

IXP

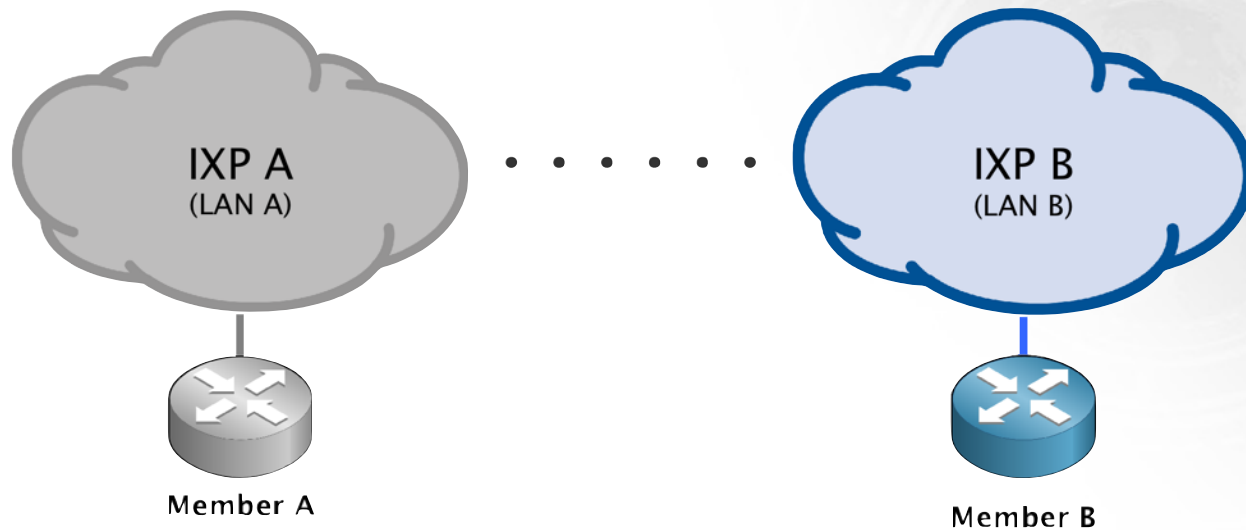
Interconnection

Why ? How?



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#AfPIF2015

How to interconnect IXP?



- **Take 2 IXP**
- **Find a long term agreement (Agree on costs)**
- **Setup the link**

(and your are almost done!)

The aims

Pros and Cons

Advantages

- **Create more attractiveness to your IXP :**
 - Member gets more peers / routes
 - Generally free of charge for the members
 - Facilitate connection of new members from each IXP

Disadvantages

- Usage/Interest can be limited for members
(no more than x Mbps per member)
- Really difficult to troubleshoot
-> Potential loss of traffic
- Control on routes announced & received by Route Servers
can be difficult to setup/check (BGP communities & route-map)

IXP = Keep local traffic, local !

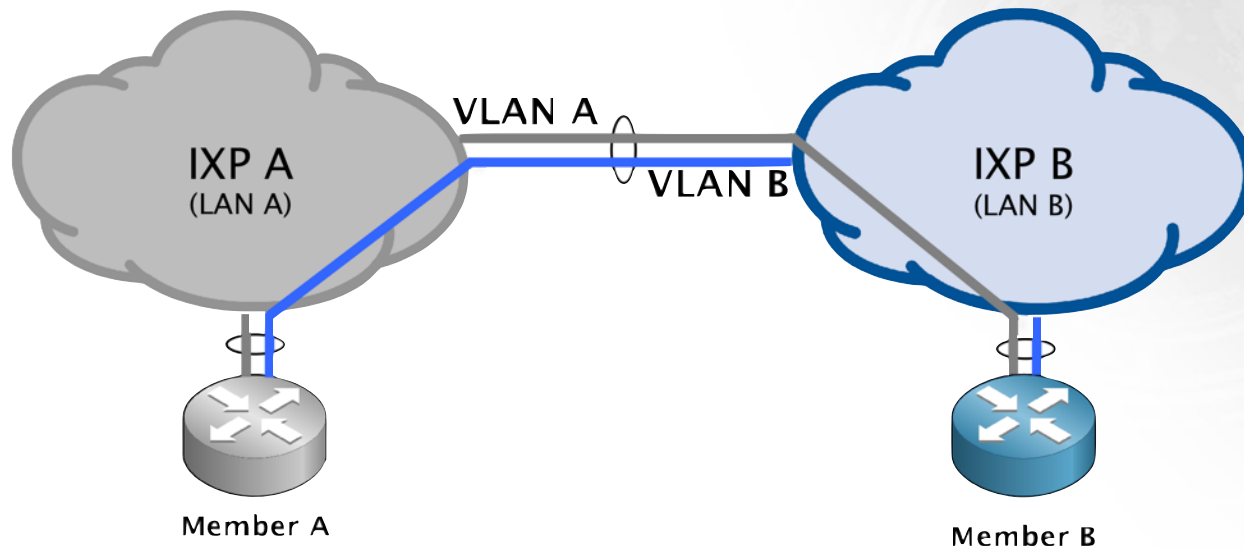
Costs and Policies

- Should costs be split between the IXP(50/50)?
- Should only members using the interconnection pay for it?
- Should it be priced on usage? (SNMP / NetFlow?)
- Will members be added on the other IXP “Members list”?
- Usage limitation per member? (Shaping or not?)

How to?

Two technical options

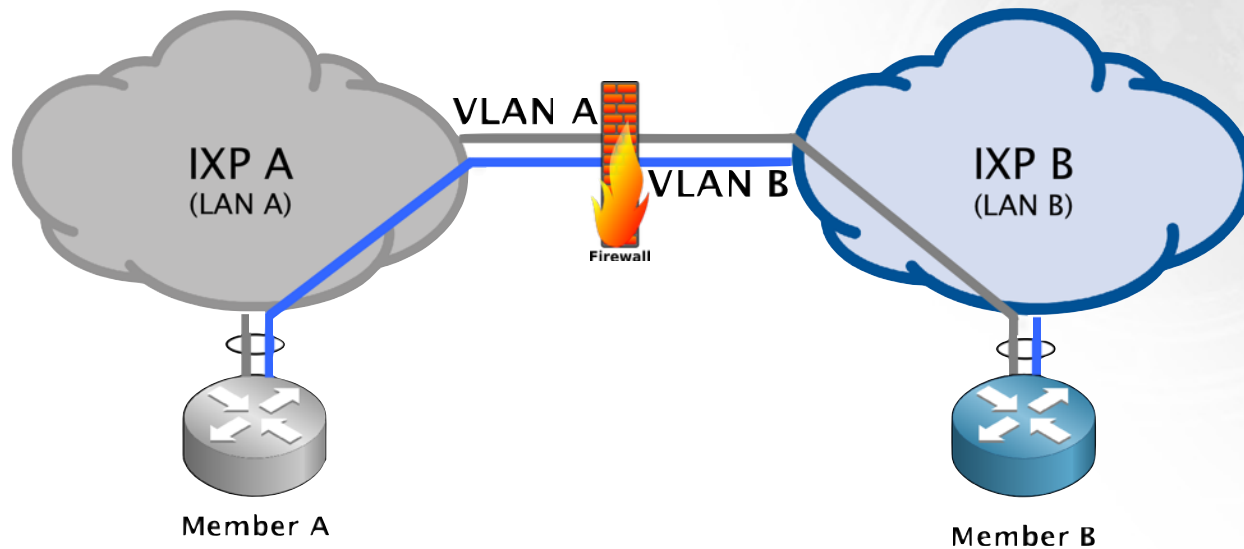
L2 interconnection



- Each IXP provide its own Peering LAN
- Members have two VLAN on their ports
- Members have two IP (one for each Peering LAN)

Members can peer with RS and / or directly

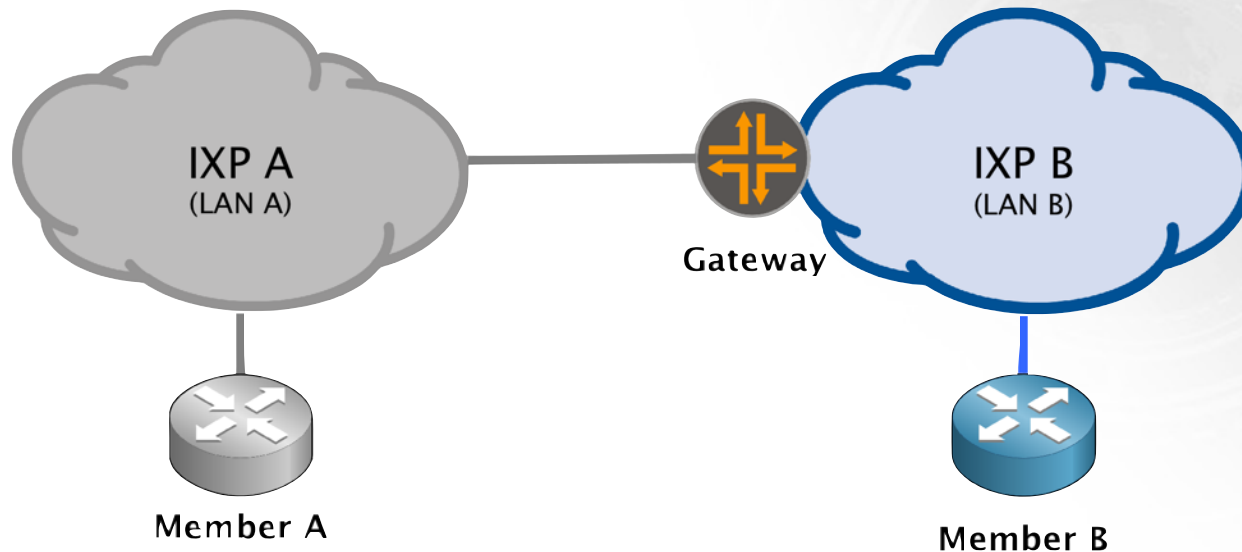
L2 interconnection



- Interconnection can NOT be seen on traceroute / AS-PATH
- default hold-time to withdraw BGP sessions (90 to 180s)

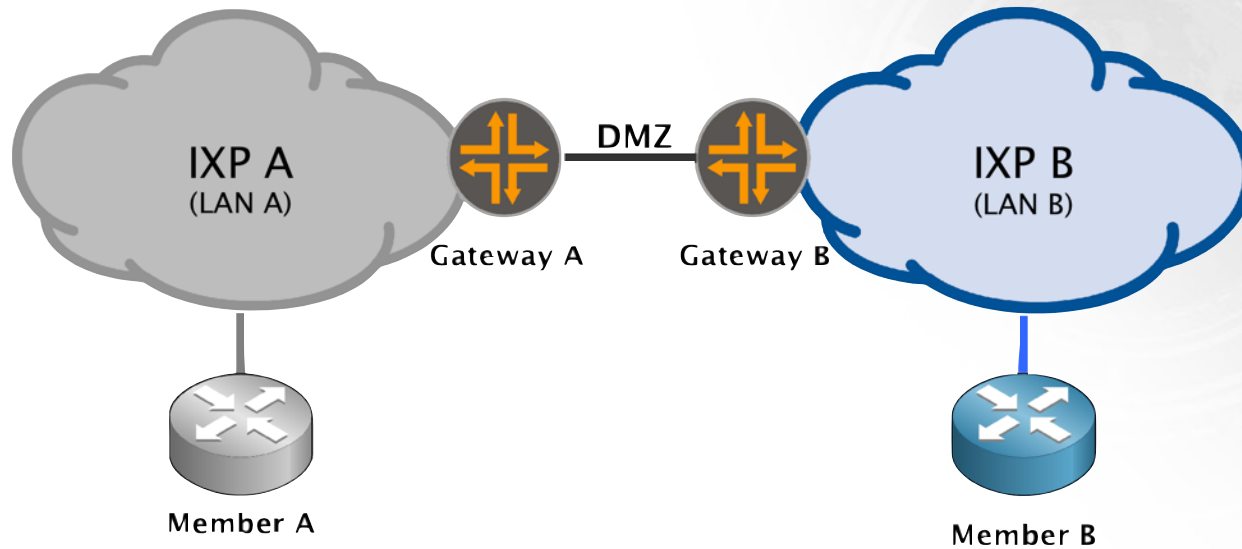
Beware of traffic blackhole if there is L2 ACL / MAC filtering

L3 interconnection



- Traffic is routed between the IXP
- The Gateway router SHOULD add its ASN in the AS-PATH
- Members have one VLAN and one IP
- Members have to establish BGP sessions with the gateway router
- Members can NOT peer with RS, NOR directly

L3 interconnection

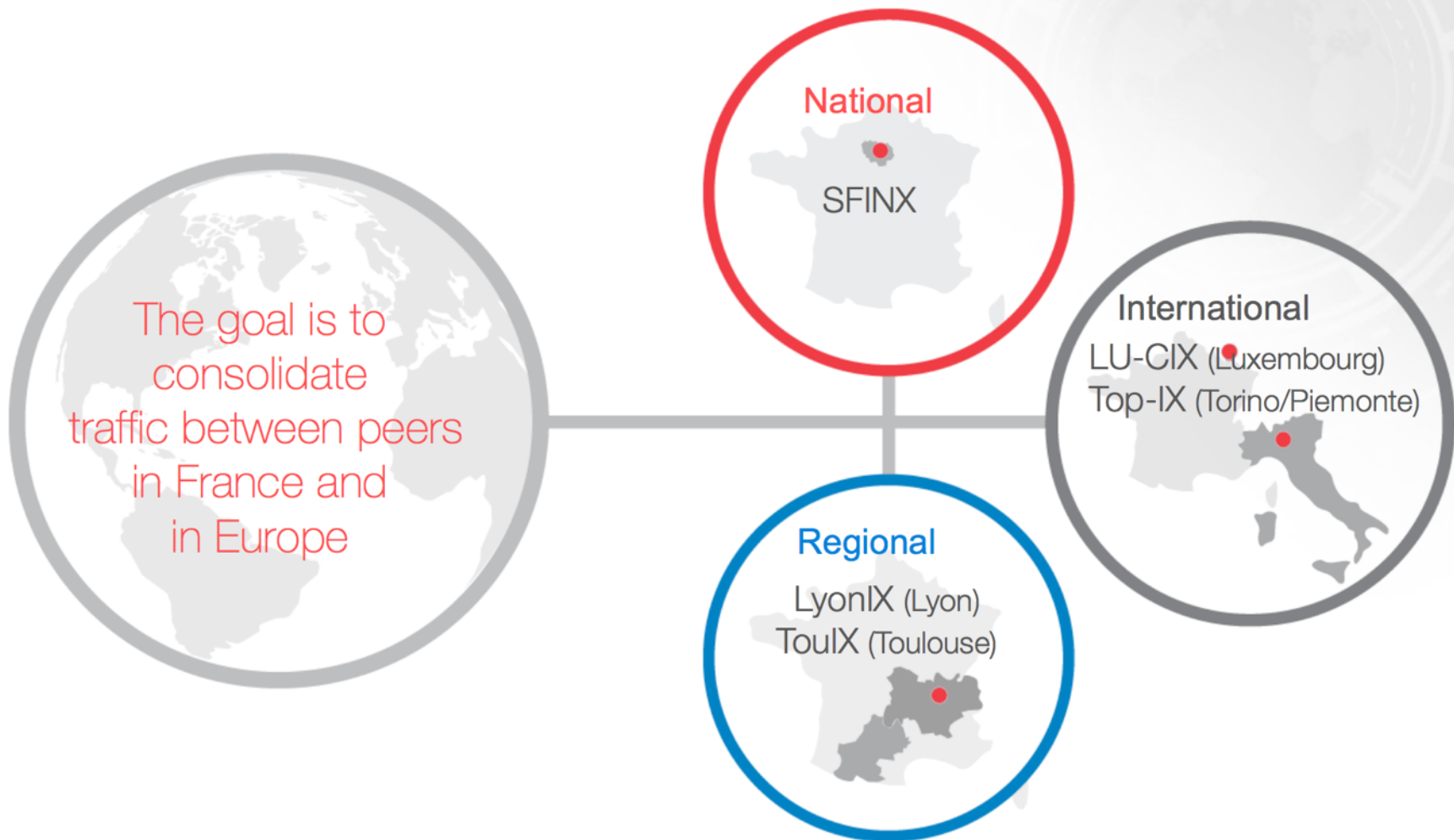


- Interconnection can be seen on traceroute / AS-PATH
- Small hold-time can be configured between Gateways to withdraw BGP sessions faster (or using BFD)

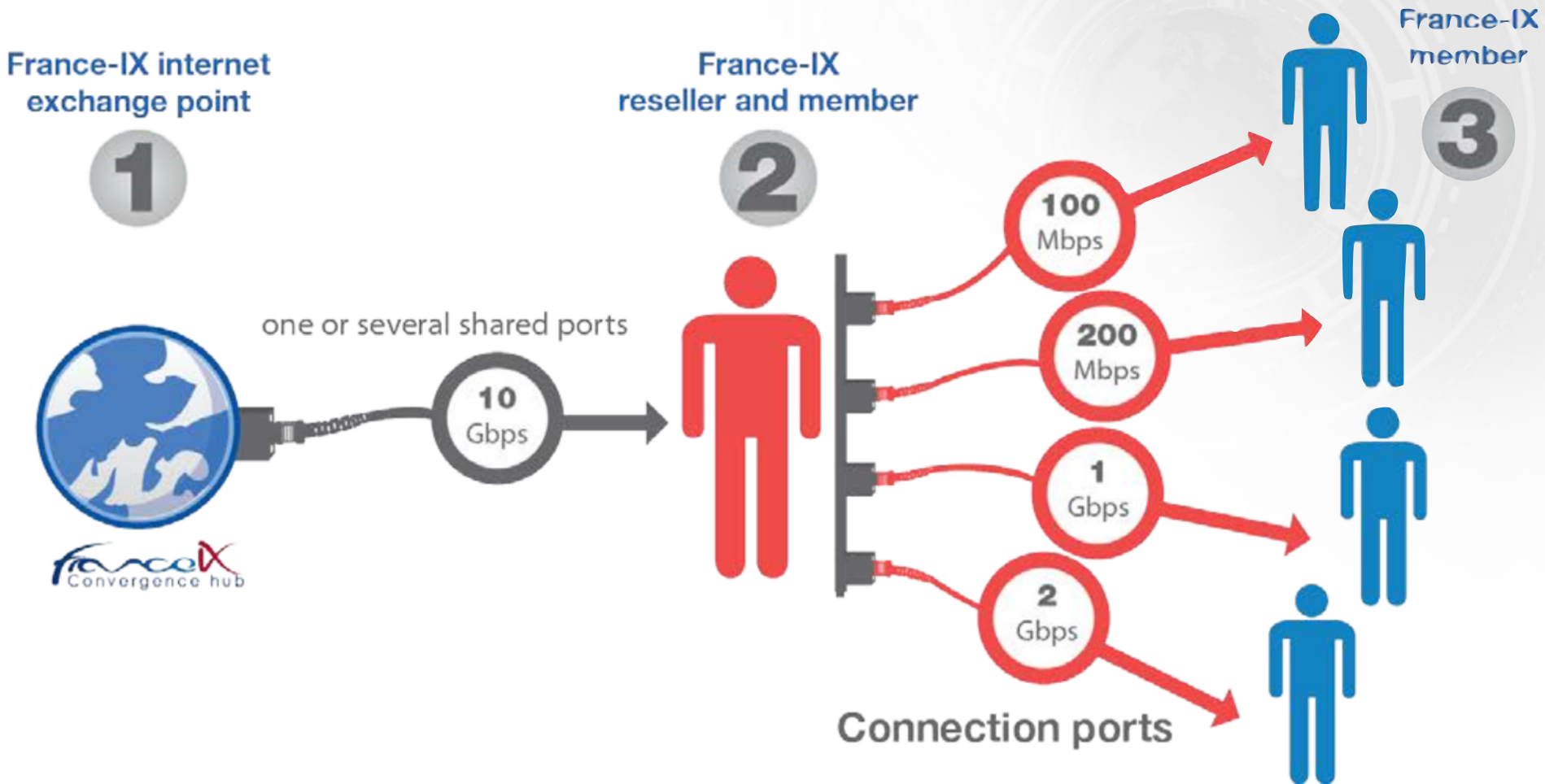
Philosophical question : Is this still peering?

What we do at FranceIX

Partnerships with other IXPs



Reseller Programme



Conclusion

- + Can add a lot of attractivity to both IXP**
- Can be difficult to troubleshoot and time consuming to maintain**

Merci !

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