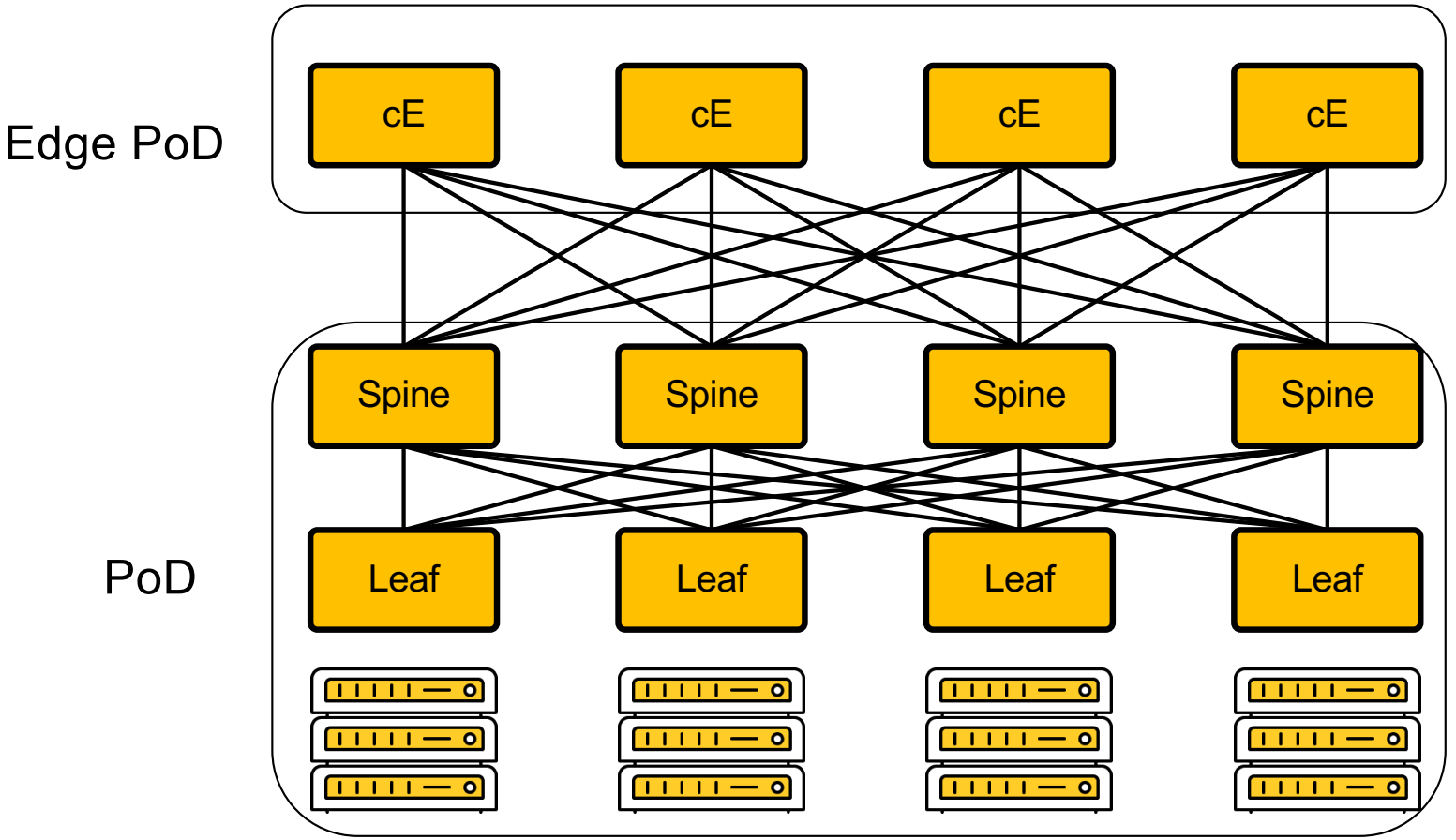
Yandex Cloud

MPLS in Data Center Fabrics

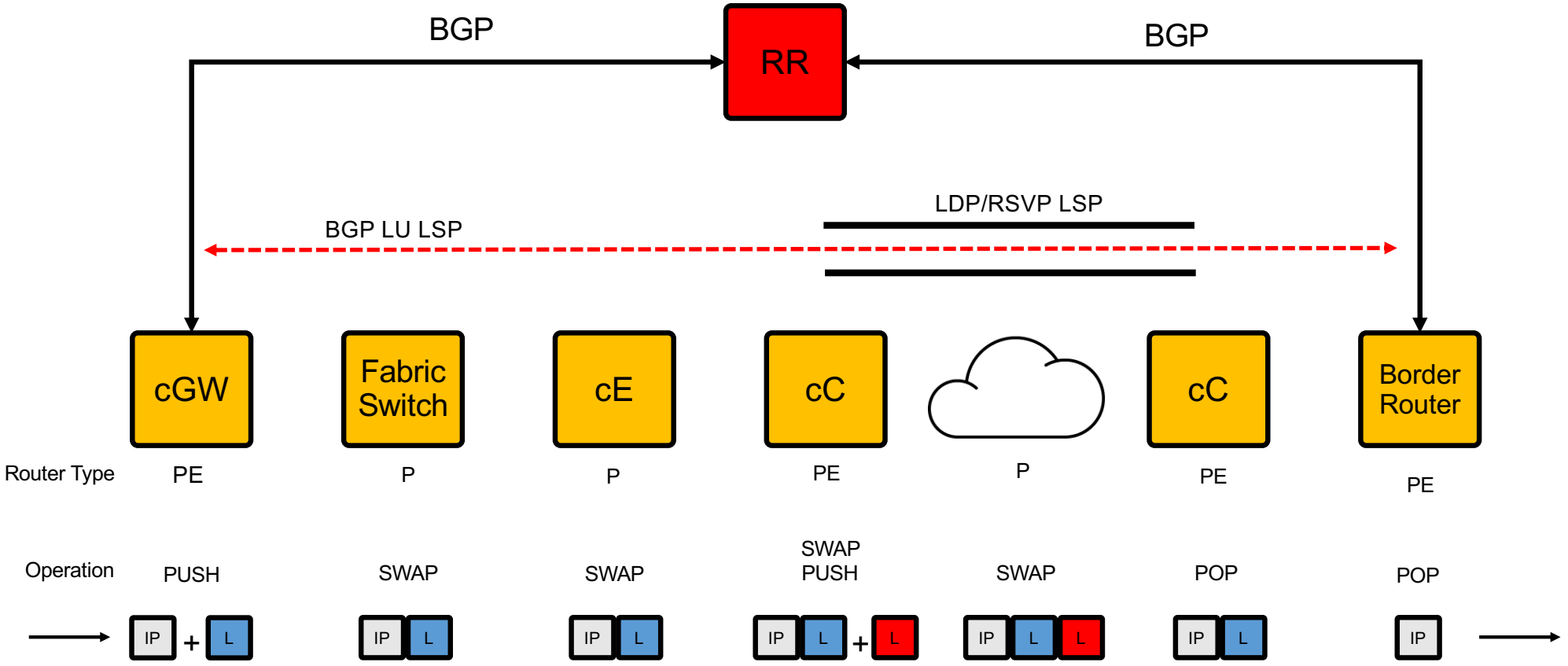
Alexander Virilin

Head of Network Infrastructure

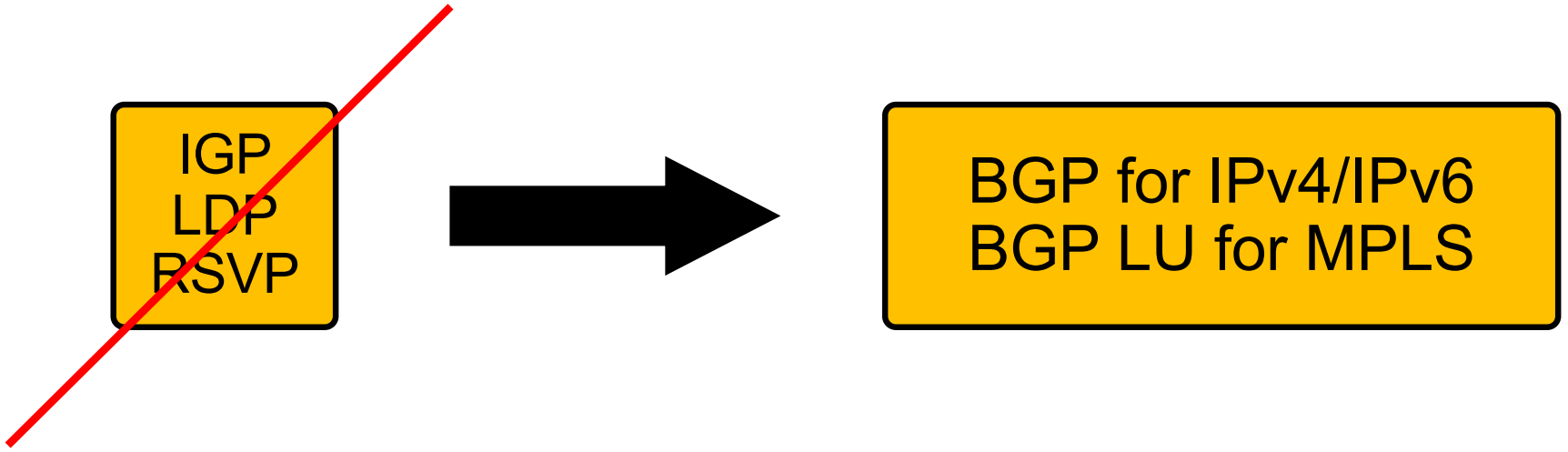
Cloud fabric



Label-switched path to the internet



Fabric control plane



Network appliances

- Cloud Gateways (cGW)
- Load Balancers (based on cGW)

- Route Reflectors
- Route Injectors (FlowSpec, Host Routes)
- Filter Nodes
- Management Nodes

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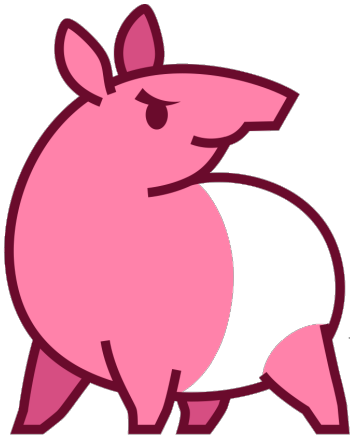
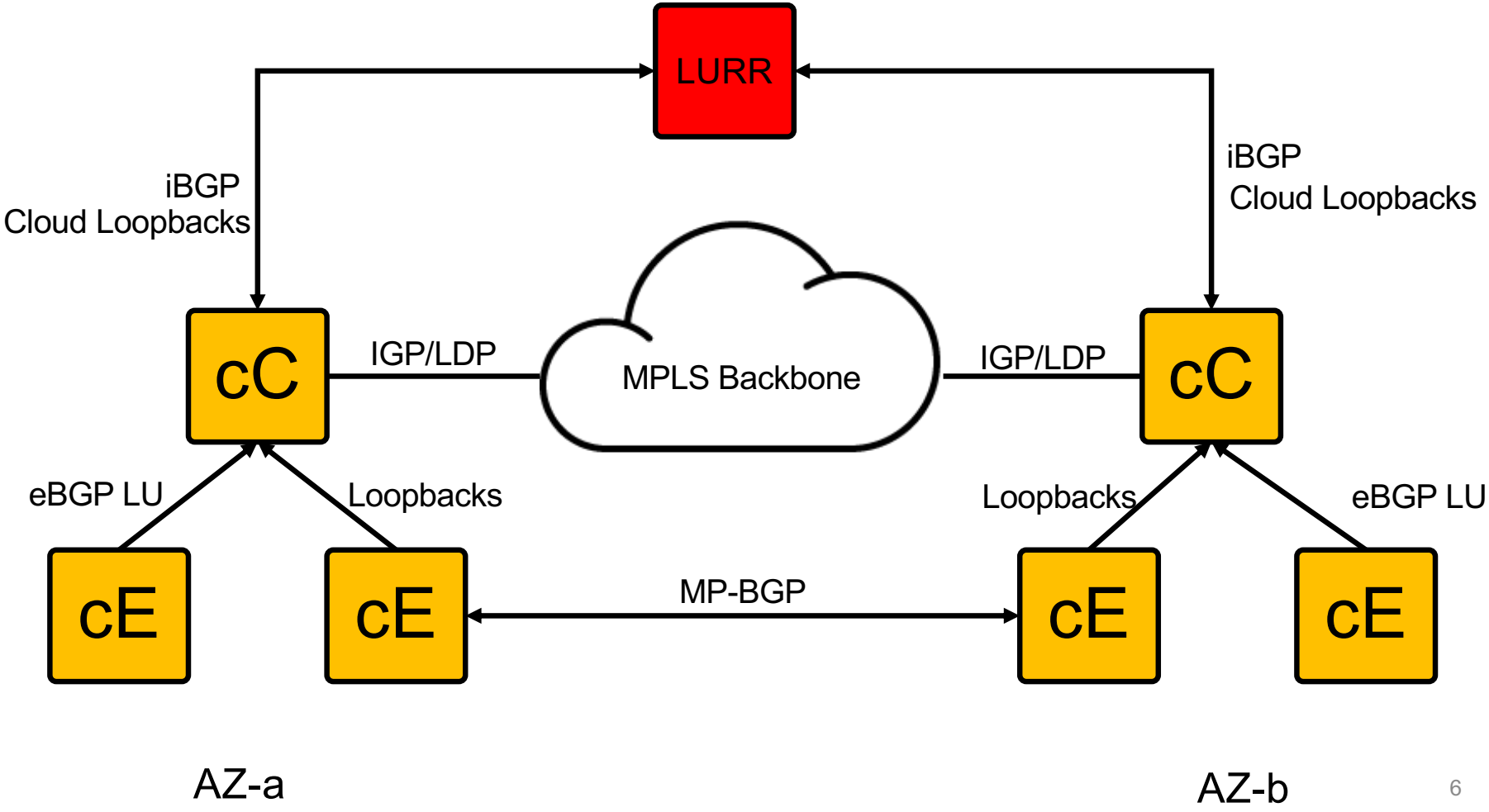
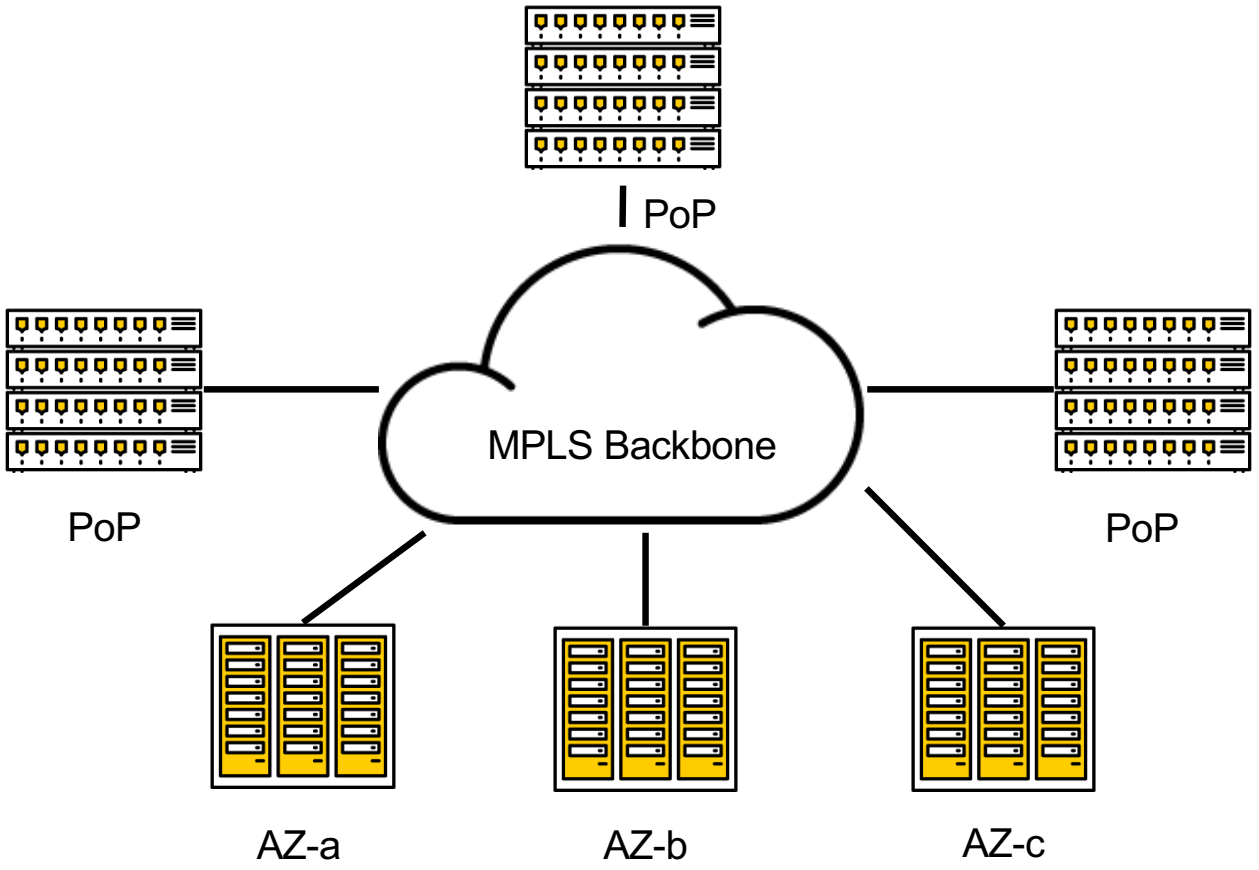


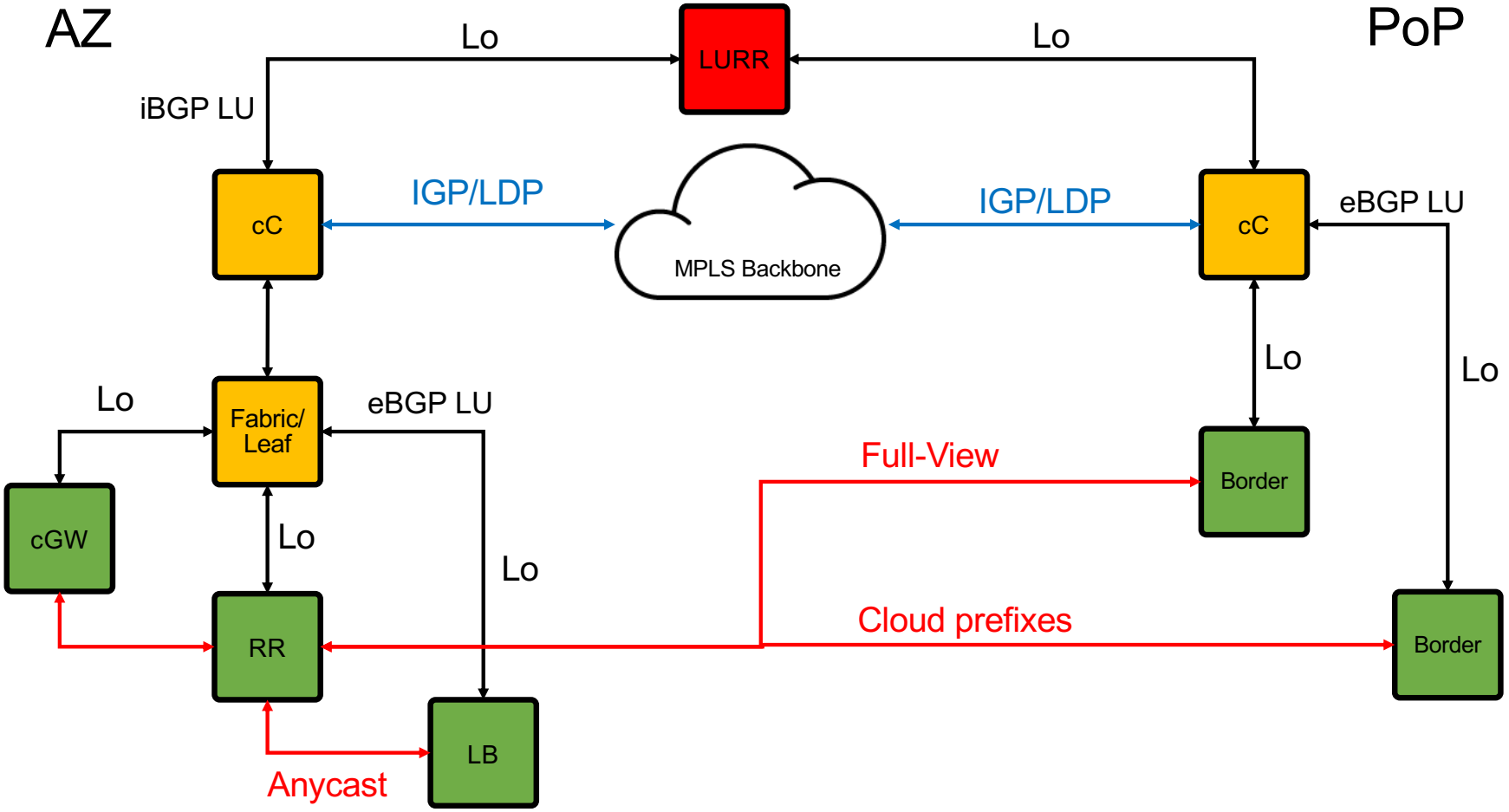
Cloud “connector”



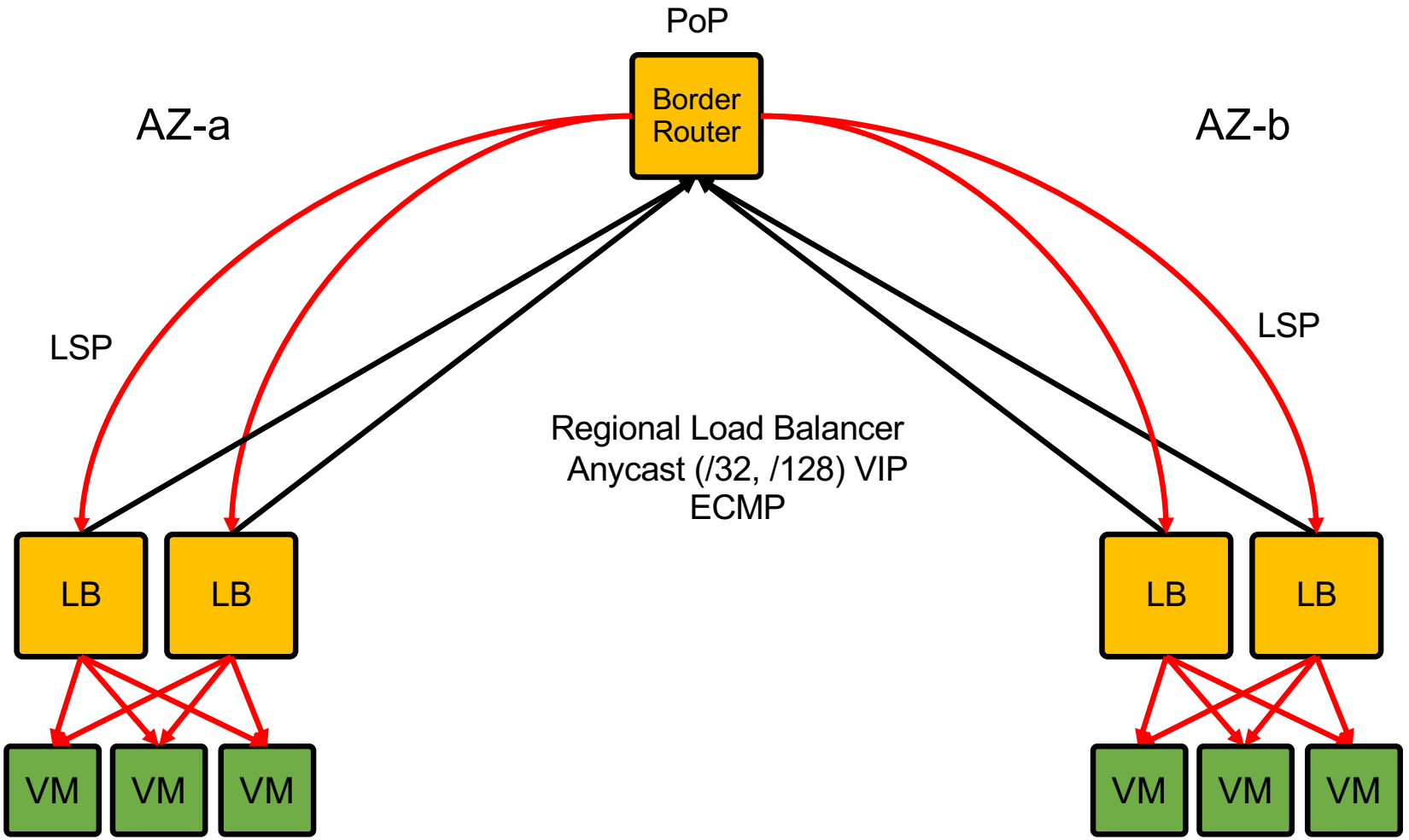
Backbone



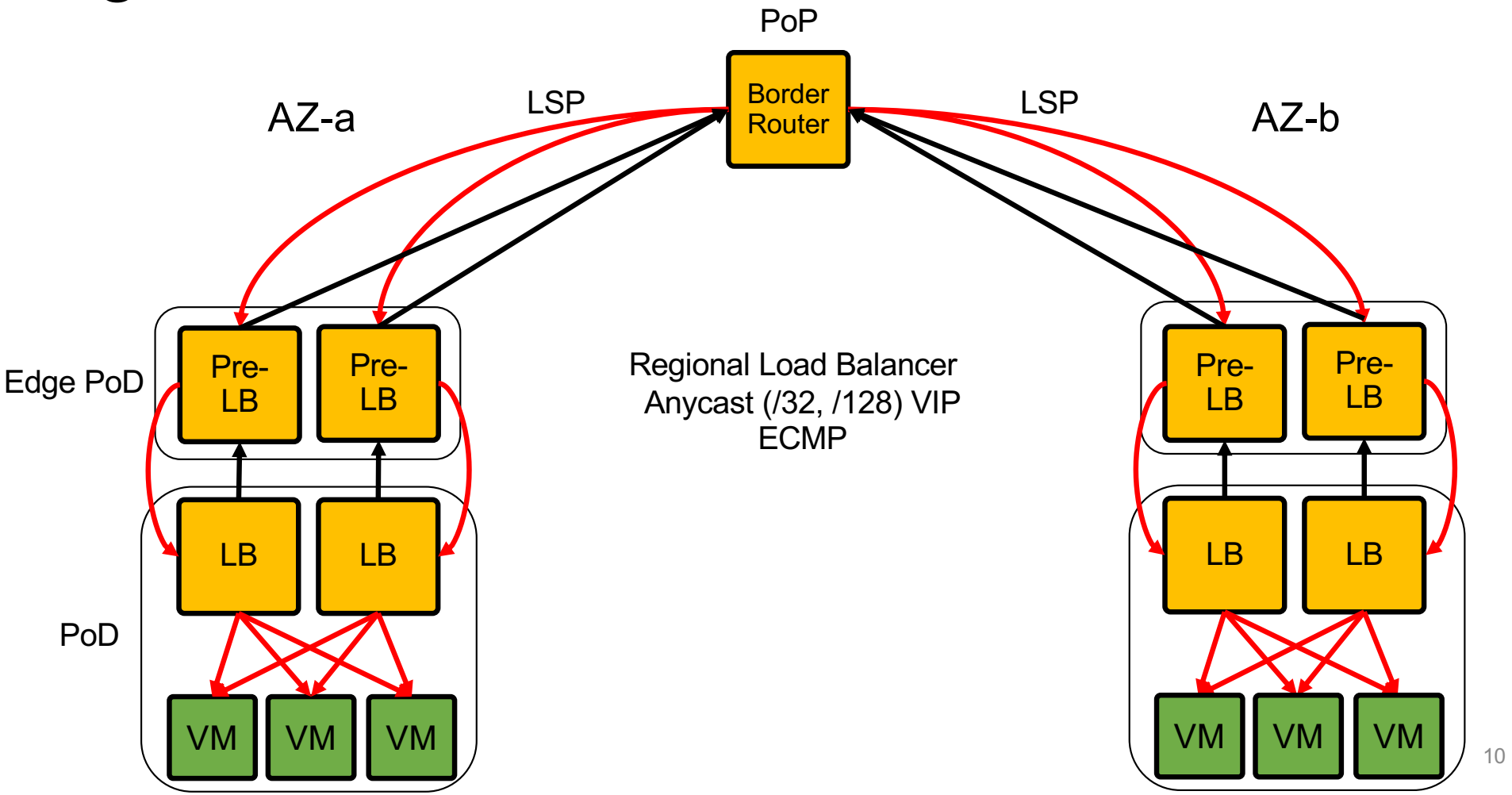
Routing information distribution



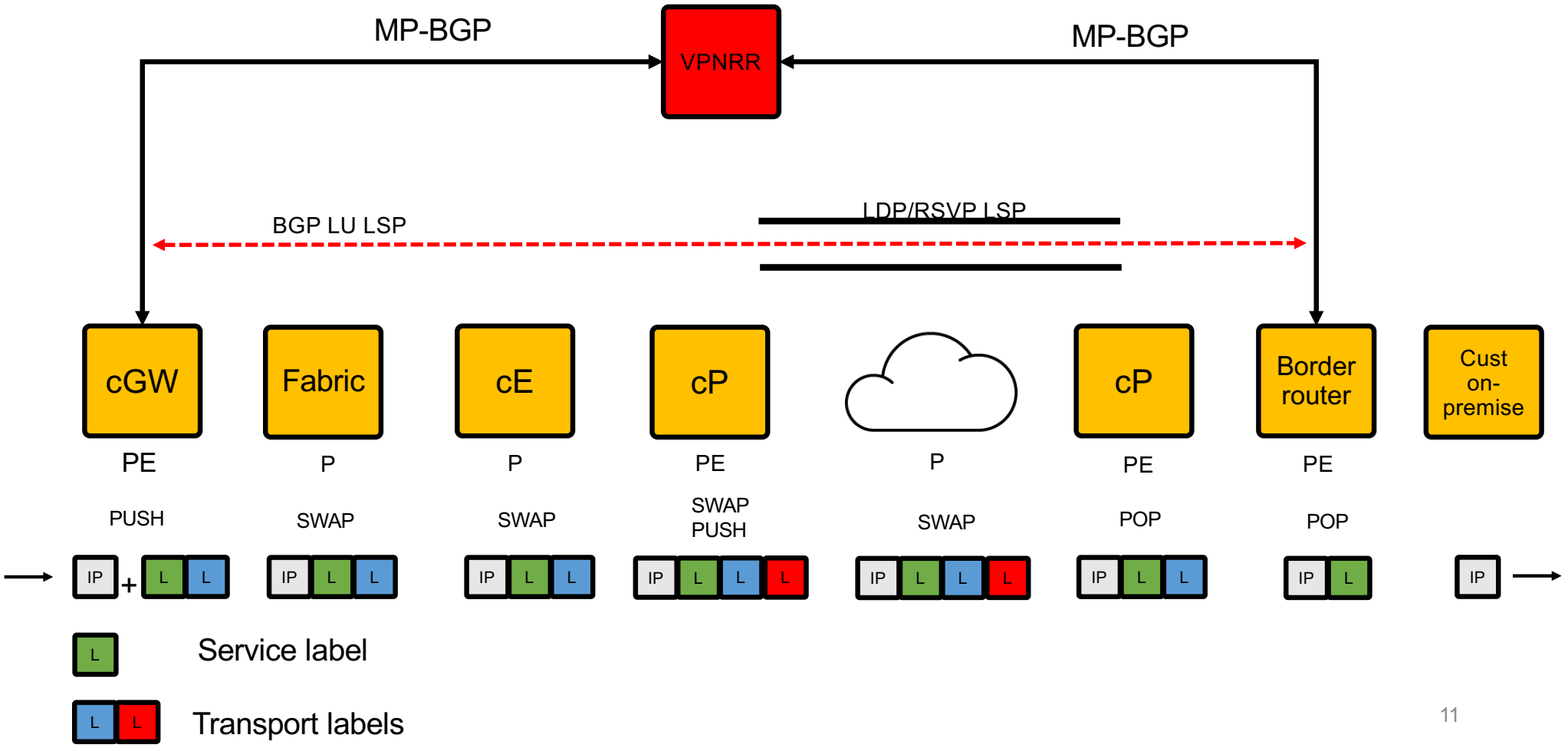
Regional Load Balancer



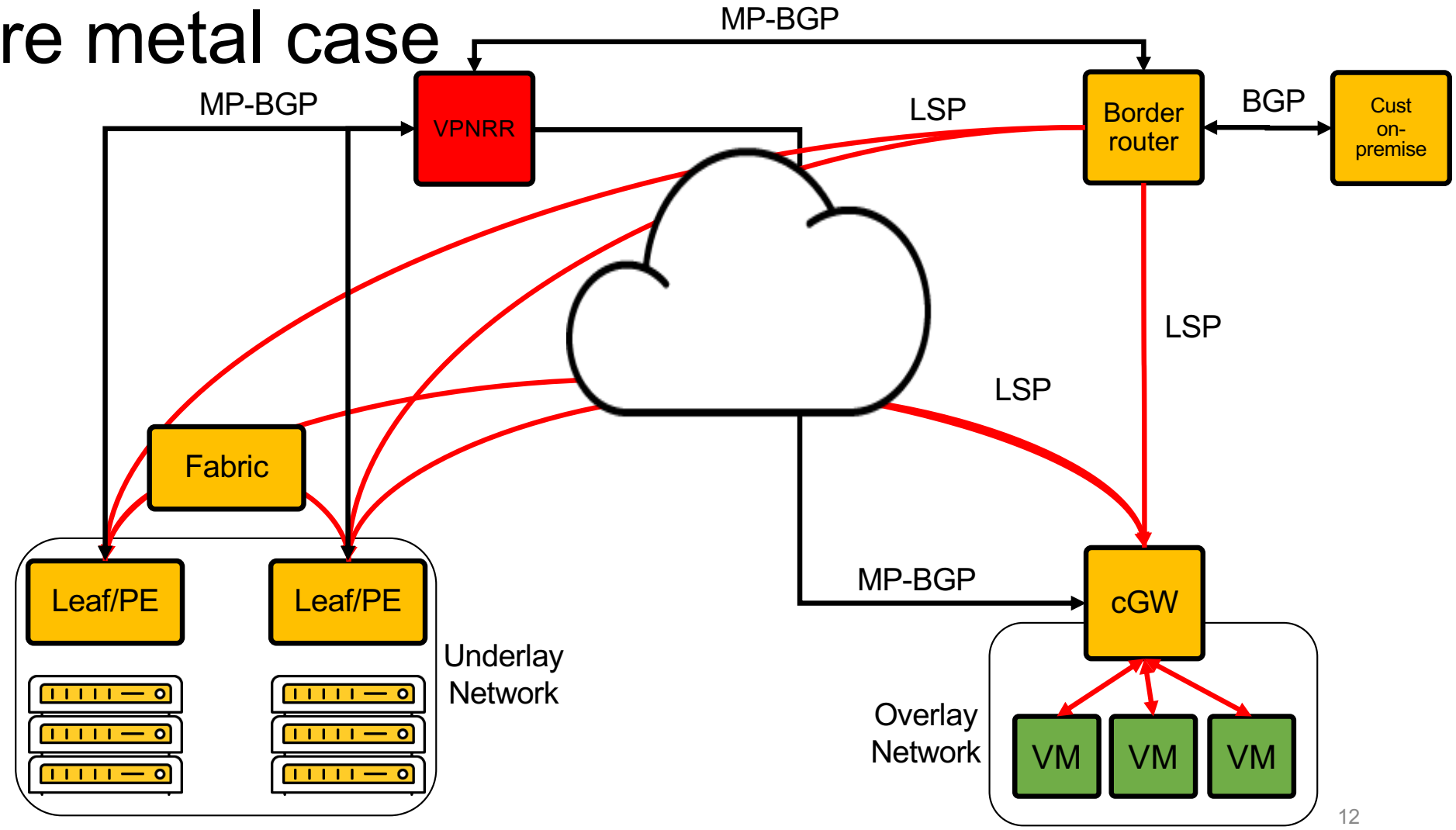
Regional Load Balancer Enhanced



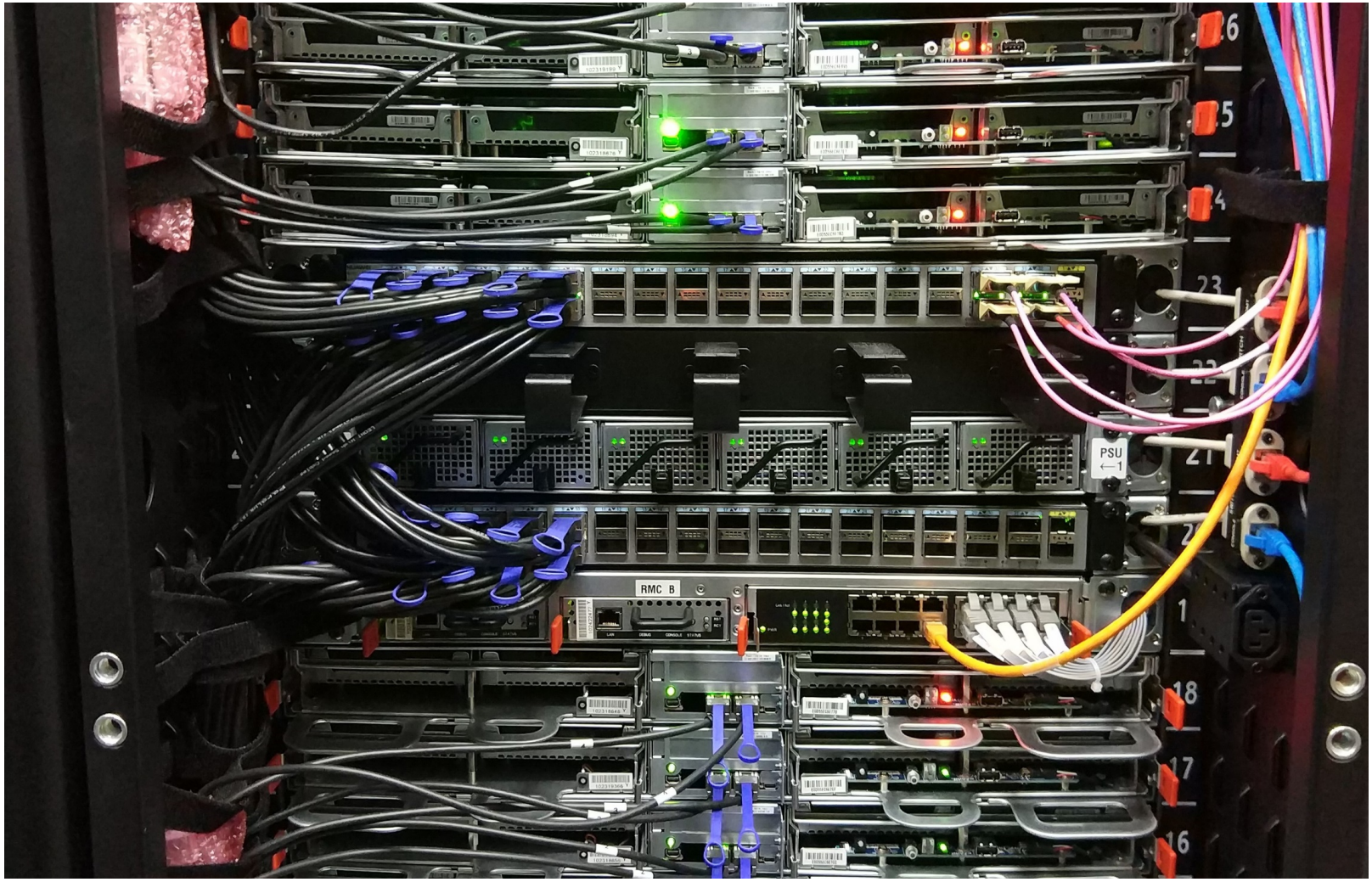
Cloud interconnect service



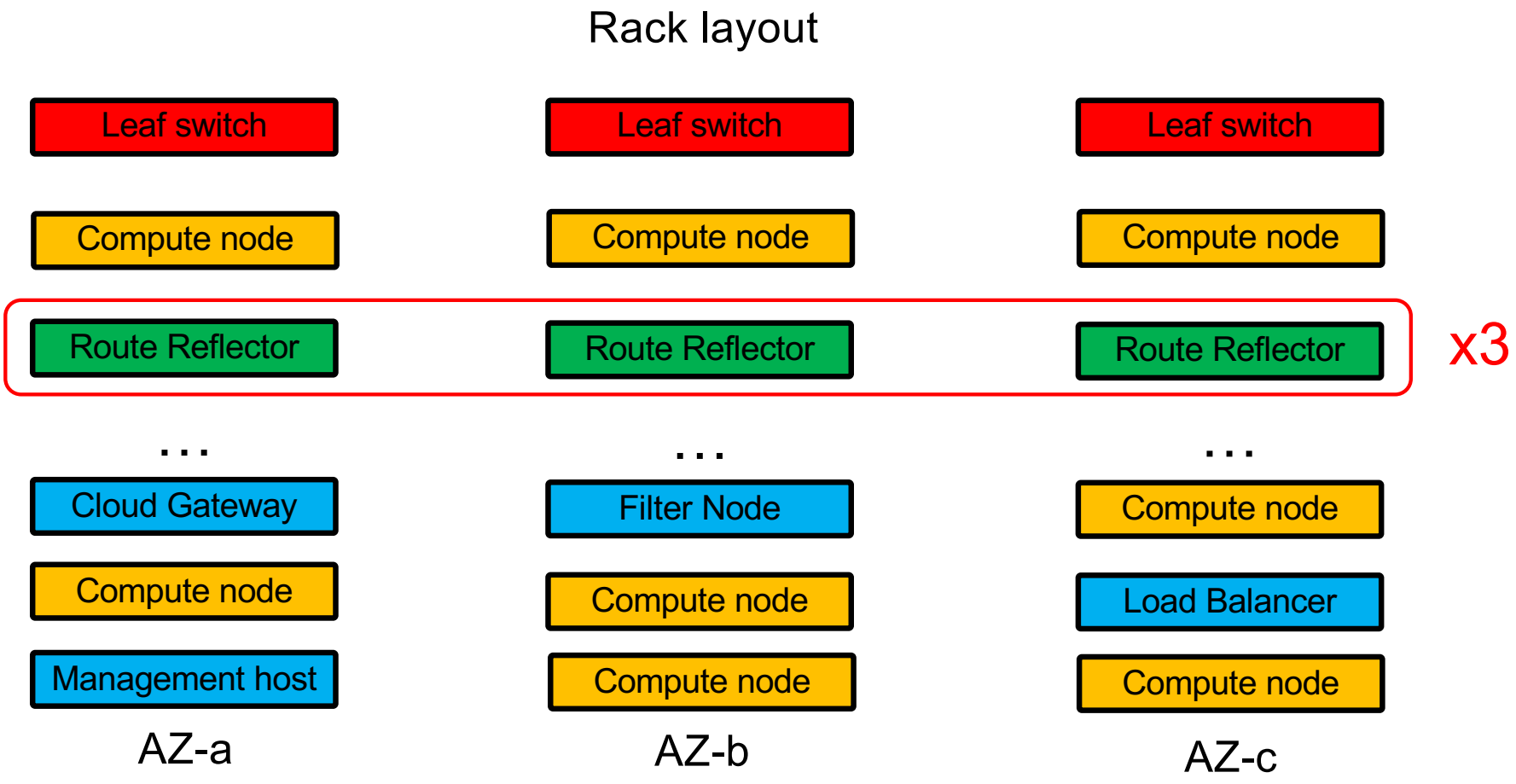
Bare metal case



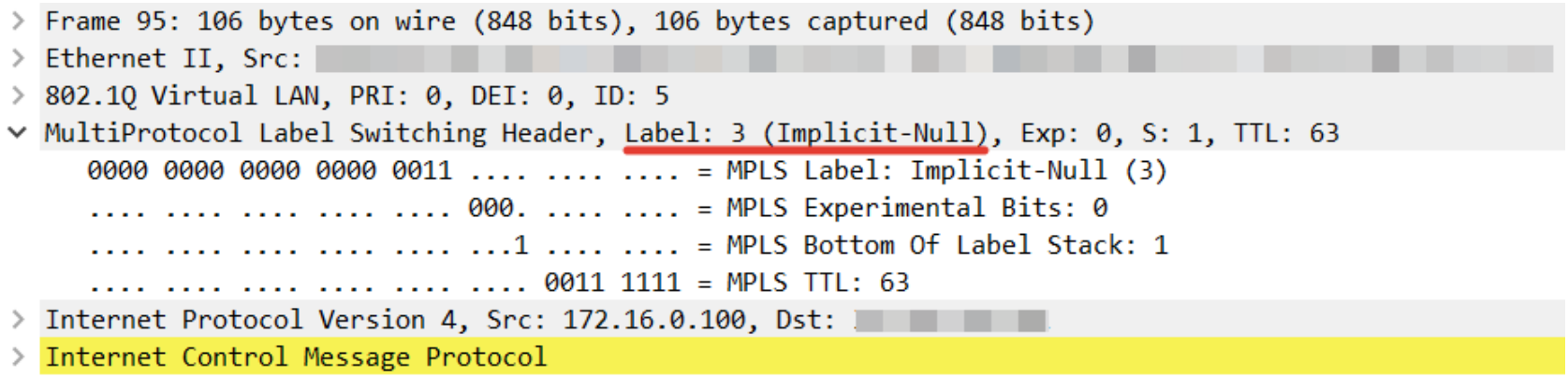
Point of delivery


RMC B
PSU
←1

Eat your own dogfood



Implicit-null



Explicit-null

```
> Frame 220: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)
> Ethernet II, Src: Applicon_06:6c:f6 (00:00:40:06:6c:f6), Dst: 45:c0:00:30:ad:c0 (45:c0:00:30:ad:c0)
> 802.1Q Virtual LAN, PRI: 6, DEI: 0, ID: 4
v Data (42 bytes)
    Data: 0064258c8d51c38400b3dd0e1d5b00000000700240002639…
    [Length: 42]
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```
> Frame 270: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)
> Ethernet II, Src: 40:00:3f:06:3b:76 (40:00:3f:06:3b:76), Dst: 45:c0:00:2c:0b:28 (45:c0:00:2c:0b:28)
> 802.1Q Virtual LAN, PRI: 6, DEI: 0, ID: 4065
v Data (42 bytes)
    Data: e996258c8d51de0a00b370d8292f000000006002ffff0da7…
    [Length: 42]
```

Conclusion

"It's much harder (or rather more expensive) to obtain MPLS support in enterprise or data center class equipment, as MPLS is seen as a "transit service provider solution." ***Sometimes*** *our own preconceptions can cause us to* ***choose solutions based on what they're "meant for," rather than what they're really useful for****; in the end, this can* ***make our networks more****, rather than less,* ***complex.****" –*

Navigating Network Complexity

by Russ White, Jeff (Evgeny) Tantsura

Thank you! Questions?

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