

Configure Two NICs

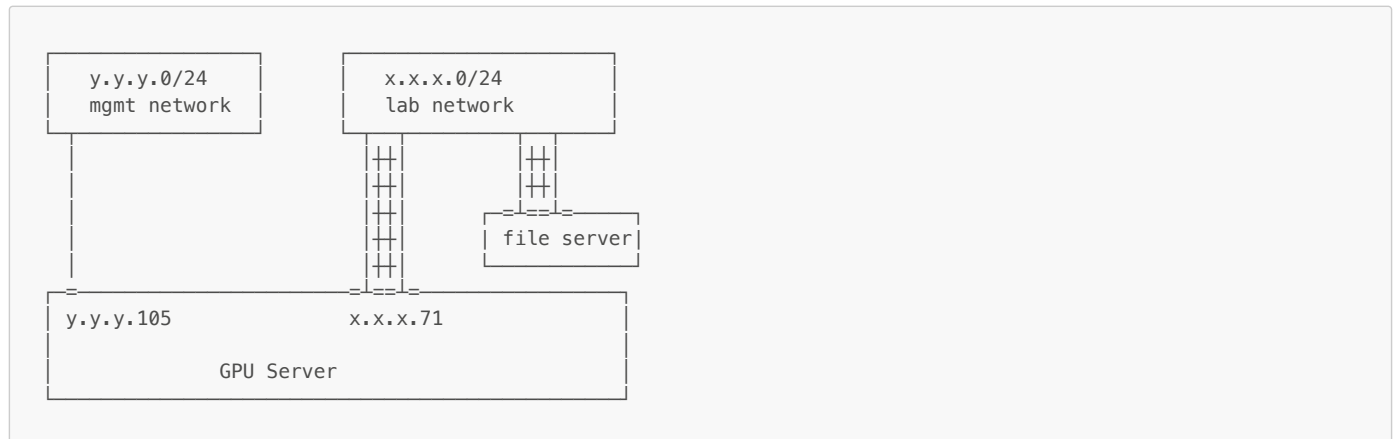
Question

How do I correctly configure two NICs on separate networks in netplan? Possibly, how do I correctly configure two route tables with `routing-policy` in netplan?

Problem

Both NICs are reachable, however return traffic is only routed through one of them. Trying to specify tables in netplan has not worked but I am probably messing up the routing policies in the config yaml.

Target Configuration



Netplan Config YAML

```
#50-netplan-config.yaml
# This is the network config written by 'ax0n'
network:
  version: 2
  ethernet:
    # management network 172.12.19.0/24
    eno2:
      dhcp4: no
      dhcp6: no
      addresses: [y.y.y.105/24]
      routes:
        - to: y.y.y.0/24
          via: y.y.y.1
          table: 101
      routing-policy:
        - from: y.y.y.0/24
          table: 101

      nameservers:
        addresses: [y.y.y.1, 1.1.1.1, 1.0.0.1]
        search: [local, lab]

    # interfaces for bond0
    enp129s0f0:
      dhcp4: no
      dhcp6: no

    enp129s0f1:
      dhcp4: no
      dhcp6: no

    enp129s0f2:
      dhcp4: no
      dhcp6: no

    enp129s0f3:
      dhcp4: no
      dhcp6: no
```

```

bonds:
  bond0:
    interfaces: [enp129s0f0, enp129s0f1, enp129s0f2, enp129s0f3]
    parameters:
      lacp-rate: fast
      mode: 802.3ad
      transmit-hash-policy: layer3+4
      mii-monitor-interval: 100
      ad-select: bandwidth

bridges:
  # lab network x.x.x.0/24
  br0:
    dhcp4: no
    dhcp6: no
    interfaces: [bond0]
    addresses: [x.x.x.71/24]
    routes:
      - to: default
        via: x.x.x.1
      - to: x.x.x.0/24
        via: x.x.x.1
        table: 102
    routing-policy:
      - from: x.x.x.0/24
        table: 102
    nameservers:
      addresses: [x.x.x.1, 1.1.1.1, 1.0.0.1]
      search: [local, lab]

```

Testing

Try to ping out from server

Fails on **eno2**

```

$ ping -c 3 -I eno2 1.1.1.1
PING 1.1.1.1 (1.1.1.1) from y.y.y.105 eno2: 56(84) bytes of data.
From y.y.y.105 icmp_seq=1 Destination Host Unreachable
From y.y.y.105 icmp_seq=2 Destination Host Unreachable
From y.y.y.105 icmp_seq=3 Destination Host Unreachable

--- 1.1.1.1 ping statistics ---
3 packets transmitted, 0 received, +3 errors, 100% packet loss, time 2024ms
pipe 3

```

Works on **br0**

```

$ ping -c 3 -I br0 1.1.1.1
PING 1.1.1.1 (1.1.1.1) from x.x.x.71 br0: 56(84) bytes of data.
64 bytes from 1.1.1.1: icmp_seq=1 ttl=52 time=10.1 ms
64 bytes from 1.1.1.1: icmp_seq=2 ttl=52 time=10.3 ms
64 bytes from 1.1.1.1: icmp_seq=3 ttl=52 time=10.6 ms

--- 1.1.1.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 10.102/10.339/10.573/0.192 ms

```

Check routing table(s)

```

$ ip route show
default via x.x.x.1 dev br0 proto static
blackhole 10.1.228.192/26 proto 80
x.x.x.0/24 dev br0 proto kernel scope link src x.x.x.71
y.y.y.0/24 dev eno2 proto kernel scope link src y.y.y.105
192.168.122.0/24 dev virbr0 proto kernel scope link src 192.168.122.1 linkdown

```

```
$ ip r s tab 101
y.y.y.0/24 via y.y.y.1 dev eno2 proto static
```

```
$ ip r s tab 102
x.x.x.0/24 via x.x.x.1 dev br0 proto static
```

Test MGMT Network

Test **eno2** interface with **iperf** and **nload**. Results show traffic to GPU server is recieved on correct interface, but return traffic is via **bond0** (**br0**).

```
> iperf -c y.y.y.105 -r -f G
-----
Client connecting to y.y.y.105, TCP port 5001
TCP window size: 128 KByte (default)
-----

Server listening on TCP port 5001
TCP window size: 128 KByte (default)
-----

[ 1] local 172.30.30.229 port 60716 connected with y.y.y.105 port 5001 (icwnd/mss/irrt=14/1448/5000)
[ ID] Interval      Transfer    Bandwidth
[ 1] 0.00-10.31 sec  0.150 GBytes 0.015 GBytes/sec
[ 2] local 172.30.30.229 port 5001 connected with x.x.x.71 port 53436
[ ID] Interval      Transfer    Bandwidth
[ 2] 0.00-10.12 sec  0.171 GBytes 0.017 GBytes/sec
```

```
$ iperf -s
-----
Server listening on TCP port 5001
TCP window size: 128 KByte (default)
-----

[ 1] local y.y.y.105 port 5001 connected with 172.30.30.229 port 58370
[ ID] Interval      Transfer    Bandwidth
[ 1] 0.0000-10.2382 sec 161 MBytes 132 Mbits/sec
-----

Client connecting to 172.30.30.229, TCP port 5001
TCP window size: 85.0 KByte (default)
-----

[*2] local x.x.x.71 port 36346 connected with 172.30.30.229 port 5001 (reverse)
[ ID] Interval      Transfer    Bandwidth
[*2] 0.0000-10.2344 sec 151 MBytes 124 Mbits/sec
```

```
$ nload eno2

Device eno2 [y.y.y.105] (1/1):
=====
Incoming:

#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####

Curr: 1.49 kBit/s
Avg: 20.73 MBit/s
Min: 1.02 kBit/s
Max: 190.57 MBit/s
Ttl: 676.95 MByte

Outgoing:

#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####

Curr: 0.00 Bit/s
Avg: 0.00 Bit/s
Min: 0.00 Bit/s
Max: 0.00 Bit/s
Ttl: 9.99 MByte
```

[illegible]

Meanwhile, network traffic is as expected on the `br0` interface.

```
> iperf -c x.x.x.71 -r -f G
-----
Server listening on TCP port 5001
TCP window size: 128 KByte (default)
-----
-----
Client connecting to x.x.x.71, TCP port 5001
TCP window size: 128 KByte (default)
-----
[ 1] local 172.30.30.229 port 59950 connected with x.x.x.71 port 5001 (icwnd/mss/irrt=14/1448/3000)
[ ID] Interval      Transfer      Bandwidth
[ 1] 0.00-10.12 sec  0.159 GBytes  0.016 GBytes/sec
[ 2] local 172.30.30.229 port 5001 connected with x.x.x.71 port 33270
[ ID] Interval      Transfer      Bandwidth
[ 2] 0.00-10.20 sec  0.167 GBytes  0.016 GBytes/sec
```

```
$ iperf -s
-----
Server listening on TCP port 5001
TCP window size: 128 KByte (default)
-----
[  1] local x.x.x.71 port 5001 connected with 172.30.30.229 port 59950
[ ID] Interval      Transfer      Bandwidth
[  1] 0.0000-10.1135 sec   163 MBytes   135 Mbits/sec
-----
Client connecting to 172.30.30.229, TCP port 5001
TCP window size: 85.0 KByte (default)
-----
[ *2] local x.x.x.71 port 33270 connected with 172.30.30.229 port 5001 (reverse)
[ ID] Interval      Transfer      Bandwidth
[ *2] 0.0000-10.2124 sec   171 MBytes   140 Mbits/sec
```

```
$ nload br0

Device bond0 (1/12):
=====
Incoming:
#####
#####
#####
#####
Curr: 3.85 kBit/s
```

```
##### Avg: 44.04 MBit/s
##### Min: 3.85 kBit/s
##### Max: 174.40 MBit/s
##### Ttl: 3.35 GByte
#####
#####
#####
#####
##### Curr: 13.89 kBit/s
##### Avg: 47.11 MBit/s
##### Min: 4.16 kBit/s
##### Max: 165.06 MBit/s
##### Ttl: 2.86 GByte
#####
```