

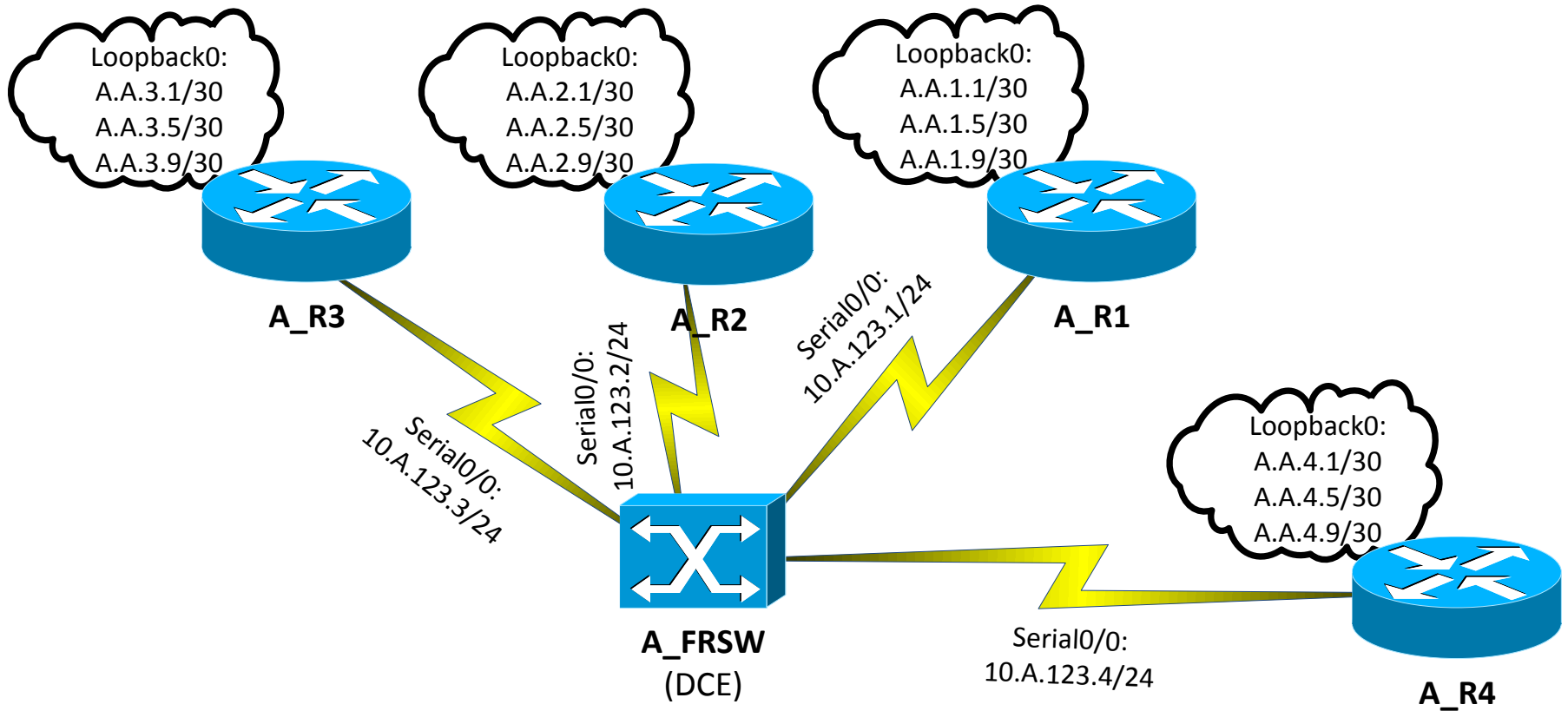


Laboratories OSPF



ROUTE Module 3

Lab 3.1: Frame-Relay Switch ①



Lab 3.1: Frame-Relay Switch ②

- R1-R4, FRSW:

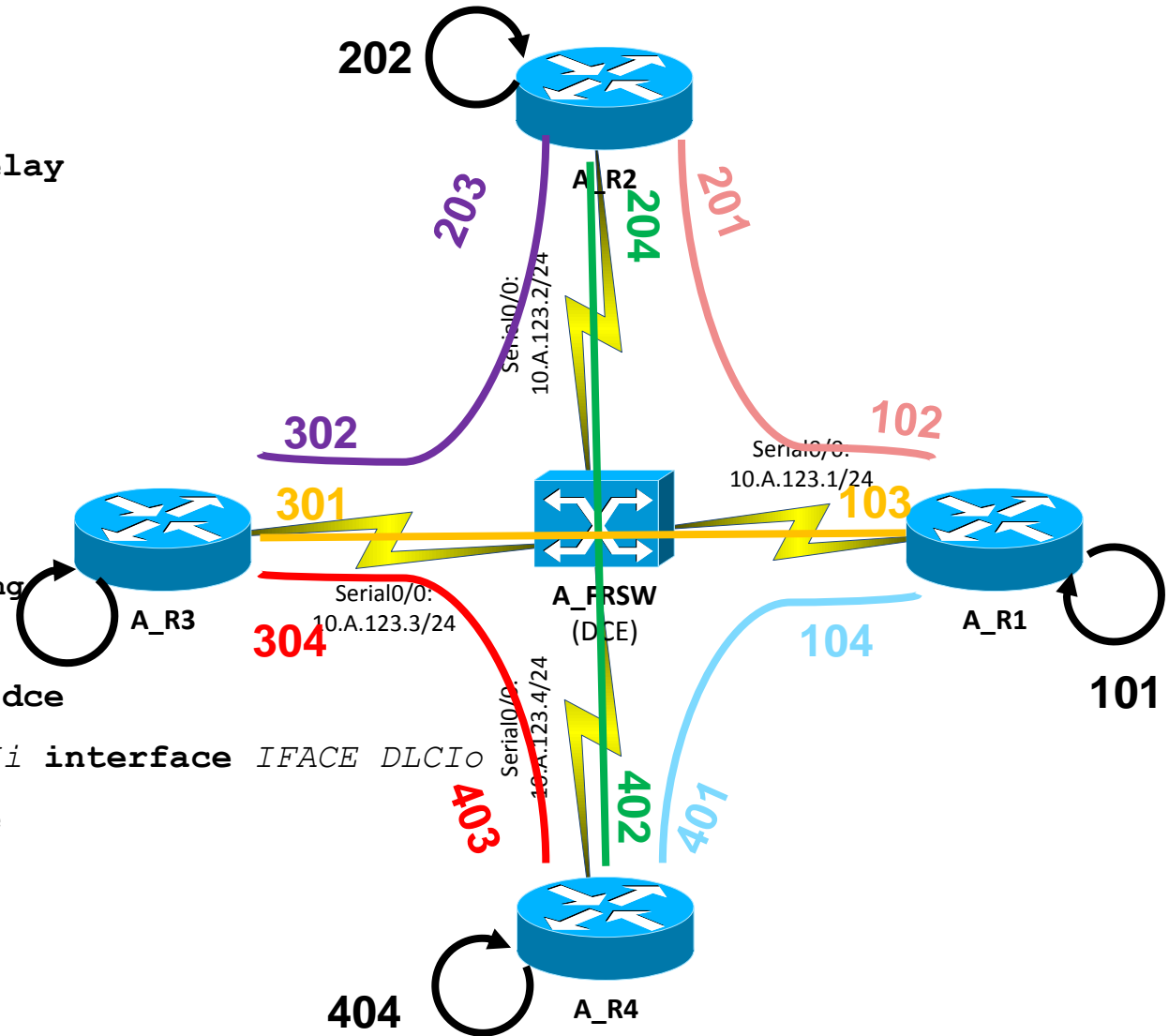
```
(conf)# inte ser 0/X  
encapsulation frame-relay
```

- FRSW:

```
(conf)# frame-relay switching  
(conf-if)#  
frame-relay intf-type dce  
frame-relay route DLCIi interface IFACE DLCIo  
# show frame-relay route
```

- R1, R2, R3, R4:

```
# show frame-relay map
```



Lab 3.2: Basic OSPF Setup

Loopback0:
A.A.5.1/30
A.A.5.5/30
A.A.5.9/30

- R5:

```
(conf)# ip routing  
(conf-if)# no switchport
```

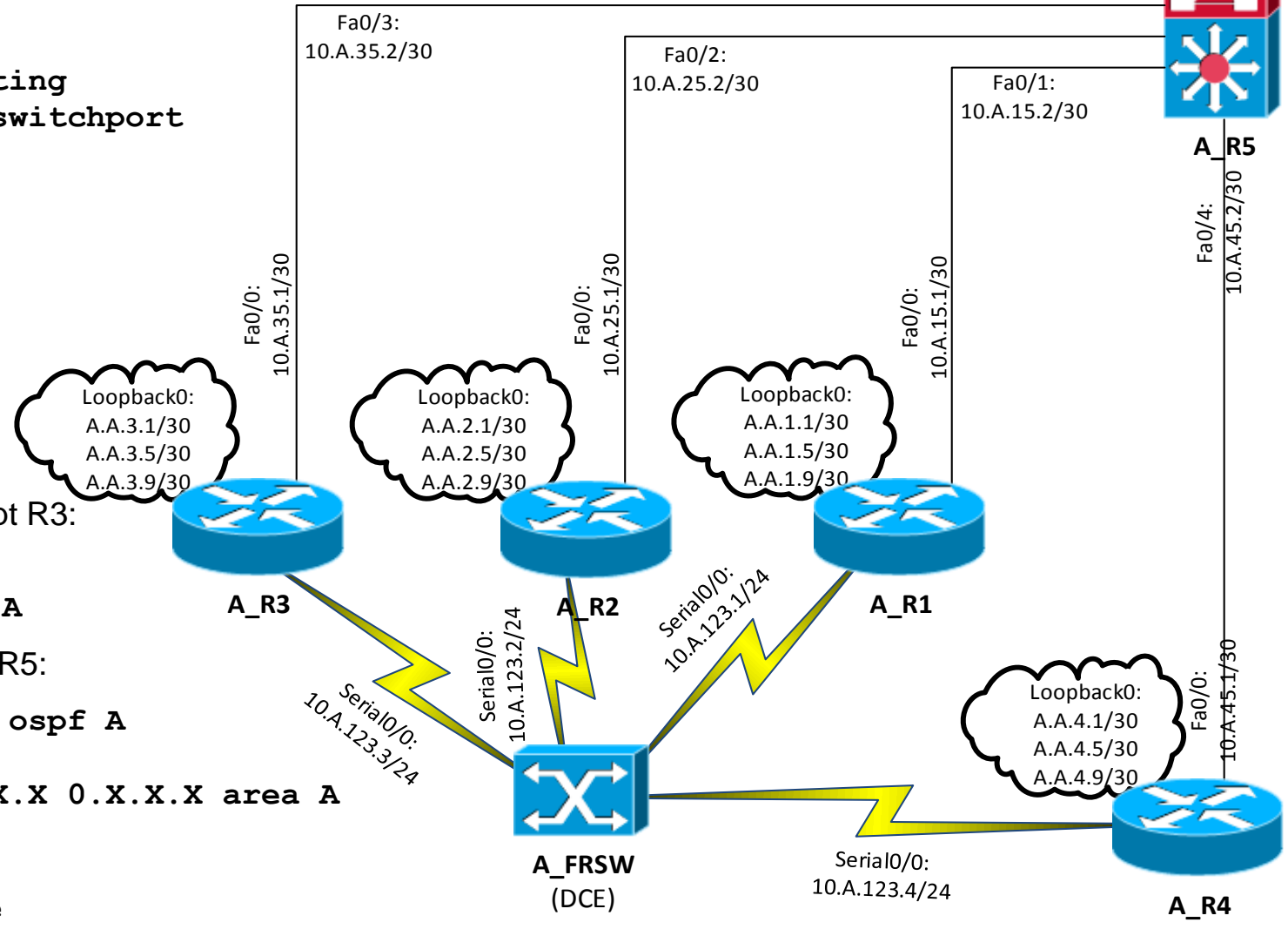
- All Loopbacks except R3:

```
(conf-if)#  
ip ospf A area A
```

- Serial+Ethernet R1-R5:

```
(conf)# router ospf A  
(conf-router)#  
network 10.A.X.X 0.X.X.X area A
```

```
# show ip route  
# show ip ospf neighbors
```

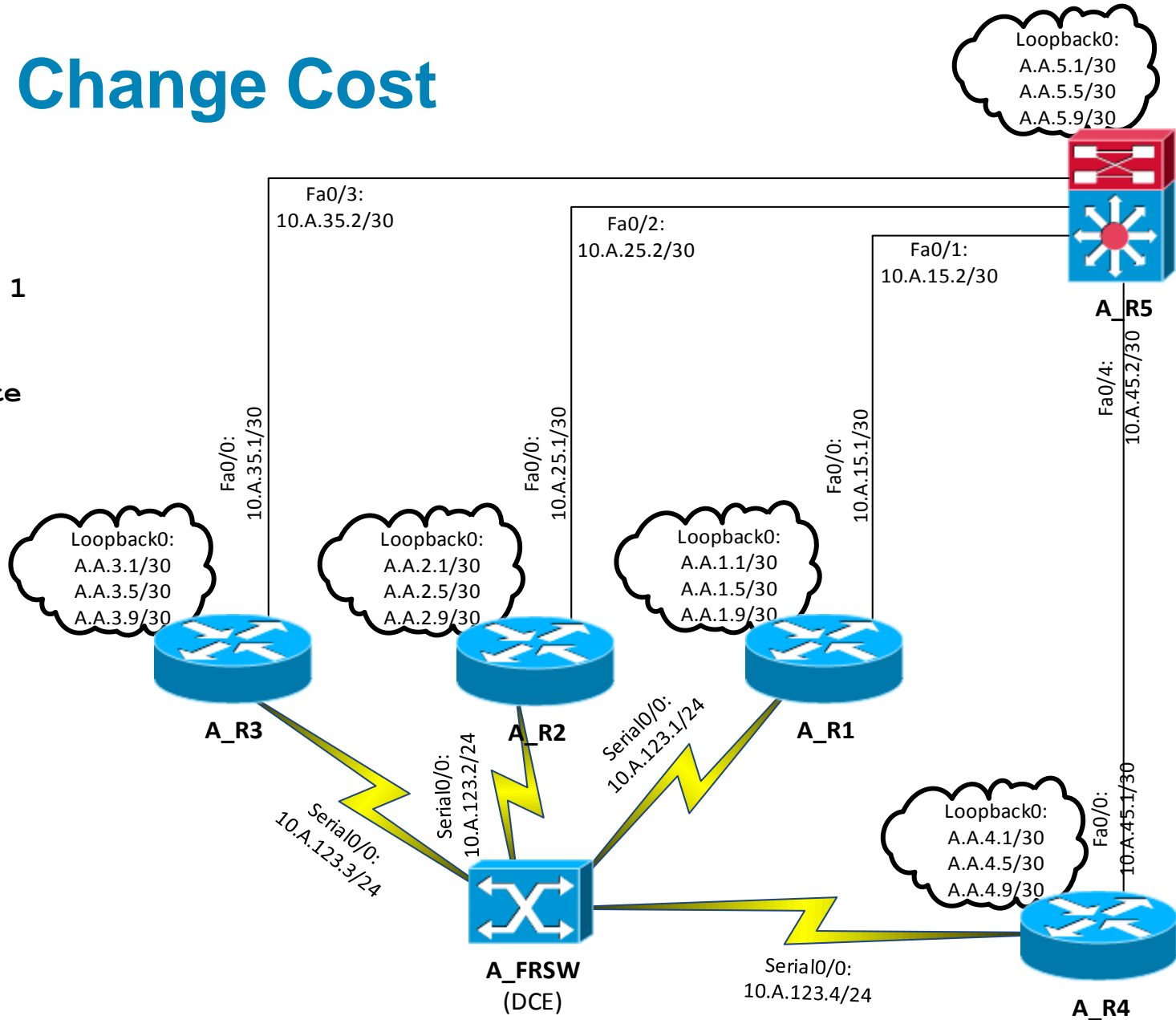


Lab 3.3: Change Cost

- Serial R1-R4:

```
(conf-if)#  
ip ospf cost 1
```

```
# show ip route
```

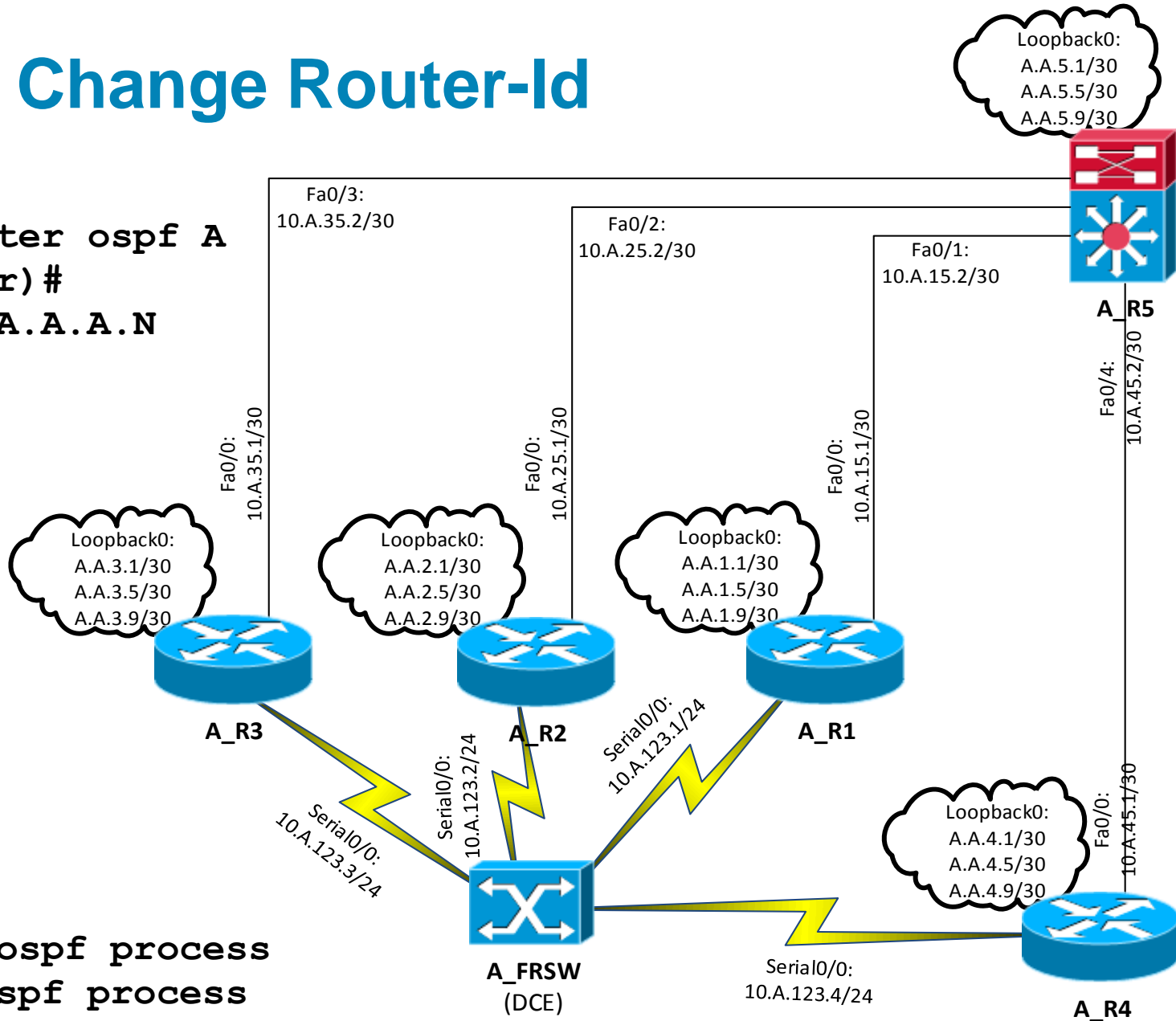


Lab 3.4: Change Router-Id

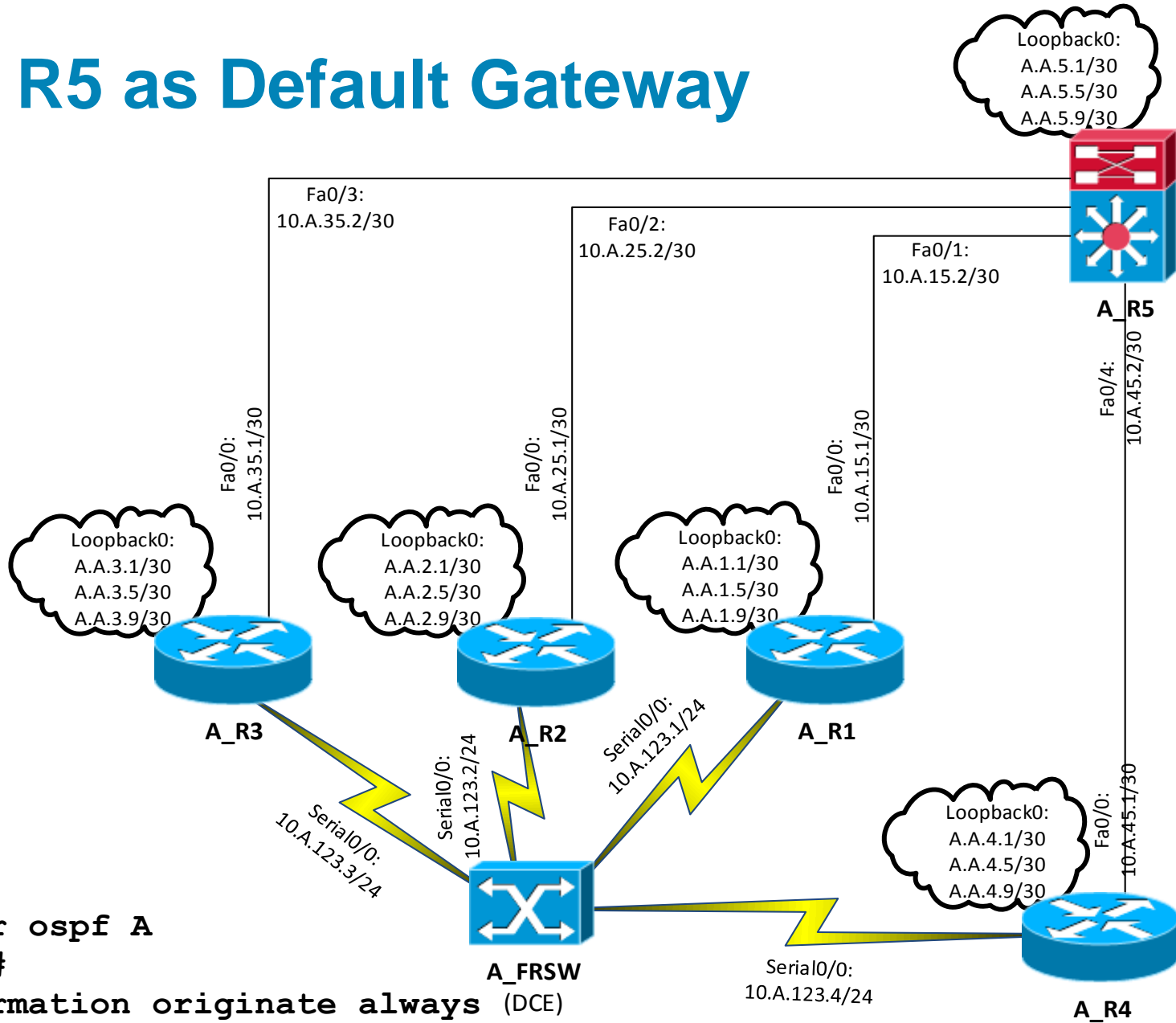
- R1-R5:

```
(conf)# router ospf A
(conf-router)#
router-id A.A.A.N
```

```
# clear ip ospf process
# show ip ospf process
```



Lab 3.5: R5 as Default Gateway

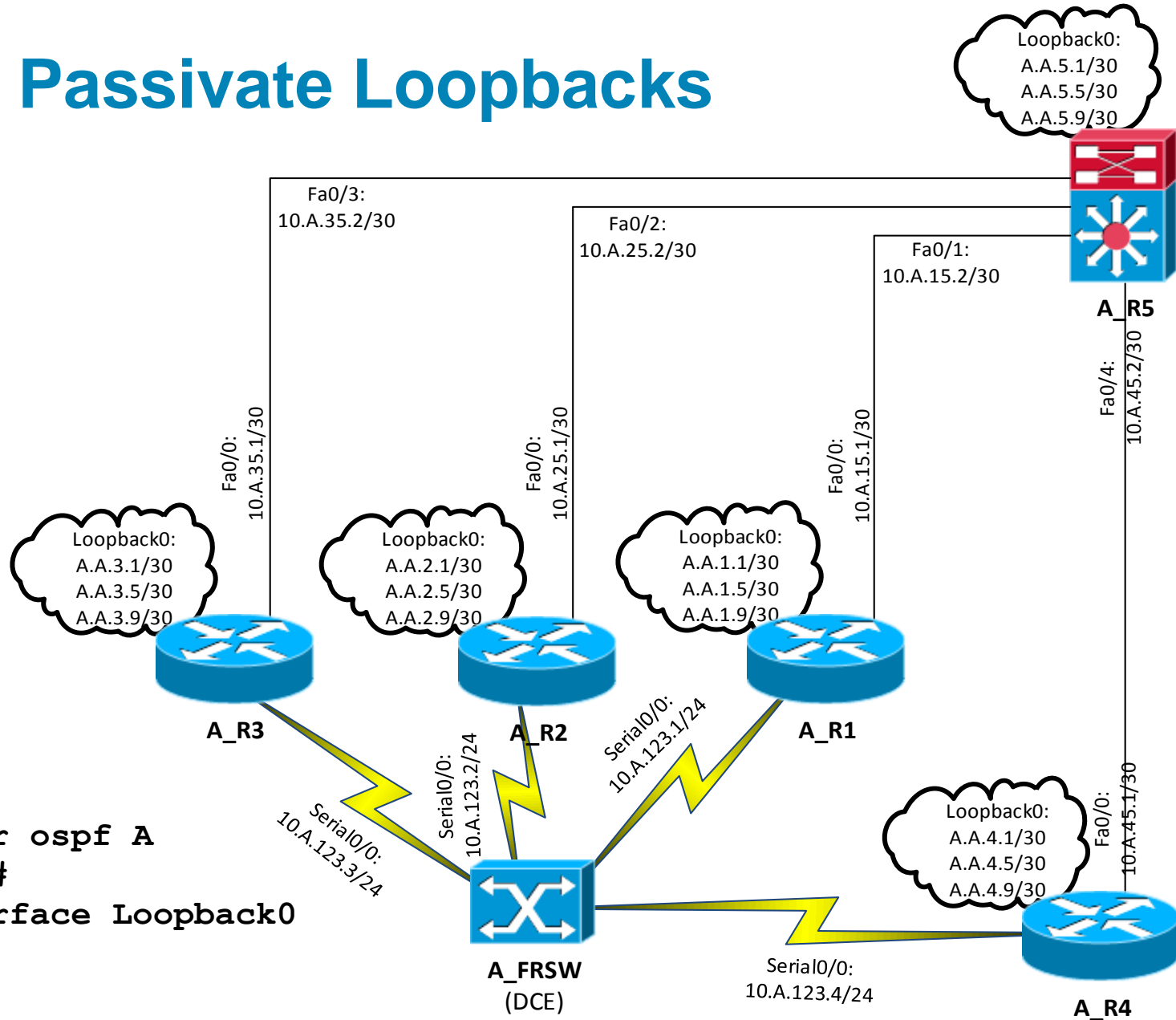


■ R5:

```
(conf)# router ospf A
(conf-router)#
  default-information originate always (DCE)
```

#show ip route

Lab 3.6: Passivate Loopbacks

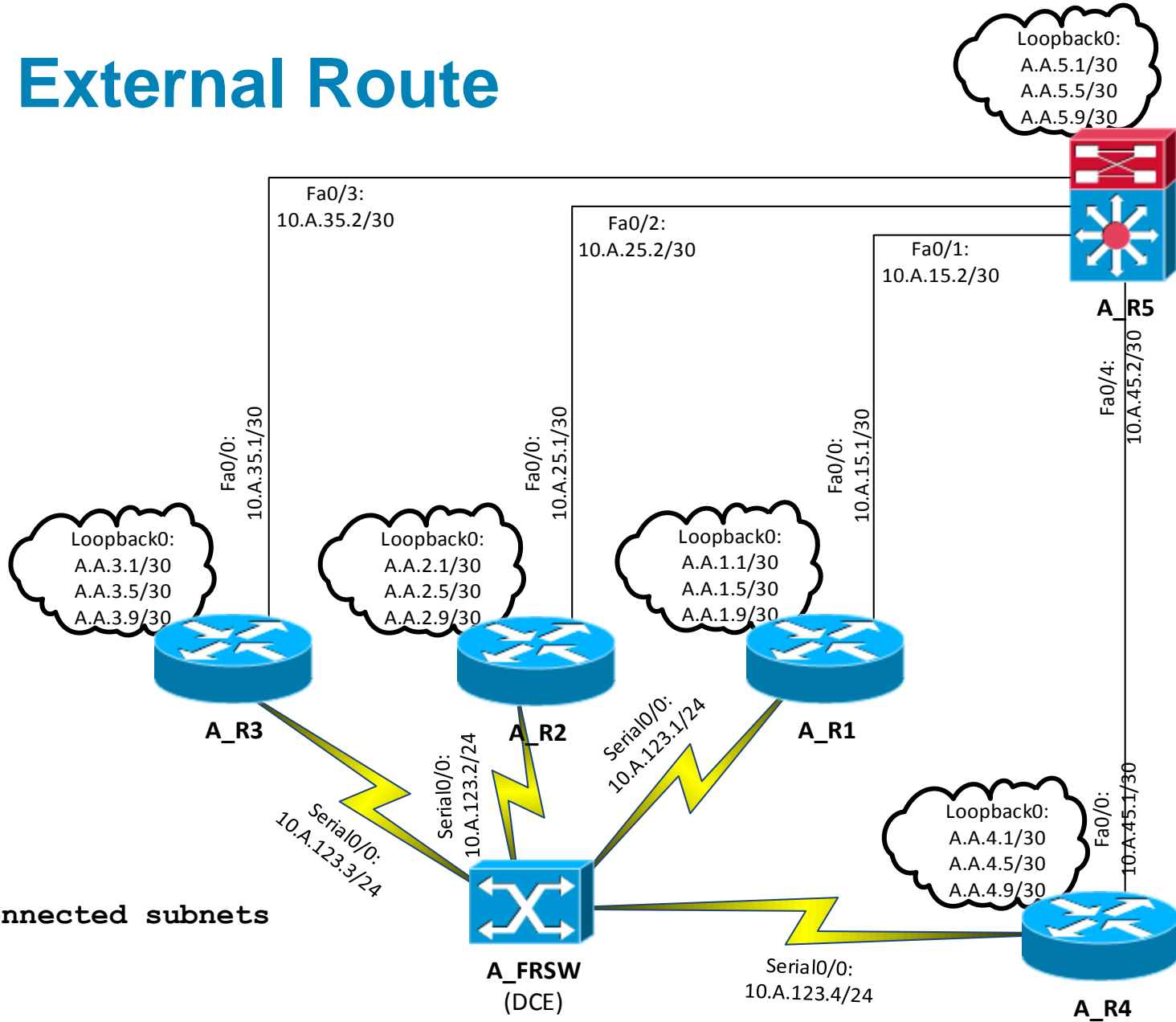


■ R1-5:

```
(conf)# router ospf A  
(conf-router)#  
passive-interface Loopback0
```

```
# show ip protocol
```


Lab 3.7: External Route

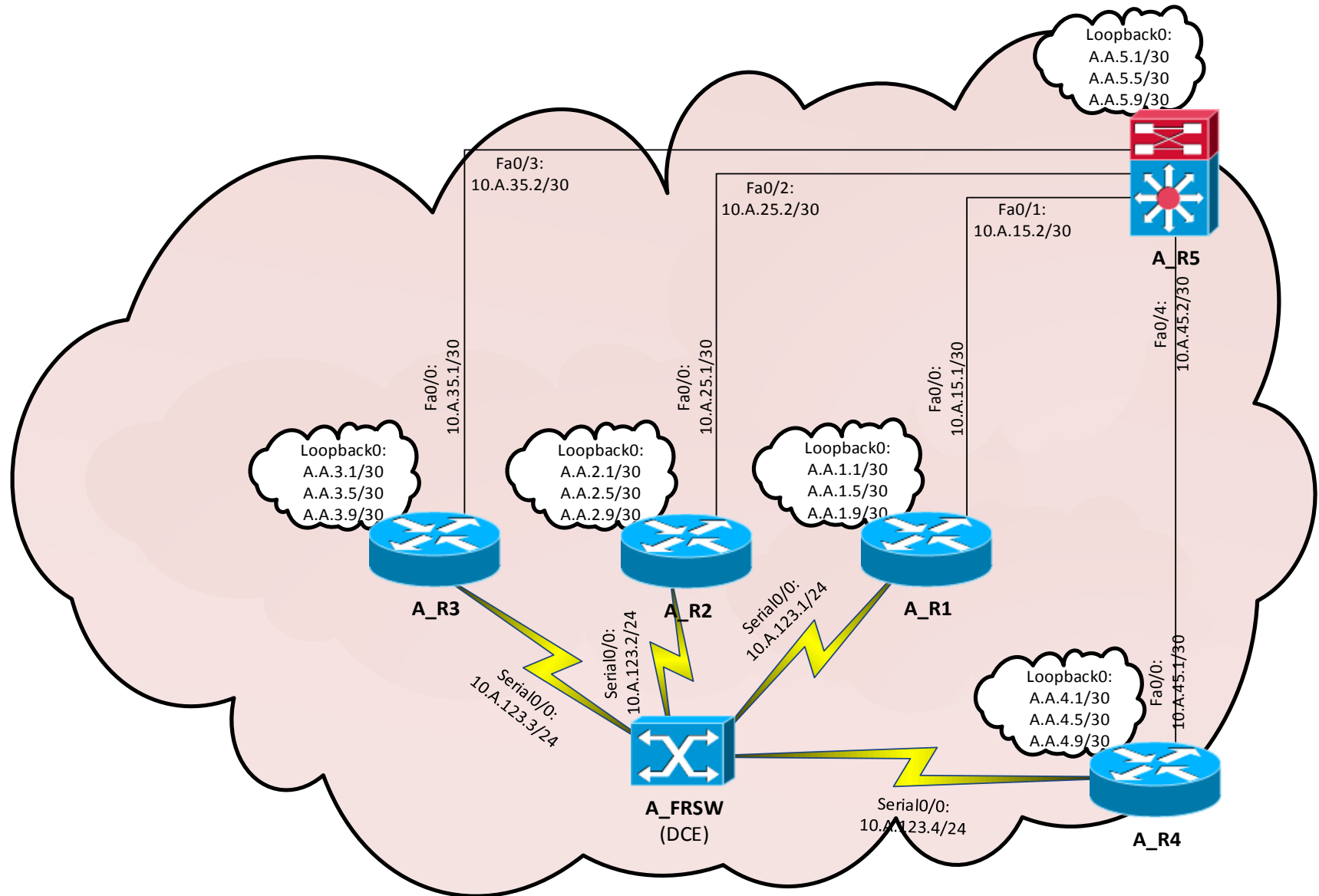


- R3:

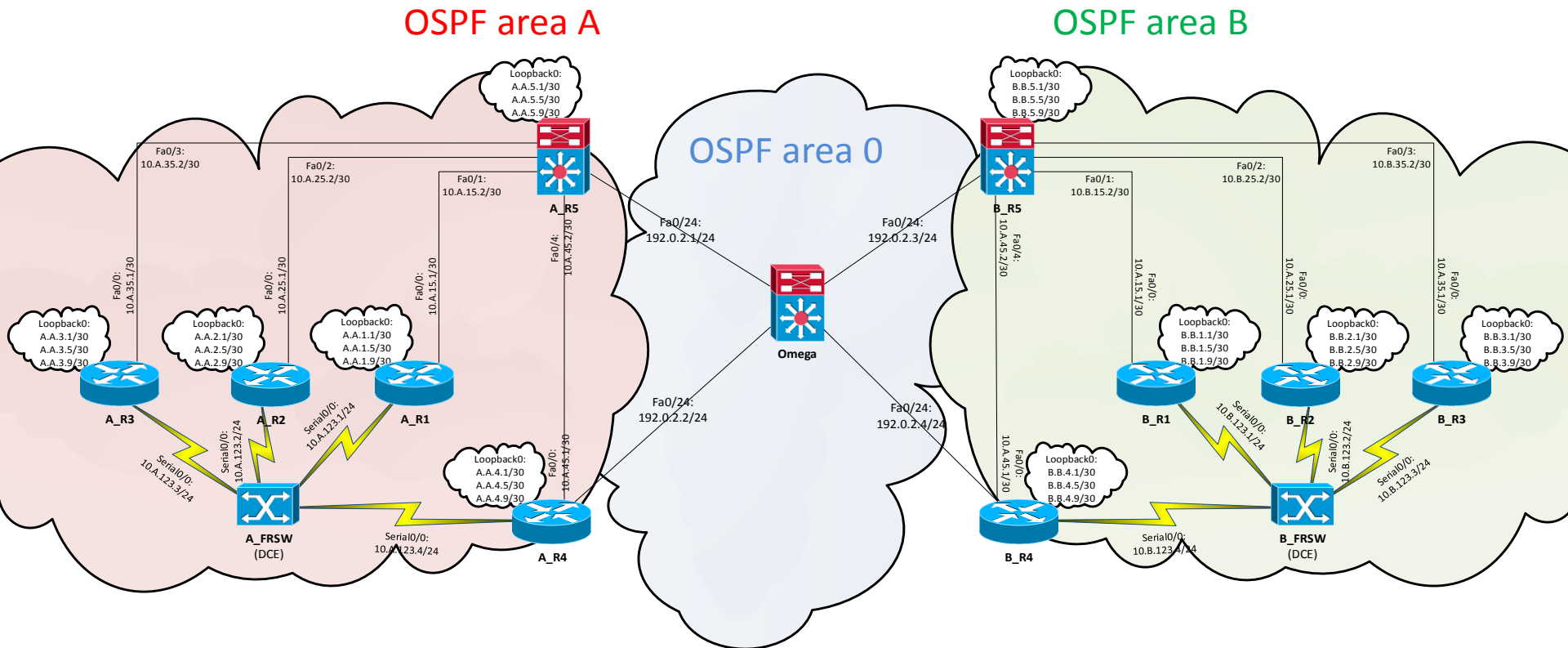

```
(conf-router)
      redistribute connected subnets
```

show ip route

Lab 3.8: Multi-area OSPF ① OSPF area A



Lab 3.8: Multi-area OSPF ②



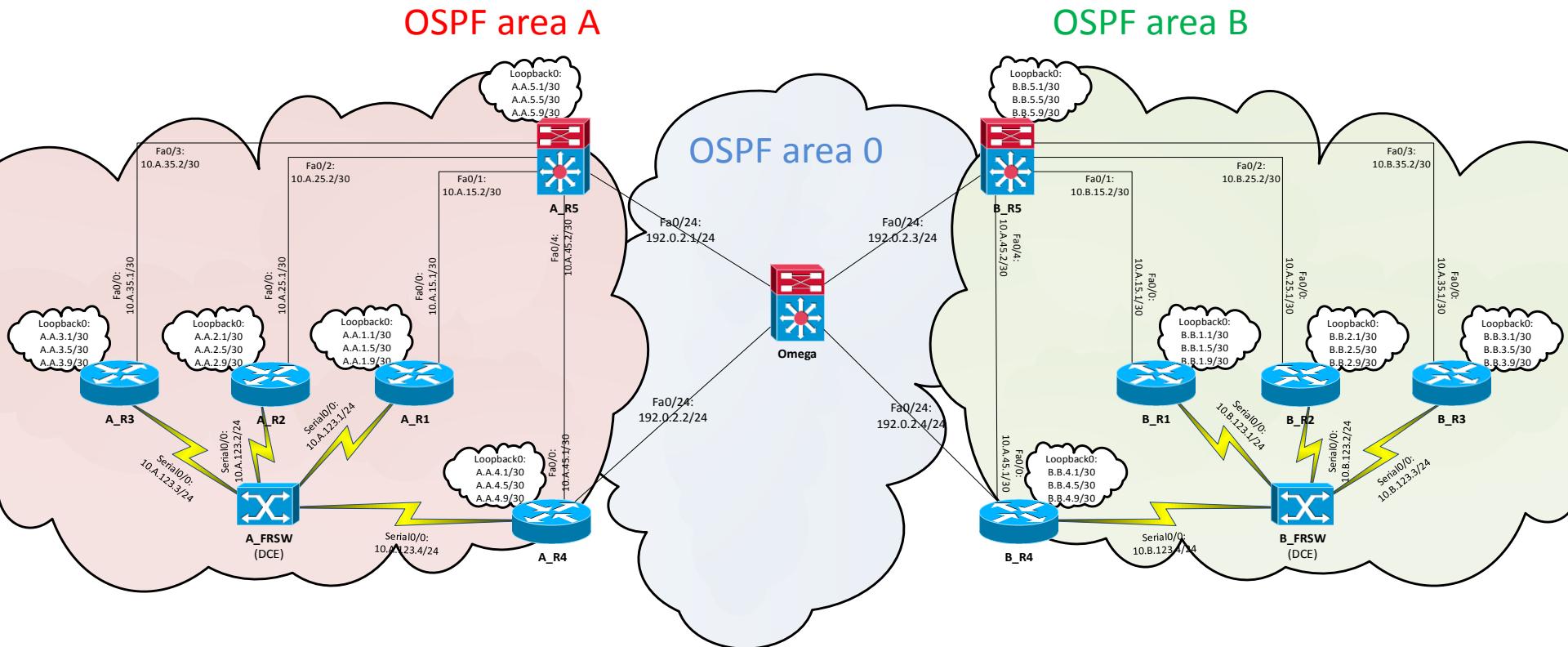
Lab 3.9: Stub Area

- R1-5:

```
(conf-router) #  
area A stub
```

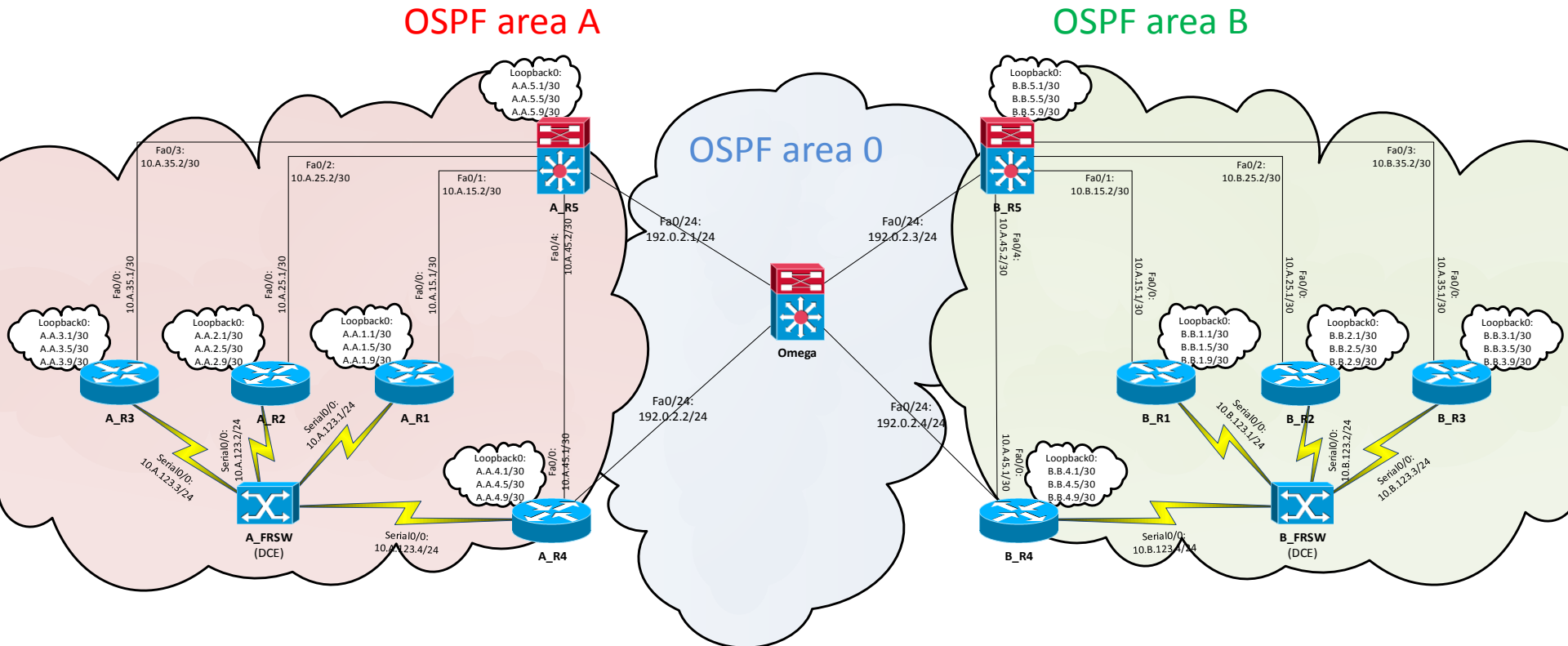
- R1-3:

```
# show ip route
```



Lab: Totally Stubby Area

- R4-5:
(conf-router) #
area B stub no-summary
- R1-3:
show ip route



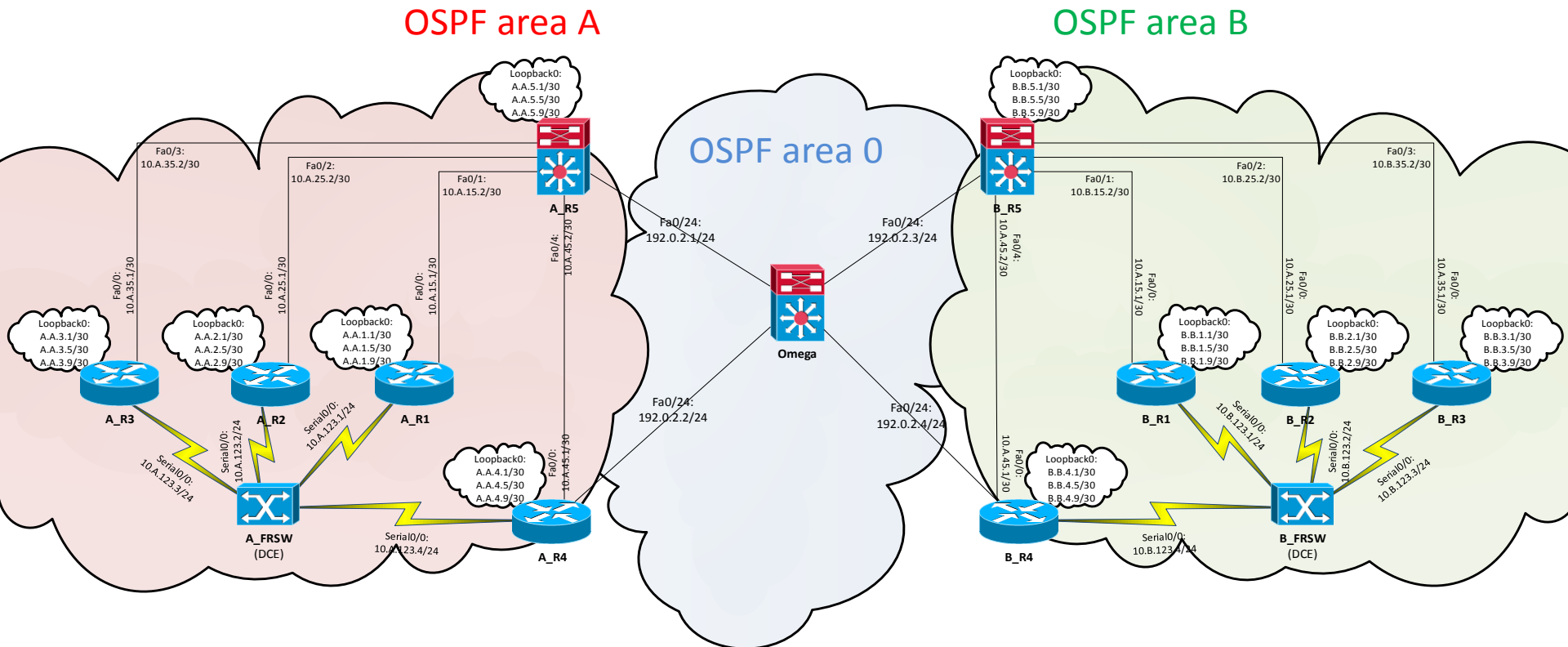
Lab: NSSA

- R1-5:

```
(conf-router) #
```

```
area A stub nssa default-information-originate
```

- R1-3: # show ip route



Lab 3.10: Totally NSSA

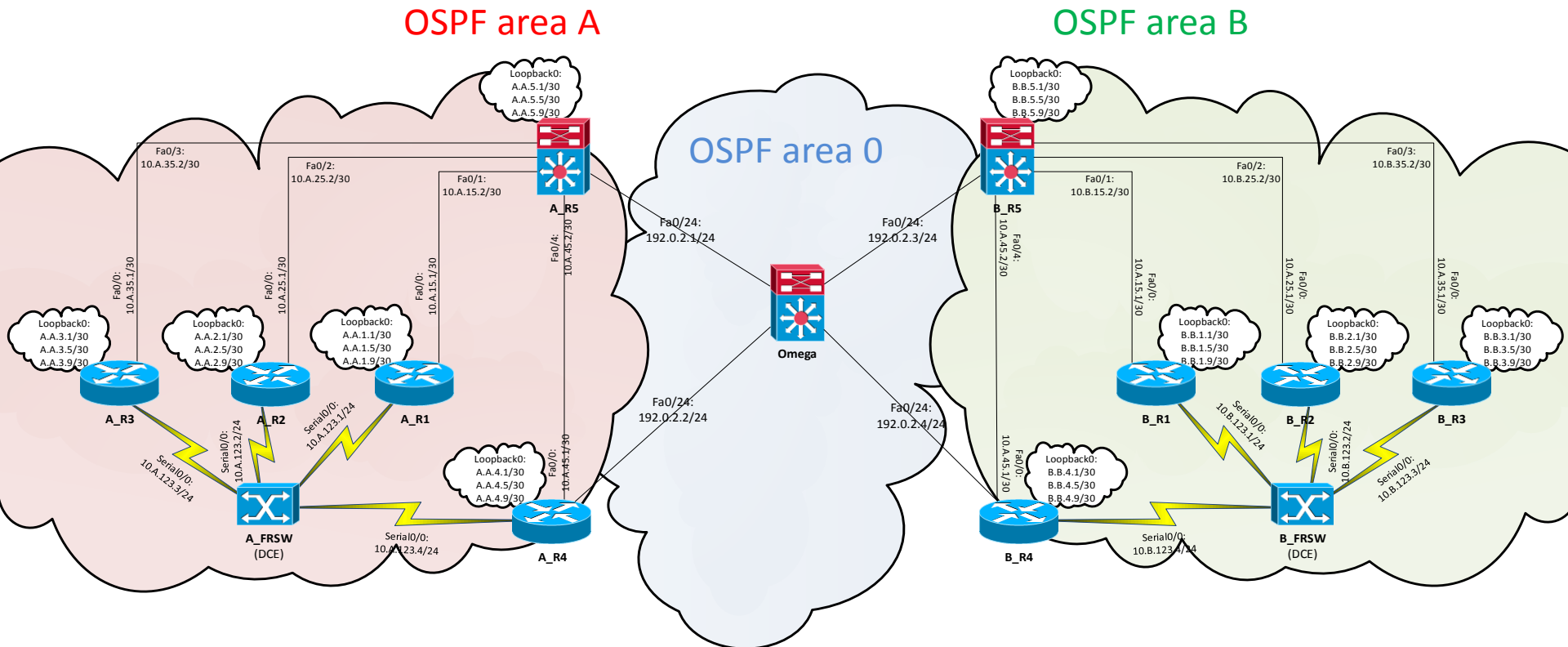
- R4, R5:

```
(conf-router) #
```

```
area B stub nssa no-summary default-information-originate
```

- R1-3:

```
# show ip route
```



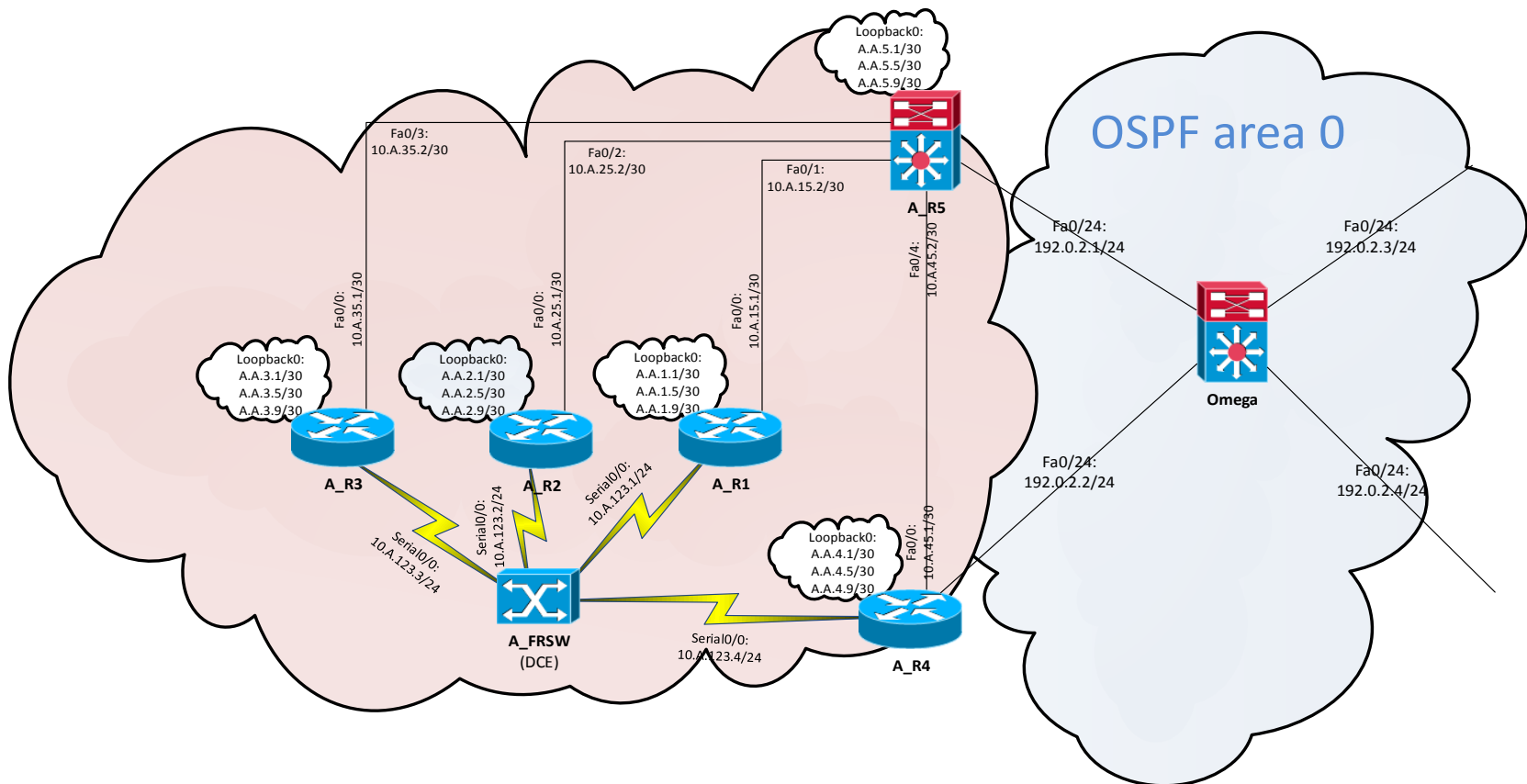
Lab 3.12: Partitioned Backbone

- R2: Change area of Loopback0 to area 0

```
(conf-router)# network A.A.2.0 0.0.0.255 area 0
```

- R2, R5:

```
(conf-router)# area A virtual-link R[2|5]-router-id  
OSPF area A
```





Labs created by [Vladimír Veselý](#) for C1P practice.

Last update: 2013-02-26