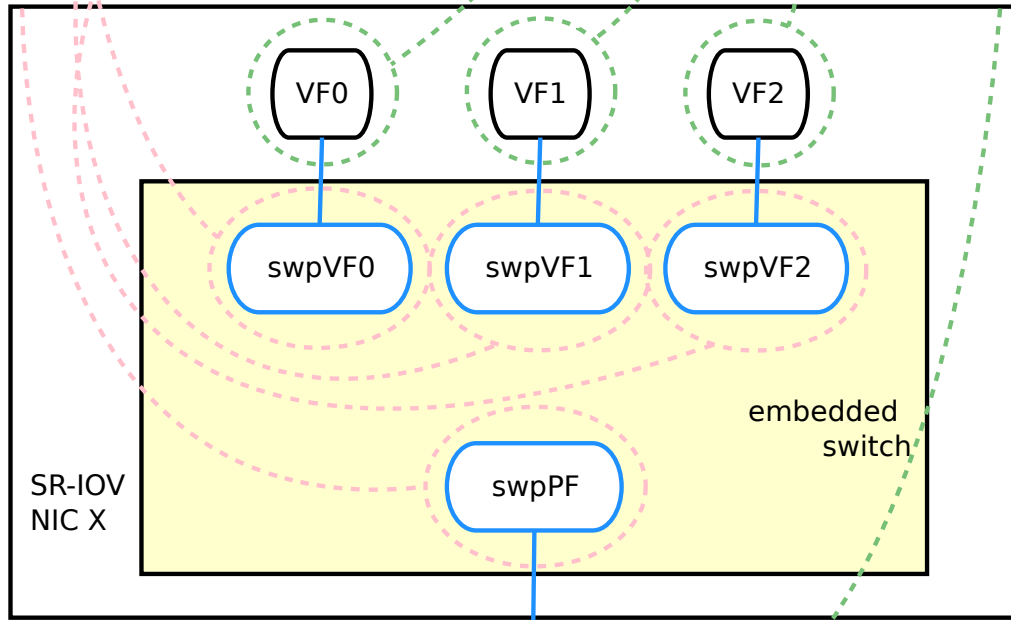
NIC embedded switch (SR-IOV)



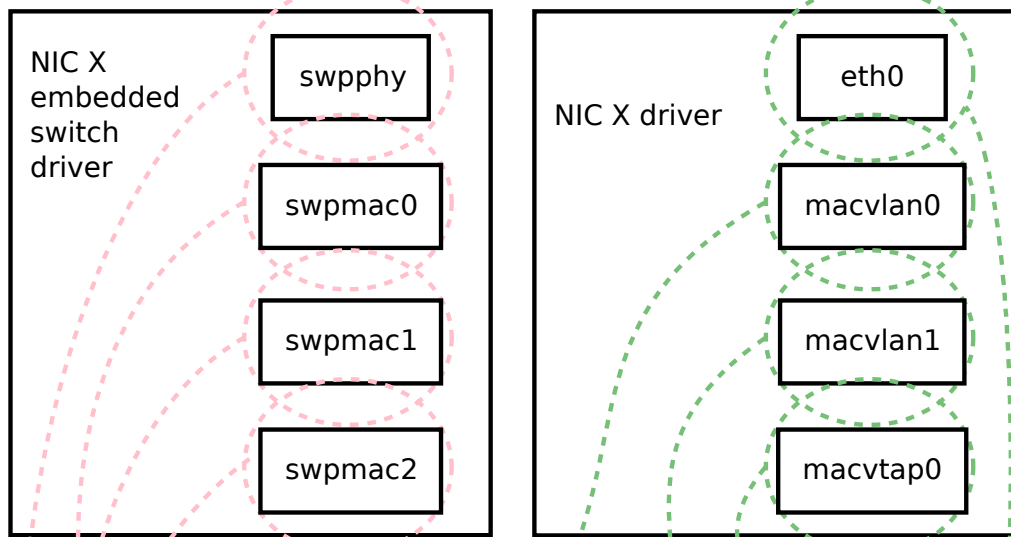
kernel



hardware



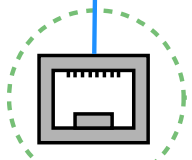
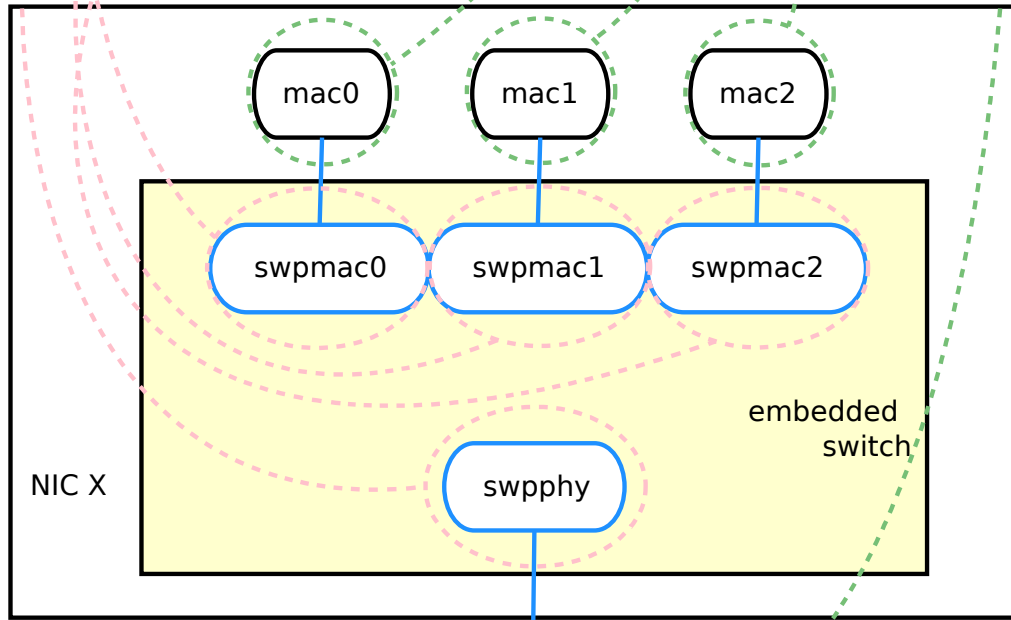
phyPF



kernel



hardware



phyPF