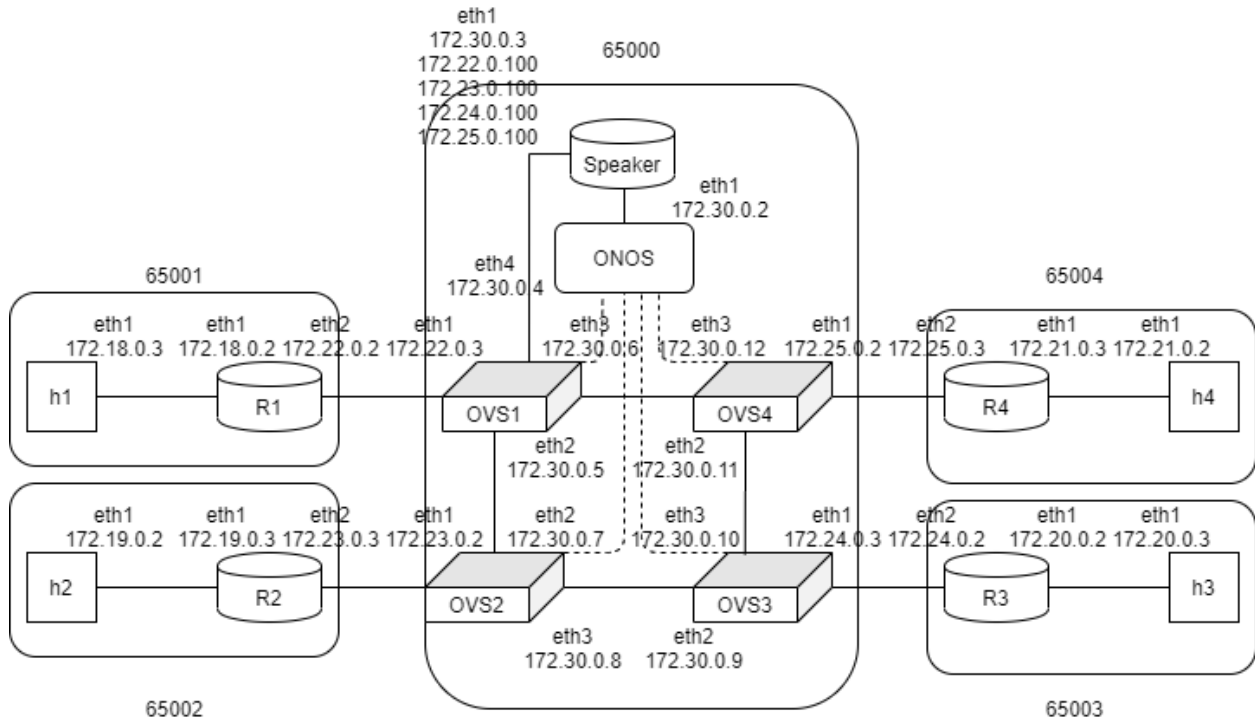


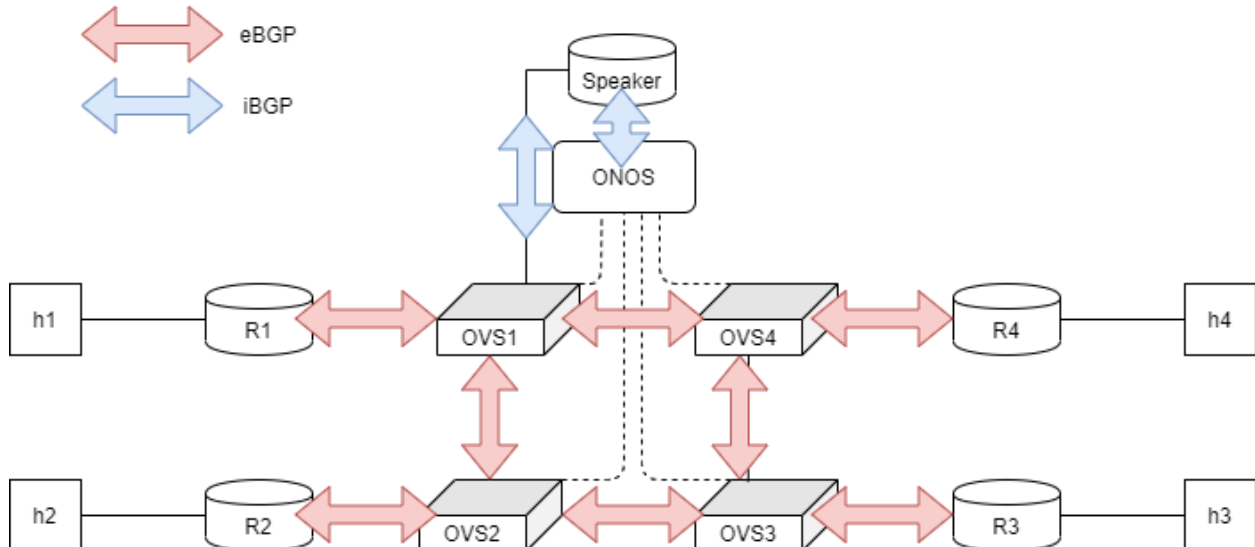
SDN-NFV

0516045 張凱翔

1. Show topology with IP addresses, interfaces and ASNs



2. Mark the path eBGP and iBGP in topology



3. Capture BGP packets (send/receive) in speaker path

bgp						
No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	172.25.0.100	172.25.0.3	BGP	87	KEEPALIVE Message
17	0.000110288	172.23.0.100	172.23.0.3	BGP	87	KEEPALIVE Message
23	0.000426457	172.25.0.3	172.25.0.100	BGP	87	KEEPALIVE Message
39	0.001291768	172.23.0.3	172.23.0.100	BGP	87	KEEPALIVE Message
81	0.944778351	172.24.0.100	172.24.0.2	BGP	87	KEEPALIVE Message
89	0.945212120	172.22.0.100	172.22.0.2	BGP	87	KEEPALIVE Message
93	0.948160221	172.24.0.2	172.24.0.100	BGP	87	KEEPALIVE Message
109	0.950043771	172.22.0.2	172.22.0.100	BGP	87	KEEPALIVE Message
324	3.000850412	172.25.0.100	172.25.0.3	BGP	87	KEEPALIVE Message
334	3.000957389	172.23.0.100	172.23.0.3	BGP	87	KEEPALIVE Message
340	3.001088648	172.25.0.3	172.25.0.100	BGP	87	KEEPALIVE Message

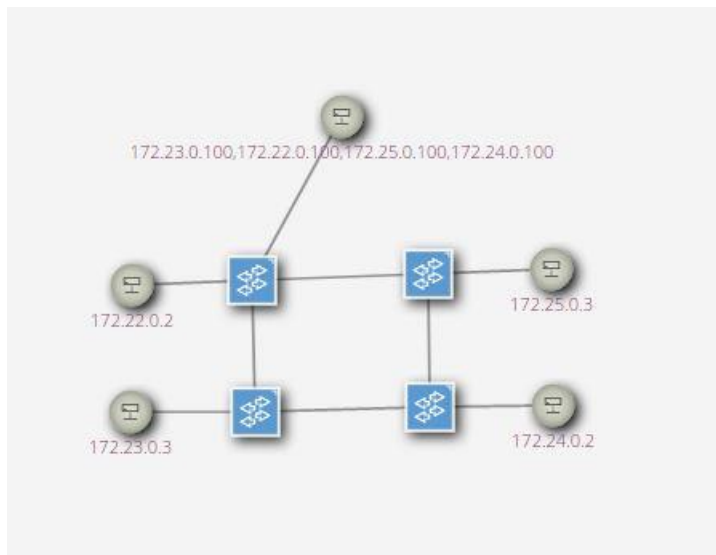
4. Telnet bgpd daemons of Speaker and show summary screenshots

```
Speakerbgp> show ip bgp summary
BGP router identifier 172.17.0.15, local AS number 65000
RIB entries 7, using 784 bytes of memory
Peers 5, using 22 KiB of memory

Neighbor      V    AS MsgRcvd MsgSent  TblVer  InQ OutQ Up/Down  State/PfxRcd
172.17.0.2    4 65000   656    684     0    0    0 00:33:54      0
172.22.0.2    4 65001   679    683     0    0    0 00:33:50      1
172.23.0.3    4 65002   679    683     0    0    0 00:33:51      1
172.24.0.2    4 65003   679    683     0    0    0 00:33:50      1
172.25.0.3    4 65004   680    684     0    0    0 00:33:54      1

Total number of neighbors 5
```

5. Screenshots topology and intents on the ONOS Web GUI



Intents (28 total)



APPLICATION ID	KEY	TYPE	PRIORITY	STATE
52 : org.onosproject.sdnip	172.18.0.0/16	MultiPointToSinglePointIntent	180	Installed
52 : org.onosproject.sdnip	172.19.0.0/16	MultiPointToSinglePointIntent	180	Installed
52 : org.onosproject.sdnip	172.20.0.0/16	MultiPointToSinglePointIntent	180	Installed
52 : org.onosproject.sdnip	172.21.0.0/16	MultiPointToSinglePointIntent	180	Installed
52 : org.onosproject.sdnip	172.22.0.100-172.22.0.2-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.22.0.100-172.22.0.2-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.22.0.100-172.22.0.2-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.22.0.2-172.22.0.100-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.22.0.2-172.22.0.100-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.22.0.2-172.22.0.100-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.23.0.100-172.23.0.3-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.23.0.100-172.23.0.3-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.23.0.100-172.23.0.3-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.23.0.3-172.23.0.100-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.23.0.3-172.23.0.100-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.23.0.3-172.23.0.100-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.24.0.100-172.24.0.2-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.24.0.100-172.24.0.2-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.24.0.100-172.24.0.2-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.24.0.2-172.24.0.100-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.24.0.2-172.24.0.100-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.24.0.2-172.24.0.100-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.25.0.100-172.25.0.3-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.25.0.100-172.25.0.3-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.25.0.100-172.25.0.3-src	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.25.0.3-172.25.0.100-dst	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.25.0.3-172.25.0.100-icmp	PointToPointIntent	1000	Installed
52 : org.onosproject.sdnip	172.25.0.3-172.25.0.100-src	PointToPointIntent	1000	Installed

6. Write down what you have learned or solved

因為有做過 project5 的經驗，所以這次在操作上並沒有遇到相當大的挑戰。在考期末考的時候對 SDN-IP 其實不太熟悉，關於 eBGP 和 iBGP 的路徑也是不太懂，但經過這次作業之後又讓我對 SDN-IP 有更進一步的認識。