Optimize connectivity to Microsoft public services with France-IX and Microsoft Azure Peering Service

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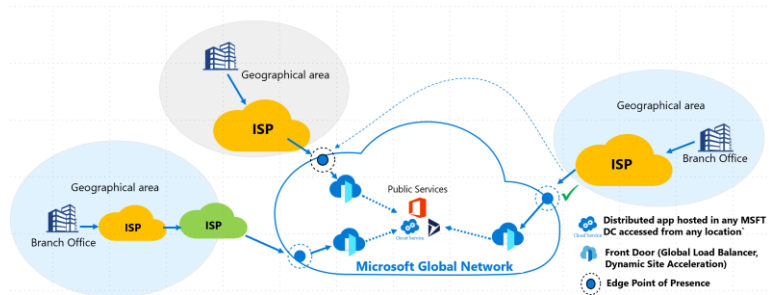CTO Infra Customer Success Unit

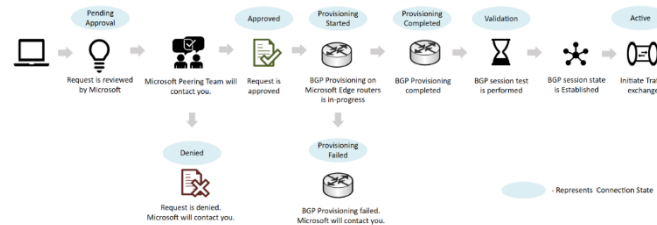**Simon Muyal**

France IX CTO

Azure

How did I connect to Microsoft public clouds historically ?
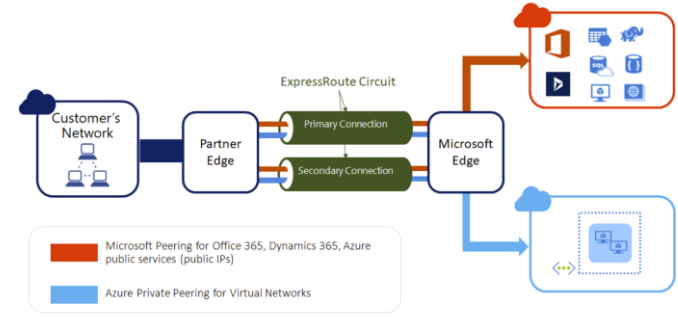

Public Internet (no peering)

- Access to all public cloud services

- Connectivity via almost 200 Edge POPs

- Reachable via local ISP

- Best effort connectivity

Internet Peering (Direct or IX)

- Direct connectivity with MS WAN

- No SLA

- Longer delay for peering

- Deprecated, limited to carrier or services providers

Express Route MS peering

- Private connectivity

- Hybrid cloud solution

- Optimized for Azure but not for M365 and online software services

- Expensive solution

Introducing Microsoft Azure Peering Service

- Platform to enhance connectivity to Microsoft public cloud services

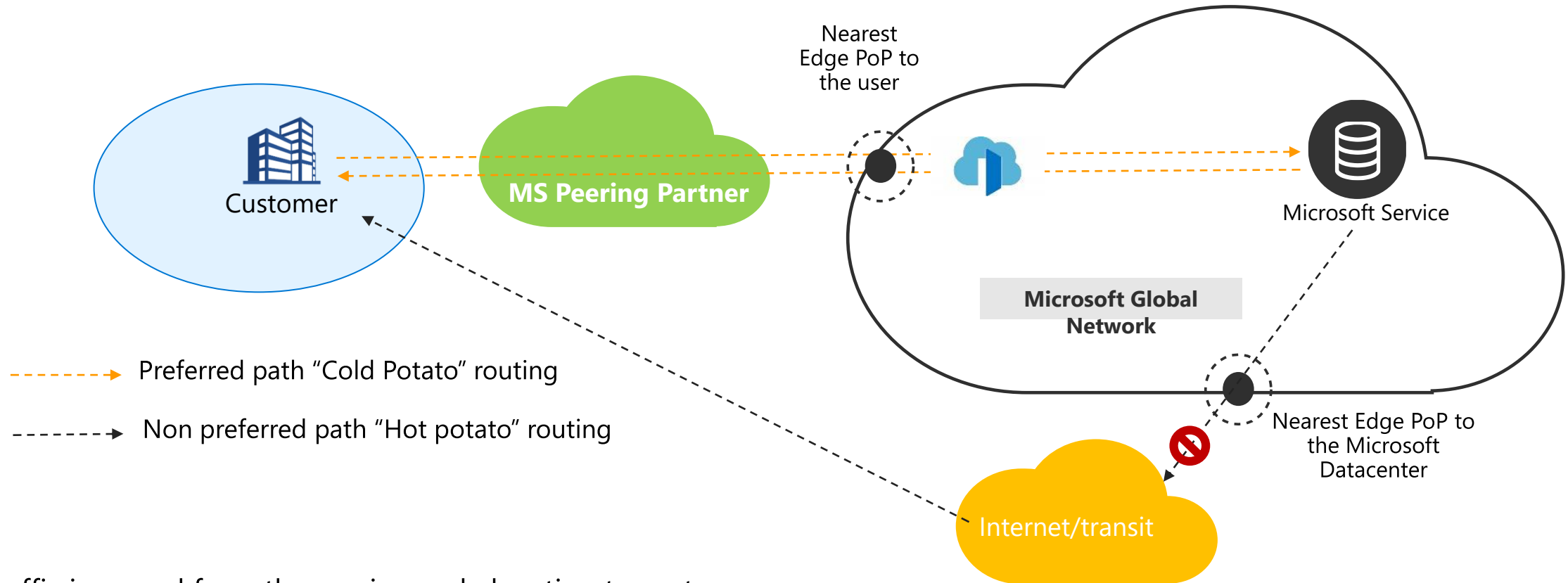- Partnership with Internet Service Providers (ISP) and Internet Exchanges (IXP)
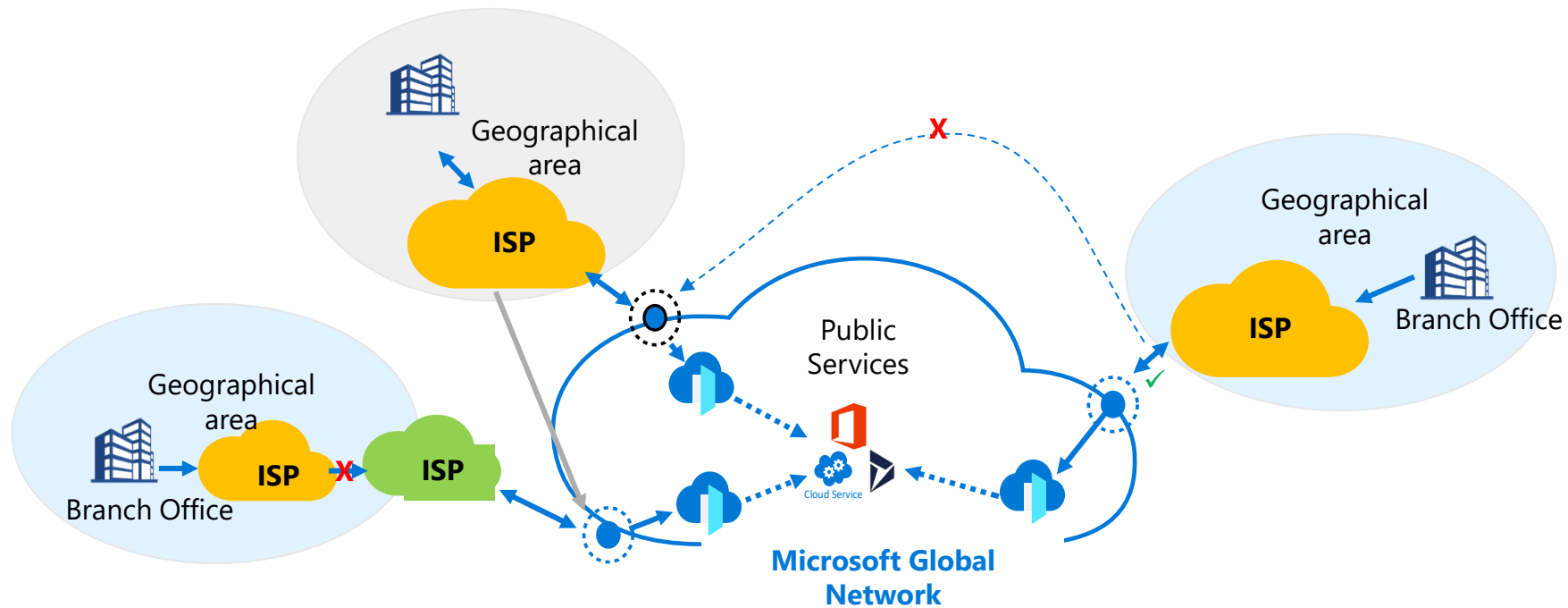
| **High Reliability** - Local and geo redundant Interconnect between MS and Partner	**Lower Latency to MS services –** Connected to the nearest Microsoft PoP location	**Better Path –** One Network (ASN) hop for all MS public cloud services	**Service Assurance** - SLA from Partner

Azure

Optimized Path

Nearest Edge PoP to the user

MS Peering Partner

Customer

Microsoft Service

Microsoft Global Network

Nearest Edge PoP to the Microsoft Datacenter

Internet/transit

→ Preferred path "Cold Potato" routing

⇢ Non preferred path "Hot potato" routing

- Traffic is served from the service node location to customer
- Microsoft will do cold potato and handover traffic to partner at the interconnect location preferred nearest to customer
- One network hop (ASN) – Traffic stays on Microsoft and Partner network
- No traffic for the customer is served out of other transit network/internet
- Smaller prefix size supported (</24)

High Reliability – Local and Geo Redundancy
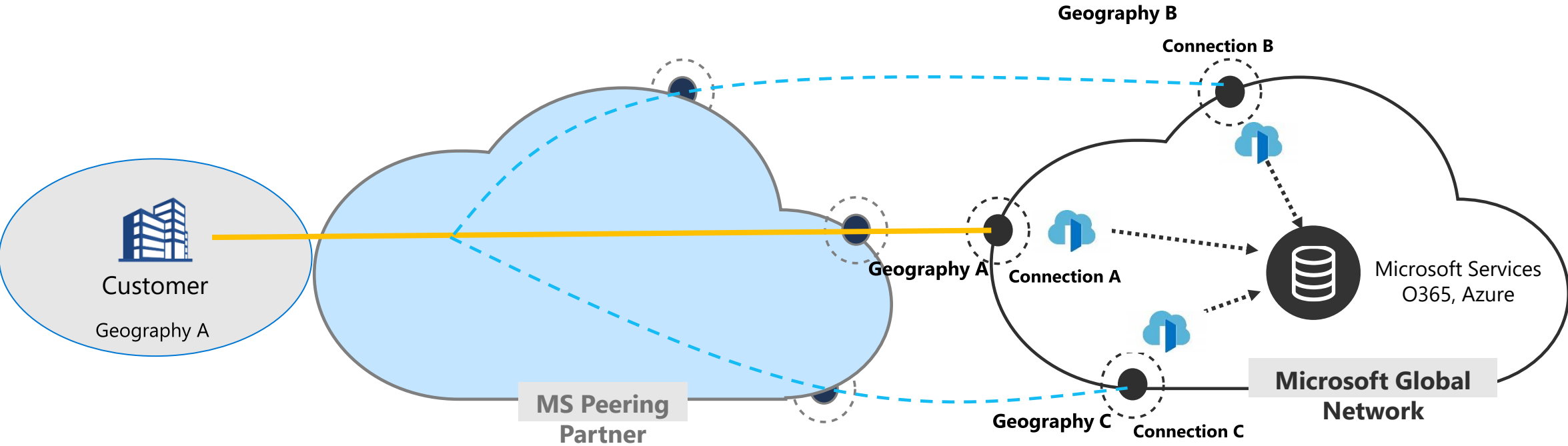
Legend:
- Preferred shortest path
- Failover path to other locations (geo redundant Edge PoP)
- Connections

Requirements to use MAPS

You need a public ASN

Public IPs are registered to your ASN

An Azure subscription to declare the service (no billing by Microsoft)
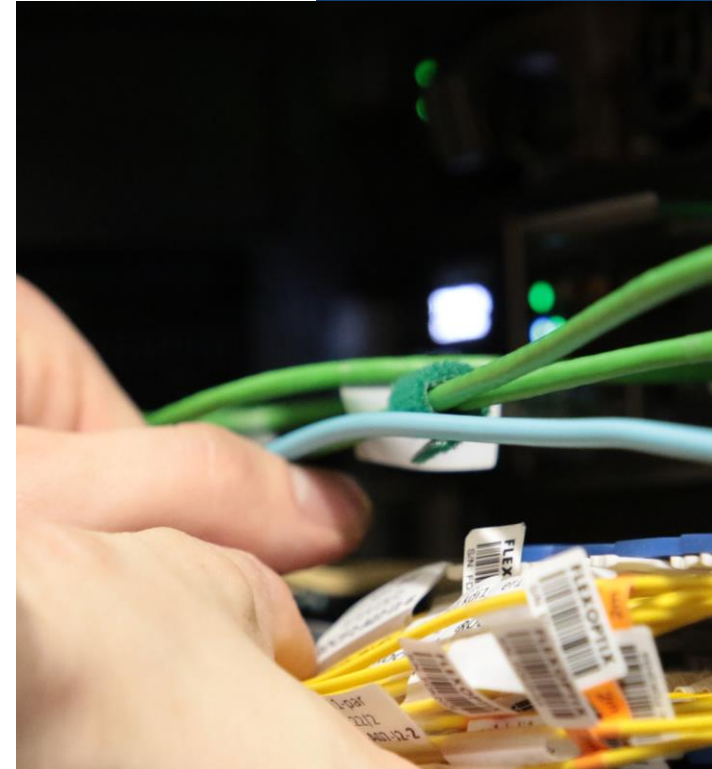
Check our documentation on partners and peering locations available today:

https://learn.microsoft.com/en-us/azure/peering-service/about

Microsoft Azure Peering Service (franceix.net)

France-IX

Microsoft Azure Peering Service

MAPS: A dedicated infrastructure

- **Physical interconnection** with Microsoft
  - In Paris
  - 2 dedicated 100G ports (public peering ports and MAPS ports are not shared)
  - Redundant : 2 physical devices
  - Extension to Marseille planned to offer a Microsoft backup peering location

- **2 dedicated route servers** (RS) for MAPS
  - Well known and already used by peering community on Internet Exchanges (IXP)
  - Easy for customers to connect

Microsoft Azure
(O365, etc)

MAPS

Eqpt1   Eqpt2

RS   France-IX
MAPS Service   RS

Client
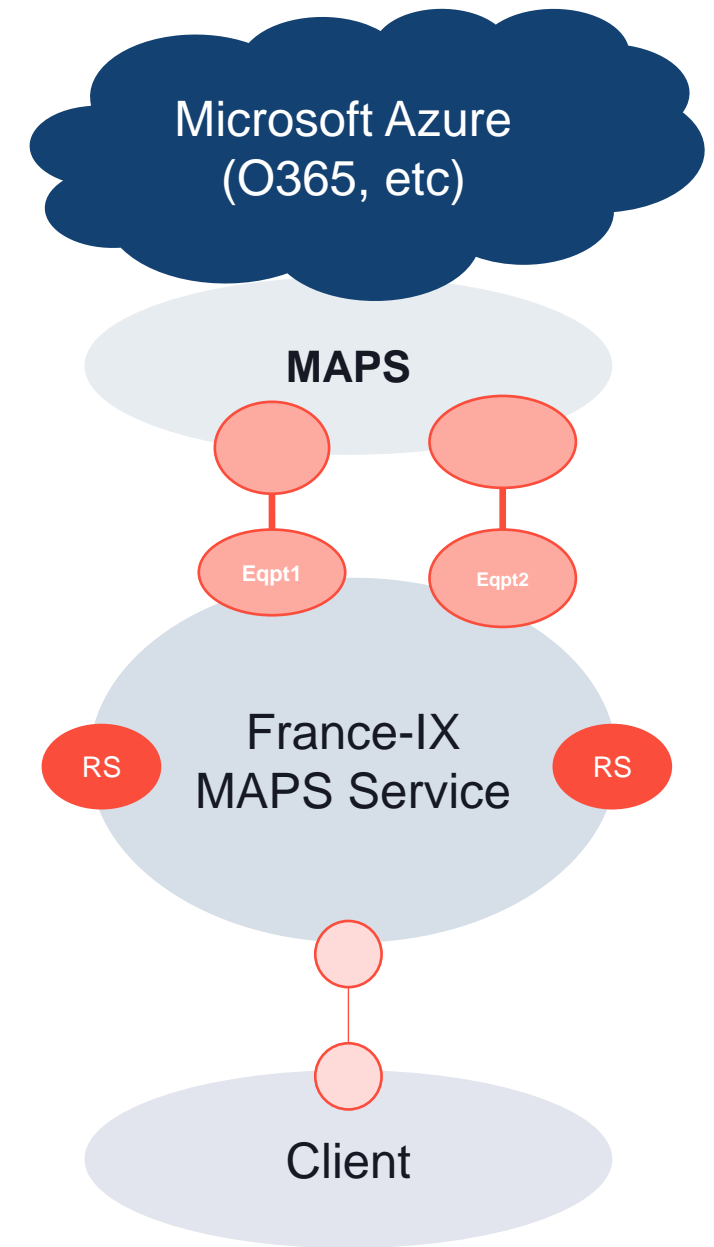
MAPS: The Route Servers (RS) - AS202010

- **Redundant BGP sessions**
  - With Microsoft
  - With customers

- **Security:** Customers cannot exchange traffic between them, **only with Microsoft, DDoS-Free platform**

- **Security: IRR and ROA filtering:** Customers can only advertise their prefixes (Aut-num or AS-SET object filtering)

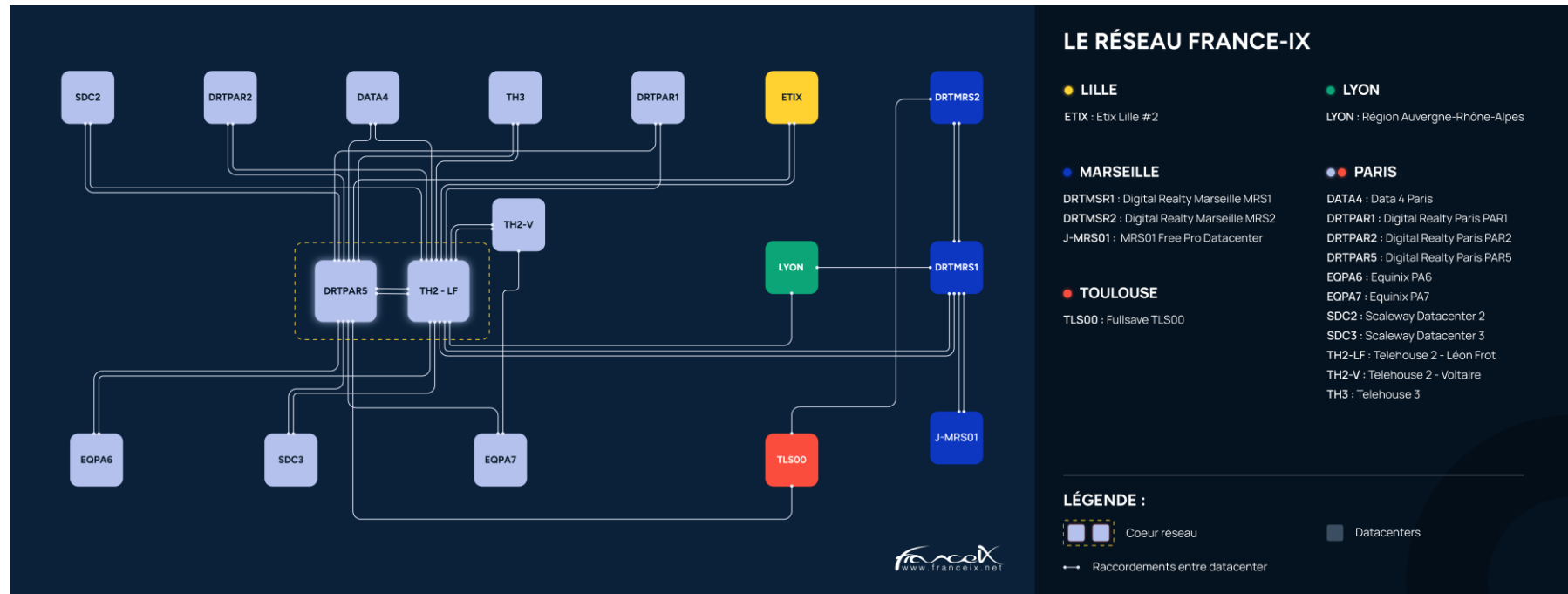- Ability to advertise more specific prefixes **than /24, up to /32**

Microsoft Azure (O365, etc)

MAPS

BGP

Eqpt1   Eqpt2

BGP

RS   France-IX MAPS Service   RS

BGP

BGP

Client
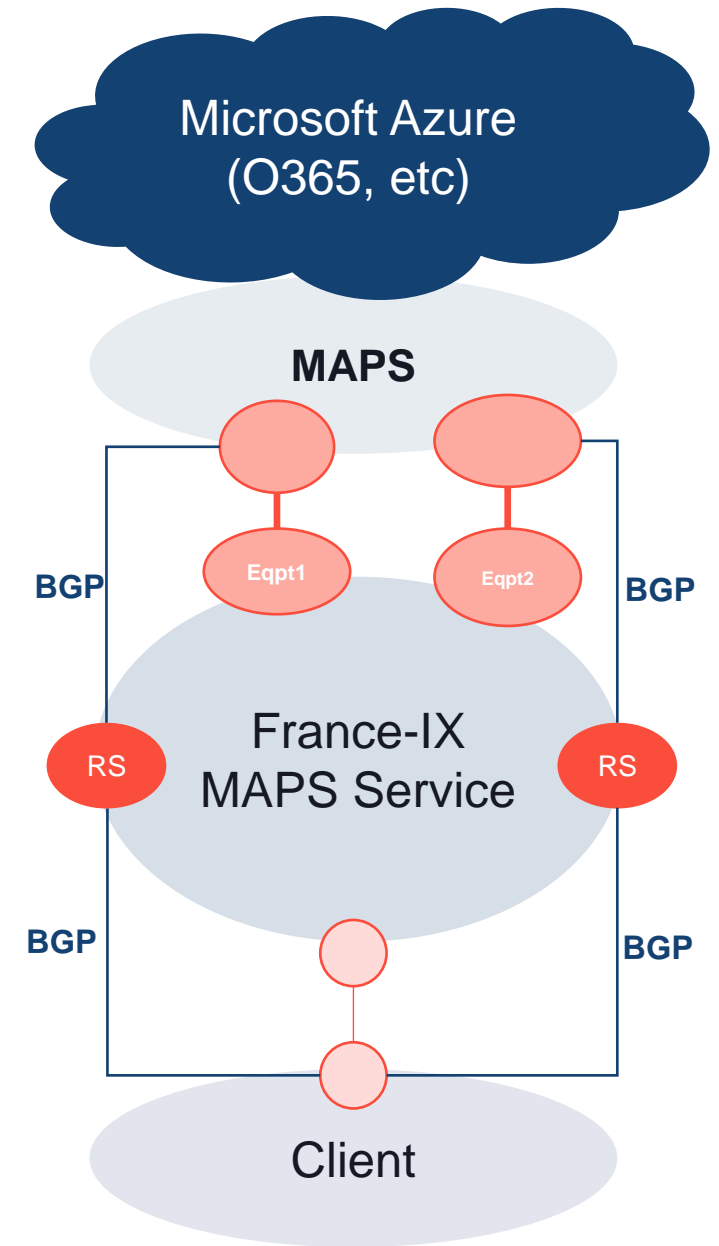
MAPS: Accessible from anywhere

All France-IX PoPs (PAR, MRS, LILLE, LYON, TLS)

Use of redundant and transparent France-IX MPLS backbone to reach MAPS infrastructure

Two possible connections
- *Use existing port (by adding a VLAN)*
- *Dedicated port for MAPS*

LE RÉSEAU FRANCE-IX

LILLE

ETIX : Etix Lille #2

LYON

LYON : Région Auvergne-Rhône-Alpes

MARSEILLE

DRTMSR1 : Digital Realty Marseille MRS1
DRTMSR2 : Digital Realty Marseille MRS2
J-MRS01 : MRS01 Free Pro Datacenter

PARIS

DATA4 : Data 4 Paris
DRTPAR1 : Digital Realty Paris PAR1
DRTPAR2 : Digital Realty Paris PAR2
DRTPAR5 : Digital Realty Paris PAR5
EQPA6 : Equinix PA6
EQPA7 : Equinix PA7
SDC2 : Scaleway Datacenter 2
SDC3 : Scaleway Datacenter 3
TH2-LF : Telehouse 2 - Léon Frot
TH2-V : Telehouse 2 - Voltaire
TH3 : Telehouse 3

TOULOUSE

TLS00 : Fullsave TLS00

LÉGENDE :

Coeur réseau   Datacenters

Raccordements entre datacenter

MAPS: SLA

Delivery in **10** working days
    1st customer connected in less than 24 hours

SLA: **99.98%** availability

No rate-limiting to allow peaks

How to connect: Quick and easy

- **Requirements**
  - Public ASN and IP ressources
  - Azure subscription

- **Process with France-IX**
  - *MSA (if new customer)*
  - *MAPS Special terms and conditions (SLA, …)*
  - *Order form : Bandwidth, City/PoP, ASN, VLAN-ID*

→ *Sales @franceix.net*

Thank You !!!