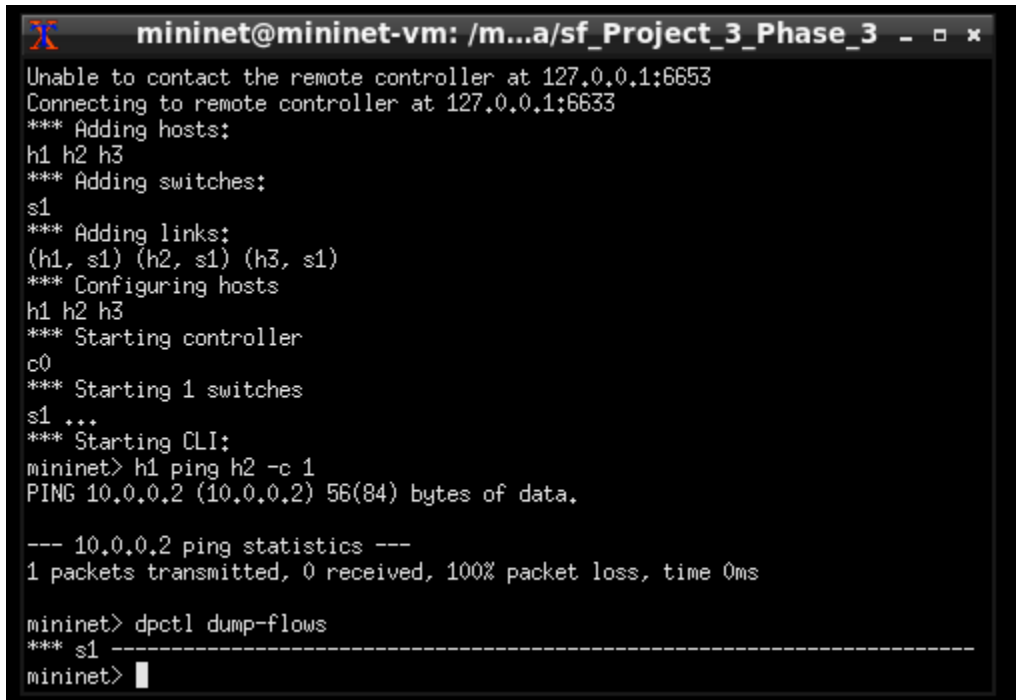


- 3.
- a. Ping attempt was unsuccessful
 - b. No rules have been installed
 - c. The ping wasn't successful because the packet was sent to the controller and it didn't do anything with the packet, essentially discarding it and adding no match+action to the flow table.
 - d.



```
mininet@mininet-vm: /m...a/sf_Project_3_Phase_3 - □ ×
Unable to contact the remote controller at 127.0.0.1:6653
Connecting to remote controller at 127.0.0.1:6633
*** Adding hosts:
h1 h2 h3
*** Adding switches:
s1
*** Adding links:
(h1, s1) (h2, s1) (h3, s1)
*** Configuring hosts
h1 h2 h3
*** Starting controller
c0
*** Starting 1 switches
s1 ...
*** Starting CLI:
mininet> h1 ping h2 -c 1
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.

--- 10.0.0.2 ping statistics ---
1 packets transmitted, 0 received, 100% packet loss, time 0ms

mininet> dpctl dump-flows
*** s1 -----
mininet> █
```

- 4.e
- i. In host 1 we can see that it sent and received 3 packets from h2.
In host 2 we can see that it received 3 packets and replied 3 times.
And in host 3 we can see that it received 1 packet and never replied back.
 - ii. After the first Ping packet is sent and the flow rules are installed in s1, the latency for the other two packets are reduced by a lot because once the flow rules are installed, later packets matching those rules should be forwarded directly by the switch without involving the controller, thus reducing latency.

```
*** s1 -
net)
s1 -
kie:
mp,
:00:
outp
kie:
mp,
:00:
outp
net)

"Node: h1"
root@mininet-vm:/media/sf_Project_3_Phase_3# ping 10.0.0.2 -c 3
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.

--- 10.0.0.2 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2040ms

root@mininet-vm:/media/sf_Project_3_Phase_3# ping 10.0.0.2 -c 3
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=11.4 ms
64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=2.70 ms
64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=0.300 ms

--- 10.0.0.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 0.300/4.799/11.403/4.770 ms
root@mininet-vm:/media/sf_Project_3_Phase_3#
```

```
"Node: h2"
root@mininet-vm:/media/sf_Project_3_Phase_3# tcpdump -n -i h2-eth0
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on h2-eth0, link-type EN10MB (Ethernet), capture size 262144 bytes
18:53:33.605373 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 6407, seq 1, length 64
18:53:33.605432 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 6407, seq 1, length 64
18:53:34.600280 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 6407, seq 2, length 64
18:53:34.600424 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 6407, seq 2, length 64
18:53:35.600541 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 6407, seq 3, length 64
18:53:35.600569 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 6407, seq 3, length 64
]
```

```
"Node: h3"
root@mininet-vm:/media/sf_Project_3_Phase_3# tcpdump -n -i h3-eth0
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on h3-eth0, link-type EN10MB (Ethernet), capture size 262144 bytes
18:53:33.605375 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 6407, seq 1, length 64
]
```

4.g

- i. iPerf did work for h1 and h2
- ii. 2 iperf packets were sent to the controller
- iii. 4 rules are now installed in s1? (2 more after doing iperf)
- iv. This could possibly happen because the flow tables are implemented by matching all fields of a packet, so when iperf was running, the packets had different fields to the ping packets so they had to go to the controller to add a new match+action entry in the flow table.

```
"Node: h1"
root@mininet-virtual-machine:/media/sf_Project_3_Phase_3# ping 10.0.0.2 -c 3
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.

--- 10.0.0.2 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2040ms

root@mininet-virtual-machine:/media/sf_Project_3_Phase_3# ping 10.0.0.2 -c 3
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=11.4 ms
64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=2.70 ms
64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=0.300 ms

--- 10.0.0.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 0.300/4.799/11.403/4.770 ms
root@mininet-virtual-machine:/media/sf_Project_3_Phase_3# iperf -c 10.0.0.2 -p 4000

Client connecting to 10.0.0.2, TCP port 4000
TCP window size: 153 KByte (default)

-----
[  5] local 10.0.0.1 port 54062 connected with 10.0.0.2 port 4000
[ ID] Interval           Transfer     Bandwidth
[  5] 0.0-10.0 sec   26.5 GBytes  22.8 Gbits/sec
root@mininet-virtual-machine:/media/sf_Project_3_Phase_3#

"Node: h2"
64
8:53:33.605432 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 6407, seq 1, length 64
8:53:34.600280 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 6407, seq 2, length 64
8:53:34.600424 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 6407, seq 2, length 64
8:53:35.600541 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 6407, seq 3, length 64
8:53:35.600569 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 6407, seq 3, length 64
C
0 packets captured
0 packets received by filter
0 packets dropped by kernel
root@mininet-virtual-machine:/media/sf_Project_3_Phase_3# iperf -s -p 4000

Server listening on TCP port 4000
TCP window size: 85.3 KByte (default)

-----
[  6] local 10.0.0.2 port 4000 connected with 10.0.0.1 port 54062
[ ID] Interval           Transfer     Bandwidth
[  6] 0.0-10.0 sec   26.5 GBytes  22.7 Gbits/sec
```

6.
 - i. iPerf did work for h1 and h2
 - ii. No iPerf packets were sent to the controller
 - iii. 2 rules are installed in s1
 - iv. No iperf packets were sent to the controller, thus no extra rules were added. No iperf packets were sent to the controller because they were matched solely by their source mac address and

destination mac address, which was implemented during ping , so the packets are forwarded directly by switches based on their existing flow rules, so the controller wasn't involved.

```
"Node: h1"
root@mininet-vm:/media/sf_Project_3_Phase_3# ping 10.0.0.2 -c 3
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=8.38 ms
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=23.3 ms (DUP!)
64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=0.223 ms
64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=0.063 ms

--- 10.0.0.2 ping statistics ---
3 packets transmitted, 3 received, +1 duplicates, 0% packet loss, time 2031ms
rtt min/avg/max/mdev = 0.063/7.994/23.318/9.463 ms
root@mininet-vm:/media/sf_Project_3_Phase_3# iperf -c 10.0.0.2 -p 4000
-----
Client connecting to 10.0.0.2, TCP port 4000
TCP window size: 340 KByte (default)
-----
 5] local 10.0.0.1 port 37056 connected with 10.0.0.2 port 4000
ID] Interval      Transfer    Bandwidth
 5]  0.0-10.0 sec  23.0 GBytes 19.7 Gbits/sec
root@mininet-vm:/media/sf_Project_3_Phase_3#

"Node: h2"
64
5:13:58.472372 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 3547, seq 1, length
64
5:13:59.469075 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 3547, seq 2, length
64
5:13:59.469095 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 3547, seq 2, length
64
5:14:00.496439 IP 10.0.0.1 > 10.0.0.2: ICMP echo request, id 3547, seq 3, length
64
5:14:00.496460 IP 10.0.0.2 > 10.0.0.1: ICMP echo reply, id 3547, seq 3, length
64
6 packets captured
6 packets received by filter
0 packets dropped by kernel
root@mininet-vm:/media/sf_Project_3_Phase_3# iperf -s -p 4000
-----
Server listening on TCP port 4000
TCP window size: 85.3 KByte (default)
-----
 6] local 10.0.0.2 port 4000 connected with 10.0.0.1 port 37056
ID] Interval      Transfer    Bandwidth
 6]  0.0-10.0 sec  23.0 GBytes 19.7 Gbits/sec
```

7a. The Ping results that each host can reach all the other hosts. Do this by running the pingall command after running a topology.

i. 7 packets were sent to the controller

ii. See below

iii. 4 messages flooded by the controller.

b. No packets were sent to the controller during the second ping all. This is because after the first pingall, the controller successfully installed flow table entries and rules based on source and destination mac address. Thus during the second pingall, the switches would just follow these rules and forward the packets to their destination.

```
mininet@mininet-vm: /m...a/sf_Project_3_Phase_3 - □ ×
mininet> pingall
*** Ping: testing ping reachability
h1 -> h2 h3
h2 -> h1 h3
h3 -> h1 h2
*** Results: 0% dropped (6/6 received)
mininet> dpctl dump-flows
*** s1 -----
cookie=0x0, duration=15.835s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02,dl_dst=00:00:00:00:00:01 actions=output:"s1-eth1"
cookie=0x0, duration=15.830s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01,dl_dst=00:00:00:00:00:02 actions=output:"s1-eth2"
cookie=0x0, duration=15.808s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:03,dl_dst=00:00:00:00:00:01 actions=output:"s1-eth1"
cookie=0x0, duration=15.802s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01,dl_dst=00:00:00:00:00:03 actions=output:"s1-eth3"
cookie=0x0, duration=15.757s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:03,dl_dst=00:00:00:00:00:02 actions=output:"s1-eth2"
cookie=0x0, duration=15.757s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:02,dl_dst=00:00:00:00:00:03 actions=output:"s1-eth3"
mininet> pingall
*** Ping: testing ping reachability
h1 -> h2 h3
h2 -> h1 h3
```

```
mininet@mininet-vm: ~/pox
port 3
INFO:samples.ethernet-learning:Installed rule in switch 12 to forward packet to port 2
INFO:samples.ethernet-learning:////////////////////////////////////
INFO:samples.ethernet-learning:Number of packets received so far: 6
INFO:samples.ethernet-learning:Number of messages flooded by controller so far: 4
INFO:samples.ethernet-learning:Packet has arrived: SRCMAC:00:00:00:00:00:03 DSTMAC:00:00:00:00:00:02 from switch:12 in-port:3
INFO:samples.ethernet-learning:Installed rule in switch 12 to forward packet to port 2
INFO:samples.ethernet-learning:Installed rule in switch 12 to forward packet to port 3
INFO:samples.ethernet-learning:////////////////////////////////////
INFO:samples.ethernet-learning:Number of packets received so far: 7
INFO:samples.ethernet-learning:Number of messages flooded by controller so far: 4
INFO:samples.ethernet-learning:Packet has arrived: SRCMAC:00:00:00:00:00:03 DSTMAC:00:00:00:00:00:02 from switch:12 in-port:3
INFO:samples.ethernet-learning:Installed rule in switch 12 to forward packet to port 2
INFO:samples.ethernet-learning:Installed rule in switch 12 to forward packet to port 3
□
```

Topology-A

435 packets were sent to the controller
102 messages flooded by the controller

L1:

latency: $81.0/2 = 40.5$ ms

throughput: 13.2 seconds to transfer 29.0MB, so a throughput of about 2.196 MB/s

L2:

latency: $21.371/2 = 10.687$ ms

throughput: 12.9 seconds to transfer 56.9MB, so a throughput of about 4.422 MB/s

L3 :

latency: $41.446/2 = 20.723$ ms

throughput: 12.5 seconds to transfer 41.2MB, so a throughput of about 3.296 MB/s

L4 :

latency: $61.358/2 = 30.679$ ms

throughput: 12.5 seconds to transfer 27.6MB, so a throughput of about 2.208 MB/s

The performance is similar to the definition of each link in topology-a.py and are very similar to the results I estimated in Phase2. This is probably because this remote controller and the default controller behave similarly in installing flow table rules that match only on the source and destination MAC addresses, instead of all fields, of a given packet

All the rules in the switches:

*** 33 -----

```
cookie=0x0, duration=74.521s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:04, dl_dst=00:00:00:00:00:01 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=74.513s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01, dl_dst=00:00:00:00:00:04 actions=output:"s3-eth1"
```

```
cookie=0x0, duration=74.341s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:05, dl_dst=00:00:00:00:00:01 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=74.341s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01, dl_dst=00:00:00:00:00:05 actions=output:"s3-eth3"
```

```
cookie=0x0, duration=74.146s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:06, dl_dst=00:00:00:00:00:01 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=74.146s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01, dl_dst=00:00:00:00:00:06 actions=output:"s3-eth3"
```

```
cookie=0x0, duration=73.939s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:07, dl_dst=00:00:00:00:00:01 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=73.939s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01, dl_dst=00:00:00:00:00:07 actions=output:"s3-eth4"
```

```
cookie=0x0, duration=73.714s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:08, dl_dst=00:00:00:00:00:01 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=73.714s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01, dl_dst=00:00:00:00:00:08 actions=output:"s3-eth4"
```

```
cookie=0x0, duration=73.454s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:09, dl_dst=00:00:00:00:00:01 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=73.454s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01, dl_dst=00:00:00:00:00:09 actions=output:"s3-eth4"
```

```
cookie=0x0, duration=73.175s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02, dl_dst=00:00:00:00:00:04 actions=output:"s3-eth1"
```

```
cookie=0x0, duration=73.174s, table=0, n_packets=5, n_bytes=490, dl_src=00:00:00:00:00:04, dl_dst=00:00:00:00:00:02 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=73.017s, table=0, n_packets=5, n_bytes=490, dl_src=00:00:00:00:00:02, dl_dst=00:00:00:00:00:05 actions=output:"s3-eth3"
```

```
cookie=0x0, duration=73.017s, table=0, n_packets=13, n_bytes=1274, dl_src=00:00:00:00:00:05, dl_dst=00:00:00:00:00:02 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=72.849s, table=0, n_packets=6, n_bytes=588, dl_src=00:00:00:00:00:02, dl_dst=00:00:00:00:00:06 actions=output:s3-eth3"
```

```
cookie=0x0, duration=72.849s, table=0, n_packets=12, n_bytes=1176, dl_src=00:00:00:00:00:06, dl_dst=00:00:00:00:00:02 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=72.649s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02, dl_dst=00:00:00:00:00:07 actions=output:"s3-eth4"
```

```
cookie=0x0, duration=72.649s, table=0, n_packets=33, n_bytes=3234, dl_src=00:00:00:00:00:07, dl_dst=00:00:00:00:00:02 actions=output:"s3-eth2"
```

```
cookie=0x0, duration=72.429s, table=0, n_packets=3, n_bytes=234, dl_src=00:00:00:00:00:02, dl_dst=00:00:00:00:00:08 actions=output:s3-eth4"
```

```
cookie=0x0, duration=72.429s, table=0, n_packets=33, n_bytes=3234, dl_src=00:00:00:00:00:08, dl_dst=00:00:00:00:00:02 actions=output:"s3-eth2"
```

```
0:00:00:02,d1_dst=00:00:00:00:00:09 actions=output:"s3-eth4"
```

```
cookie=0x0, duration=72.202s, table=0, n_packets=21, n_bytes=2038, dl_src=00:00:00:00:00:09, dl_dst=00:00:00:00:00:02 actions=output:"s3-eth2"
```

```
0:00:00:04,d1_dst=00:00:00:00:00:03 actions=output,"s3-eth2"
```

```
cookie=0x0, duration=71.833s, table=0, n_packets=1, n_bytes=36, dl_src=00:00:00:00:00:00, dl_dst=00:03:d1_dst=00:00:00:00:00:04 actions=output:"s3-eth1"
```

```
0:00:00:03,d1_dst=00:00:00:00:00:05 actions=output:"s3-eth3"
```

```
00:00:00:05,d1_dst=00:00:00:00:03 actions=output:"s3-eth2"
```

```
0:00:03,d1_dst=00:00:00:00:00:00 actions=output:"s3-eth3"
```

```
cookie=0x0, duration=71.03s, table=0, n_packets=13, n_bytes=1274, dl_src=00:00:00:00:00:06, dl_dst=00:00:00:00:00:03 actions=output:"s3-eth2"
```

```
0:00:03,d1_dst=00:00:00:00:00:07 actions=output:"s3-eth4"
```

```
00:00:00:07,d1_dst=00:00:00:00:03 actions=output:"s3-eth2"
```

```
0:00:00:03,d1_dst=00:00:00:00:00:00 actions=output:"s3-eth4"
```

```
00:00:00:08,dl_dst=00:00:00:00:00:03 actions=output:"s3-eth2"
```

```
0:00:00:03,d1_dst=00:00:00:00:00:09 actions=output;s3-eth4"
cookie=0x0, duration=71.363s, table=0, n packets=17, n bytes=1666, d1_src=00:00:00:00:00:00
```

```
:00:00:00:09,d1_dst=00:00:00:00:00:03 actions=output,"s3-eth2"
```


Topology-B

443 packets were sent to the controller
103 messages flooded by the controller

[h1, e1] :

latency: $42.891/4 = 10.722$ ms

throughput: 12.3 seconds to transfer 13.9MB, so a throughput of about 1.13 MB/s

[e1, a1] :

latency: $(124.36 - 42.891)/4 = 20.367$

throughput: 13.6 seconds to transfer 15.1MB, so a throughput of about 1.11 MB/s

[a1, c1] :

latency: $(246.693 - 124.36)/4 = 30.583$ ms

throughput: 15.1 seconds to transfer 16.2MB, so a throughput of about 1.072 MB/s

The throughput performance is not similar to the definition of each link in topology-b.py because of the bottleneck link in lvl3 causing the throughput to be less than specified, but both the latency and throughput performance is very similar to the results I estimated in Phase2. This is probably because this remote controller and the default controller behave similarly in installing flow table rules that match only on the source and destination MAC addresses, instead of all fields, of a given packet

All the rules in the switches:

[illegible]


```

** c1 -----
cookie=0x0, duration=44.908s, table=0, n_packets=5, n_bytes=490, dl_src=00:00:00:00:00:05,dl_dst=00:00:00:00:00:01
actions=output:"c1-eth1"
cookie=0x0, duration=44.908s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01,dl_dst=00:00:00:00:00:05
actions=output:"c1-eth2"
cookie=0x0, duration=44.562s, table=0, n_packets=4, n_bytes=392, dl_src=00:00:00:00:00:06,dl_dst=00:00:00:00:00:01
actions=output:"c1-eth1"
cookie=0x0, duration=44.554s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=44.268s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:07,dl_dst=00:00:00:00:00:01
actions=output:"c1-eth1"
cookie=0x0, duration=44.268s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01,dl_dst=00:00:00:00:00:07
actions=output:"c1-eth2"
cookie=0x0, duration=43.901s, table=0, n_packets=4, n_bytes=392, dl_src=00:00:00:00:00:08,dl_dst=00:00:00:00:00:01
actions=output:"c1-eth1"
cookie=0x0, duration=43.901s, table=0, n_packets=1, n_bytes=98, dl_src=00:00:00:00:00:01,dl_dst=00:00:00:00:00:08
actions=output:"c1-eth2"
cookie=0x0, duration=43.319s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02,dl_dst=00:00:00:00:00:05
actions=output:"c1-eth2"
cookie=0x0, duration=43.309s, table=0, n_packets=27, n_bytes=2646, dl_src=00:00:00:00:00:05,dl_dst=00:00:00:00:00:00:
2 actions=output:"c1-eth1"
cookie=0x0, duration=43.014s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=43.014s, table=0, n_packets=33, n_bytes=3234, dl_src=00:00:00:00:00:06,dl_dst=00:00:00:00:00:00:
2 actions=output:"c1-eth1"
cookie=0x0, duration=42.642s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02,dl_dst=00:00:00:00:00:07
actions=output:"c1-eth2"
cookie=0x0, duration=42.641s, table=0, n_packets=25, n_bytes=2450, dl_src=00:00:00:00:00:07,dl_dst=00:00:00:00:00:00:
2 actions=output:"c1-eth1"
cookie=0x0, duration=42.315s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:02,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=42.315s, table=0, n_packets=23, n_bytes=2254, dl_src=00:00:00:00:00:08,dl_dst=00:00:00:00:00:00:
2 actions=output:"c1-eth1"
cookie=0x0, duration=41.694s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:03,dl_dst=00:00:00:00:00:05
actions=output:"c1-eth2"
cookie=0x0, duration=41.694s, table=0, n_packets=17, n_bytes=1666, dl_src=00:00:00:00:00:05,dl_dst=00:00:00:00:00:00:
3 actions=output:"c1-eth1"
cookie=0x0, duration=41.350s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:03,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=41.350s, table=0, n_packets=8, n_bytes=784, dl_src=00:00:00:00:00:06,dl_dst=00:00:00:00:00:03
actions=output:"c1-eth1"
cookie=0x0, duration=41.056s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:03,dl_dst=00:00:00:00:00:07
actions=output:"c1-eth2"
cookie=0x0, duration=41.056s, table=0, n_packets=13, n_bytes=1274, dl_src=00:00:00:00:00:07,dl_dst=00:00:00:00:00:00:
3 actions=output:"c1-eth1"
cookie=0x0, duration=40.726s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:03,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=40.726s, table=0, n_packets=11, n_bytes=1078, dl_src=00:00:00:00:00:08,dl_dst=00:00:00:00:00:00:
3 actions=output:"c1-eth1"
cookie=0x0, duration=40.044s, table=0, n_packets=6, n_bytes=588, dl_src=00:00:00:00:00:04,dl_dst=00:00:00:00:00:05
actions=output:"c1-eth2"
cookie=0x0, duration=40.045s, table=0, n_packets=13, n_bytes=1274, dl_src=00:00:00:00:00:05,dl_dst=00:00:00:00:00:00:
4 actions=output:"c1-eth1"
cookie=0x0, duration=39.767s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:04,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=39.767s, table=0, n_packets=33, n_bytes=3234, dl_src=00:00:00:00:00:06,dl_dst=00:00:00:00:00:00:
4 actions=output:"c1-eth1"
cookie=0x0, duration=39.446s, table=0, n_packets=3, n_bytes=294, dl_src=00:00:00:00:00:04,dl_dst=00:00:00:00:00:07
actions=output:"c1-eth2"
cookie=0x0, duration=39.443s, table=0, n_packets=24, n_bytes=2352, dl_src=00:00:00:00:00:07,dl_dst=00:00:00:00:00:00:
4 actions=output:"c1-eth1"
cookie=0x0, duration=39.123s, table=0, n_packets=5, n_bytes=490, dl_src=00:00:00:00:00:04,dl_dst=00:00:00:00:00:06
actions=output:"c1-eth2"
cookie=0x0, duration=39.123s, table=0, n_packets=21, n_bytes=2058, dl_src=00:00:00:00:00:08,dl_dst=00:00:00:00:00:00:
4 actions=output:"c1-eth1"

```