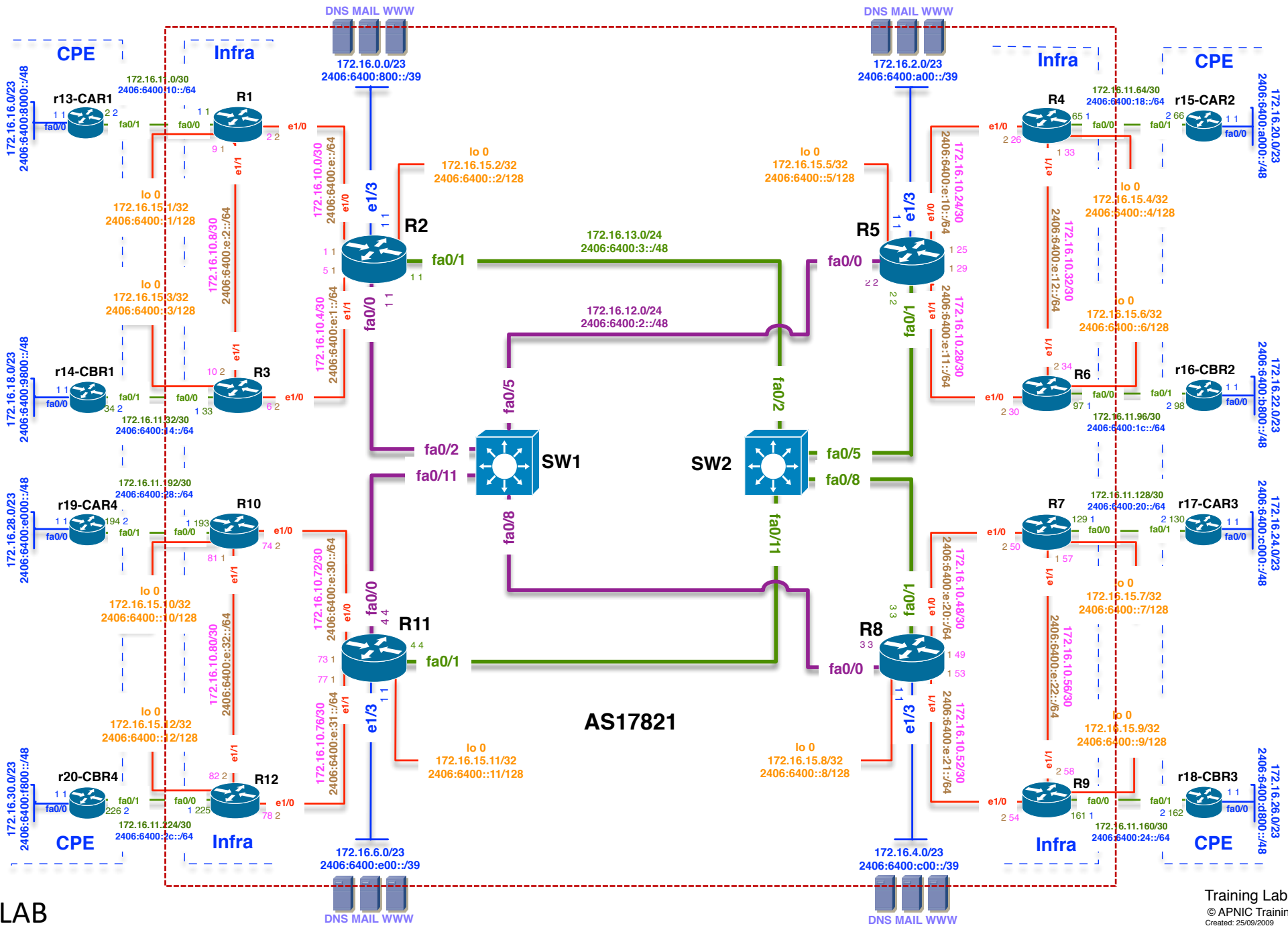


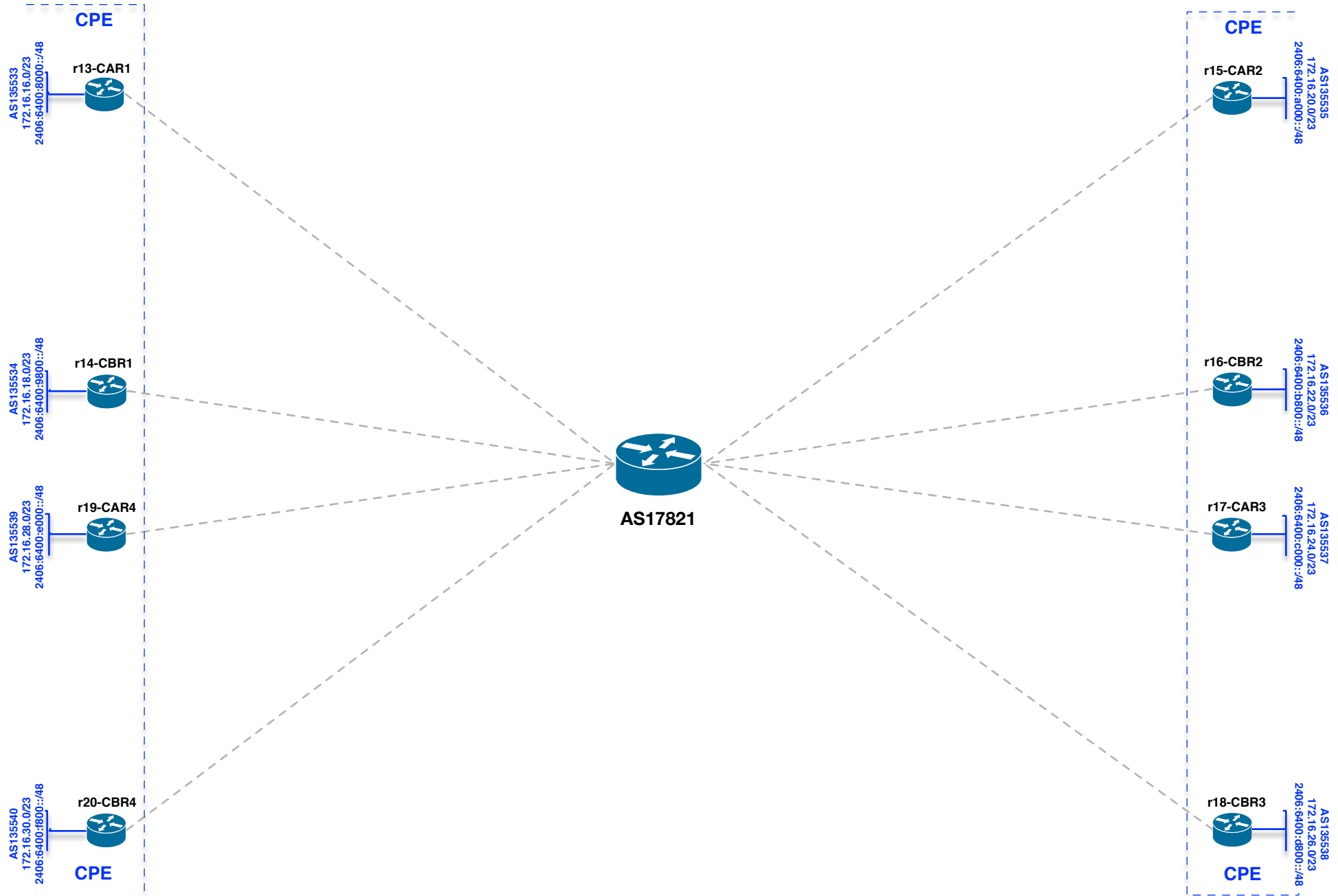
# IXP Lab

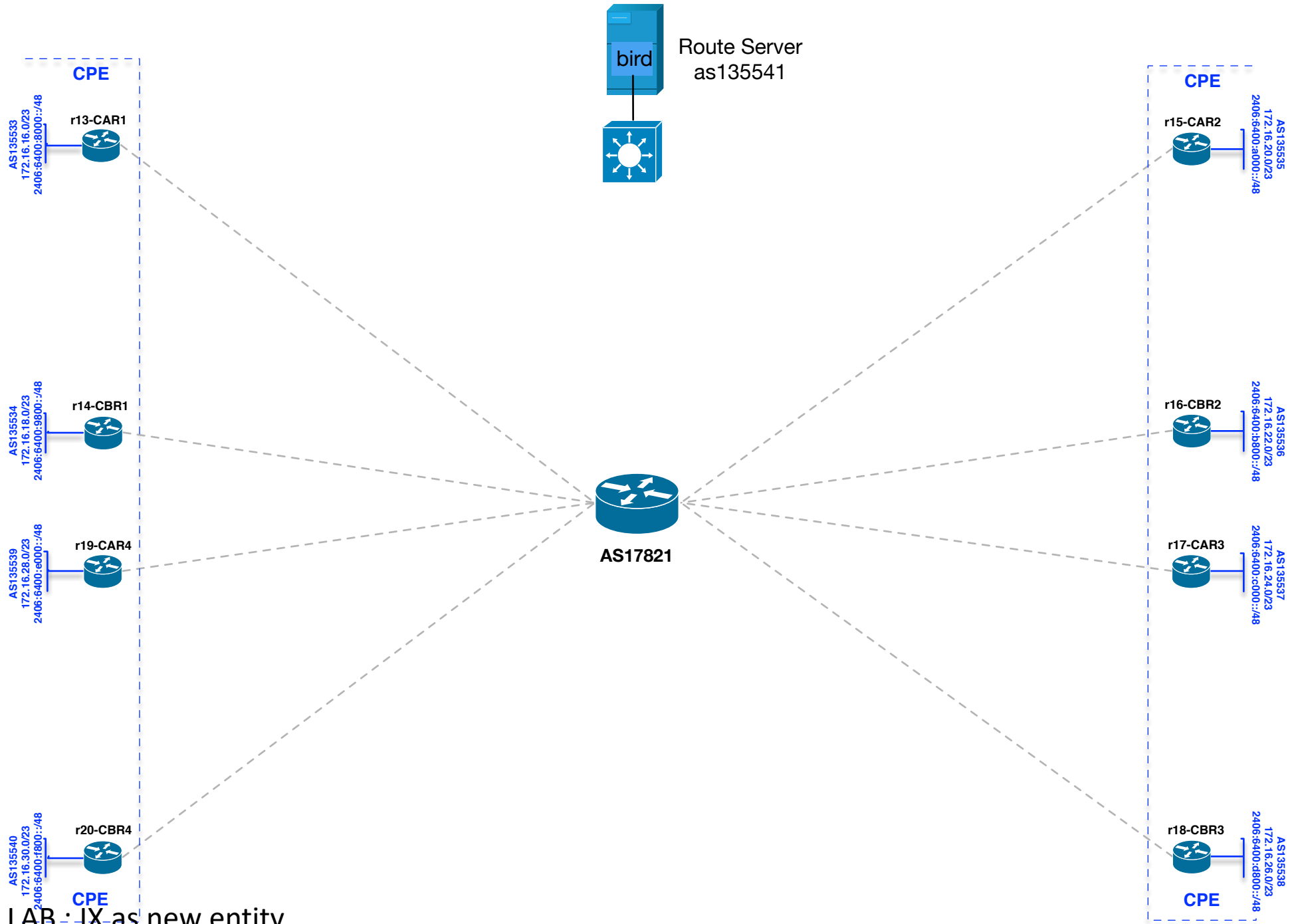
Tashi Phuntsho

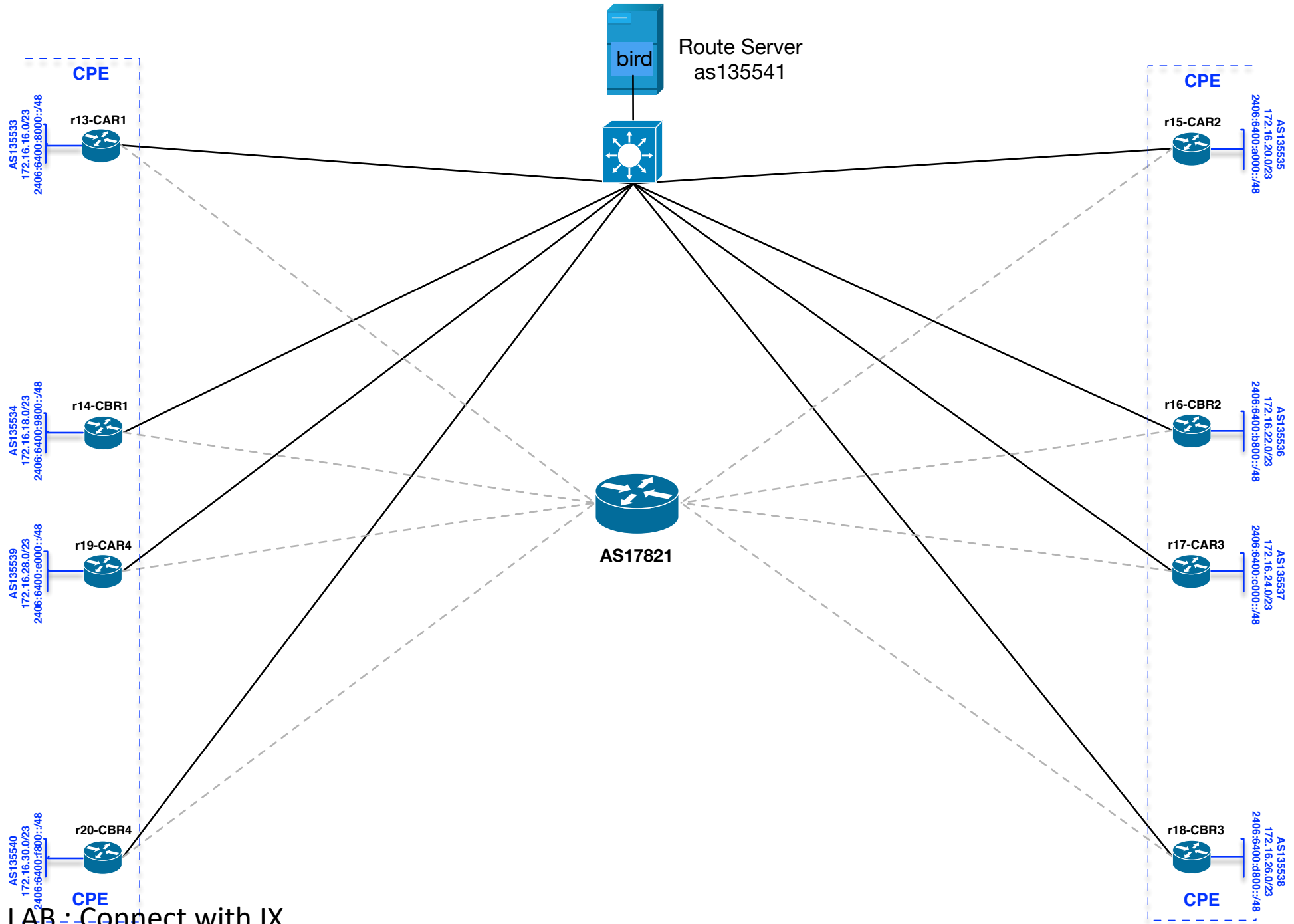
Senior Network Analyst (Janitor)

[tashi@apnic.net](mailto:tashi@apnic.net)









# Address Planning

	lo0	f0/1 Connected with upstream	e1/1 Connected with IX	Prefixes
r13 AS135533	172.16.16.254/32 2406:6400:8000:0000::1/128	172.16.11.2/30 2406:6400:0010:0000::2/64	203.176.189.13/24 2001:0df0:000a:0001::13/64	172.16.16.0/23 2406:6400:8000::/48
r14 AS135534	172.16.18.254/32 2406:6400:9800:0000::1/128	172.16.11.34/30 2406:6400:0014:0000::2/64	203.176.189.14/24 2001:0df0:000a:0001::14/64	172.16.18.0/23 2406:6400:9800::/48
r15 AS135535	172.16.20.254/32 2406:6400:A000:0000::1/128	172.16.11.66/30 2406:6400:0018:0000::2/64	203.176.189.15/24 2001:0df0:000a:0001::15/64	172.16.20.0/23 2406:6400:a000::/48
r16 AS135536	172.16.22.254/32 2406:6400:B800:0000::1/128	172.16.11.98/30 2406:6400:001C:0000::2/64	203.176.189.16/24 2001:0df0:000a:0001::16/64	172.16.22.0/23 2406:6400:b800::/48
r17 AS135537	172.16.24.254/32 2406:6400:C000:0000::1/128	172.16.11.130/30 2406:6400:0020:0000::2/64	203.176.189.17/24 2001:0df0:000a:0001::17/64	172.16.24.0/23 2406:6400:c000::/48
r18 AS135538	172.16.26.254/32 2406:6400:D800:0000::1/128	172.16.11.162/30 2406:6400:0024:0000::2/64	203.176.189.18/24 2001:0df0:000a:0001::18/64	172.16.26.0/23 2406:6400:d800::/48
r19 AS135539	172.16.28.254/32 2406:6400:E000:0000::1/128	172.16.11.194/30 2406:6400:0028:0000::2/64	203.176.189.19/24 2001:0df0:000a:0001::19/64	172.16.28.0/23 2406:6400:e000::/48
r20 AS135540	172.16.30.254/32 2406:6400:F800:0000::1/128	172.16.11.226/30 2406:6400:002C:0000::2/64	203.176.189.20/24 2001:0df0:000a:0001::20/64	172.16.30.0/23 2406:6400:f800::/48

# Prefixes

Customer	AS Number	Prefix
r-13-CAR1	135533	2406:6400:8000::/48
r-14-CBR1	135534	2406:6400:9800::/48
r-15-CAR2	135535	2406:6400:a000::/48
r-16-CBR2	135536	2406:6400:b800::/48
r-17-CAR3	135537	2406:6400:c000::/48
r-18-CBR3	135538	2406:6400:d800::/48
r-19-CAR4	135539	2406:6400:e000::/48
r-20-CBR4	135540	2406:6400:f800::/48

# Interface Configuration

```
config t
interface Ethernet1/1
description IX Router
no ip redirects
no ip unreachable
no clns route-cache
ip address 203.176.189.13 255.255.255.0
ipv6 address 2001:0df0:000a:0001::13/64
duplex full
no shut
```



# BGP Configuration

```
config t
!
router bgp 135533
no bgp enforce-first-as
neighbor IPV4-eBGP-IX peer-group
neighbor IPV6-eBGP-IX peer-group
!
address-family ipv4
neighbor 203.176.189.240 remote-as 135541
neighbor 203.176.189.240 peer-group IPV4-eBGP-IX
neighbor 203.176.189.240 activate
exit-address-family
!
address-family ipv6
neighbor 2001:0df0:000a:0001::240 remote-as 135541
neighbor 2001:0df0:000a:0001::240 peer-group IPV6-eBGP-IX
neighbor 2001:0df0:000a:0001::240 activate
```

# Prefix Filter

```
config t
!
ip prefix-list ANNOUNCE-PREFIX-IPv4 seq 5 permit 172.16.16.0/23 le 24
ip prefix-list ANNOUNCE-PREFIX-IPv4 seq 100 deny 0.0.0.0/0 le 32
!
ipv6 prefix-list ANNOUNCE-PREFIX-IPv6 seq 5 permit 2406:6400:8000::/48
ipv6 prefix-list ANNOUNCE-PREFIX-IPv6 seq 100 deny ::/0 le 48
!
router bgp 135533
address-family ipv4
neighbor IPV4-eBGP-IX prefix-list ANNOUNCE-PREFIX-IPv4 out
neighbor IPV4-eBGP-UPSTREAM prefix-list ANNOUNCE-PREFIX-IPv4 out
exit-address-family
!
address-family ipv6
neighbor IPV6-eBGP-IX prefix-list ANNOUNCE-PREFIX-IPv6 out
neighbor IPV6-eBGP-UPSTREAM prefix-list ANNOUNCE-PREFIX-IPv6 out
```