FCT
Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

FCCN
Computação Científica Nacional

The Portuguese Internet Exchange Point

FCT – Unidade FCCN
05/12/2019

GigaPIX in numbers

1

First

Neutral IP interconnection point in Portugal

4

Datacenters

- 3 x Lisbon
- 1 x Porto

38

MEMBERS

Including ISP´s and CDN´s

GigaPIX FACTS

Supports

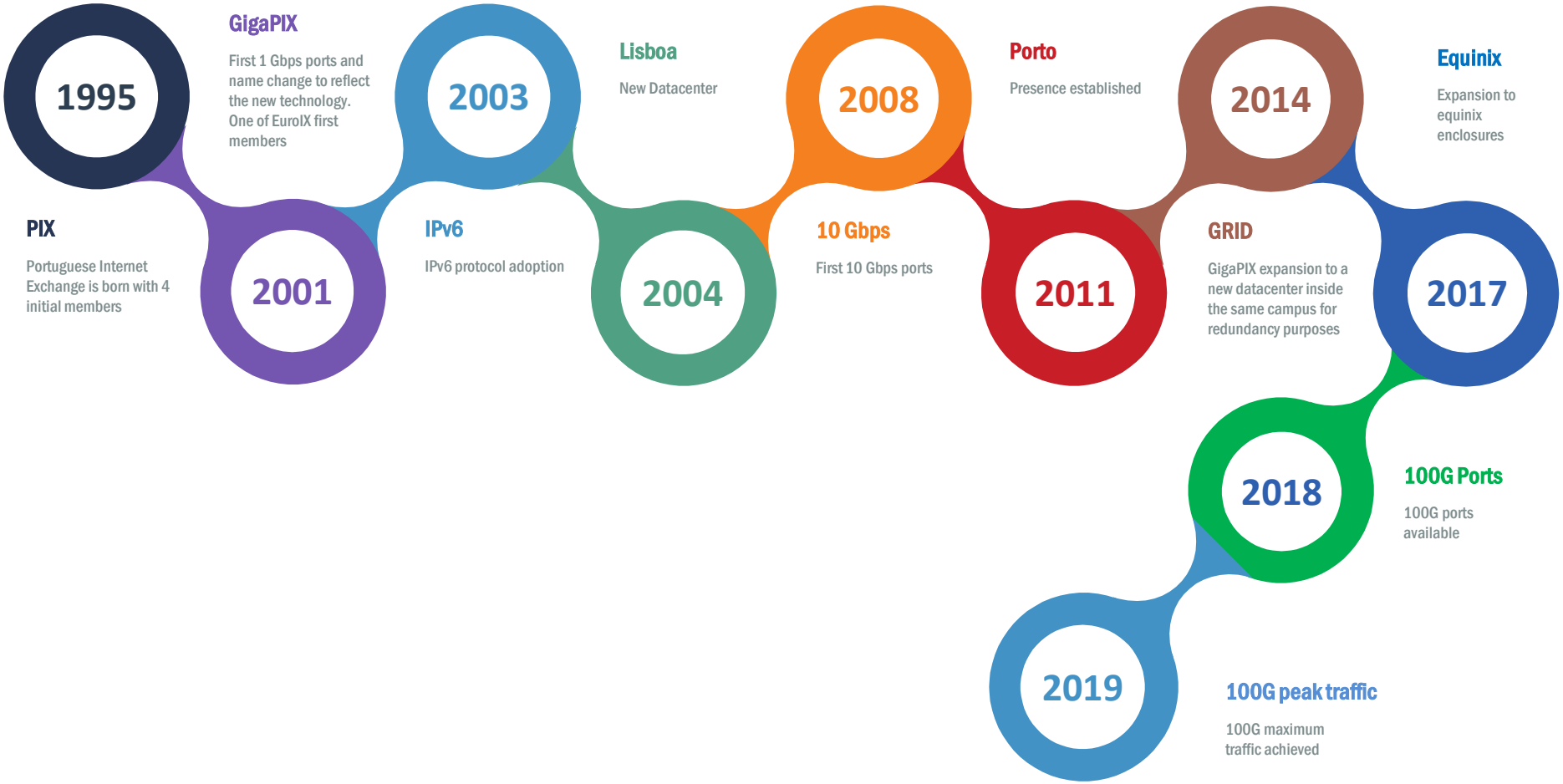
IPv4 & IPv6

Layer 2 Technology

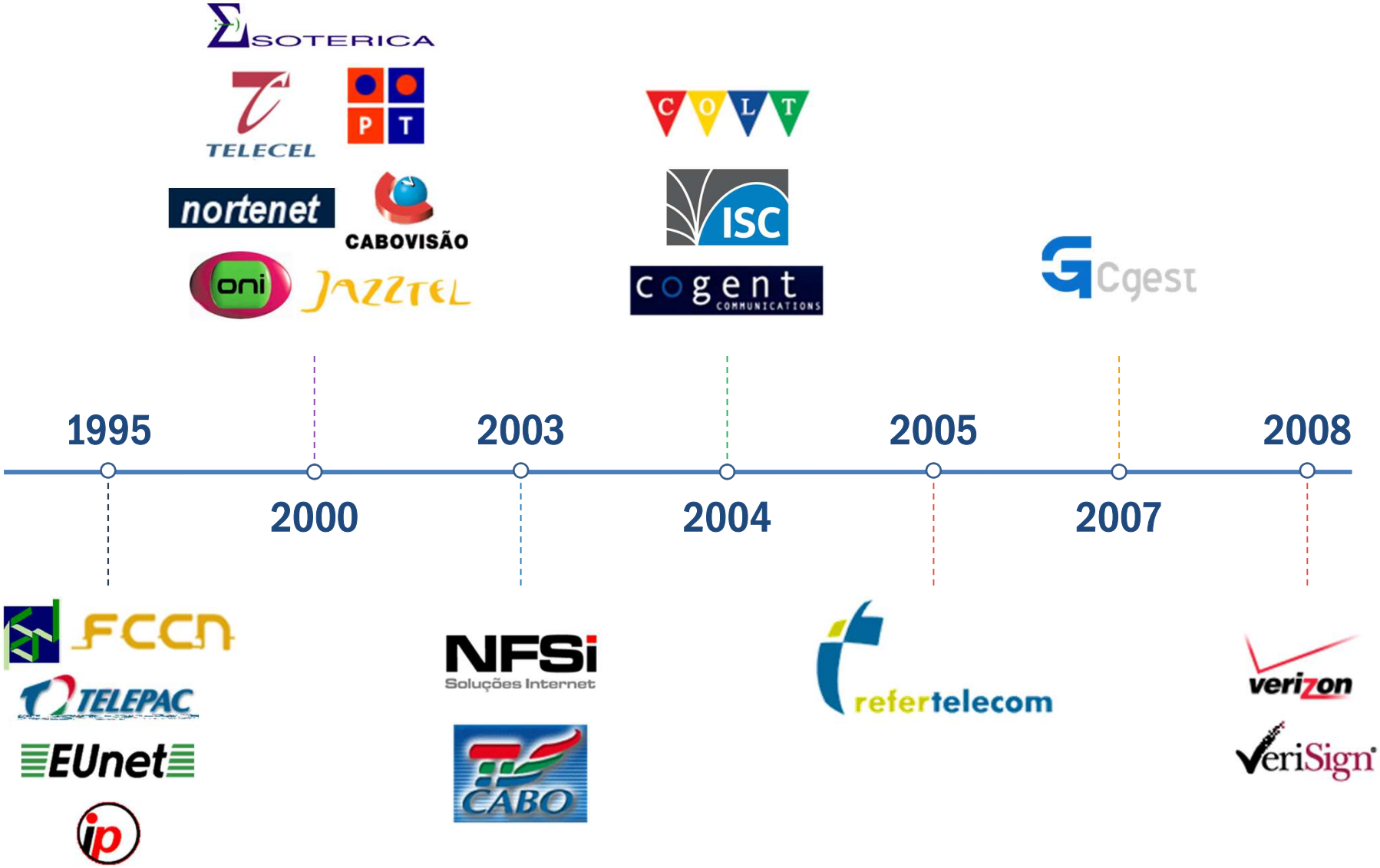
+ 100 Gbps Traffic

0 € Cost per port (exept 100G)

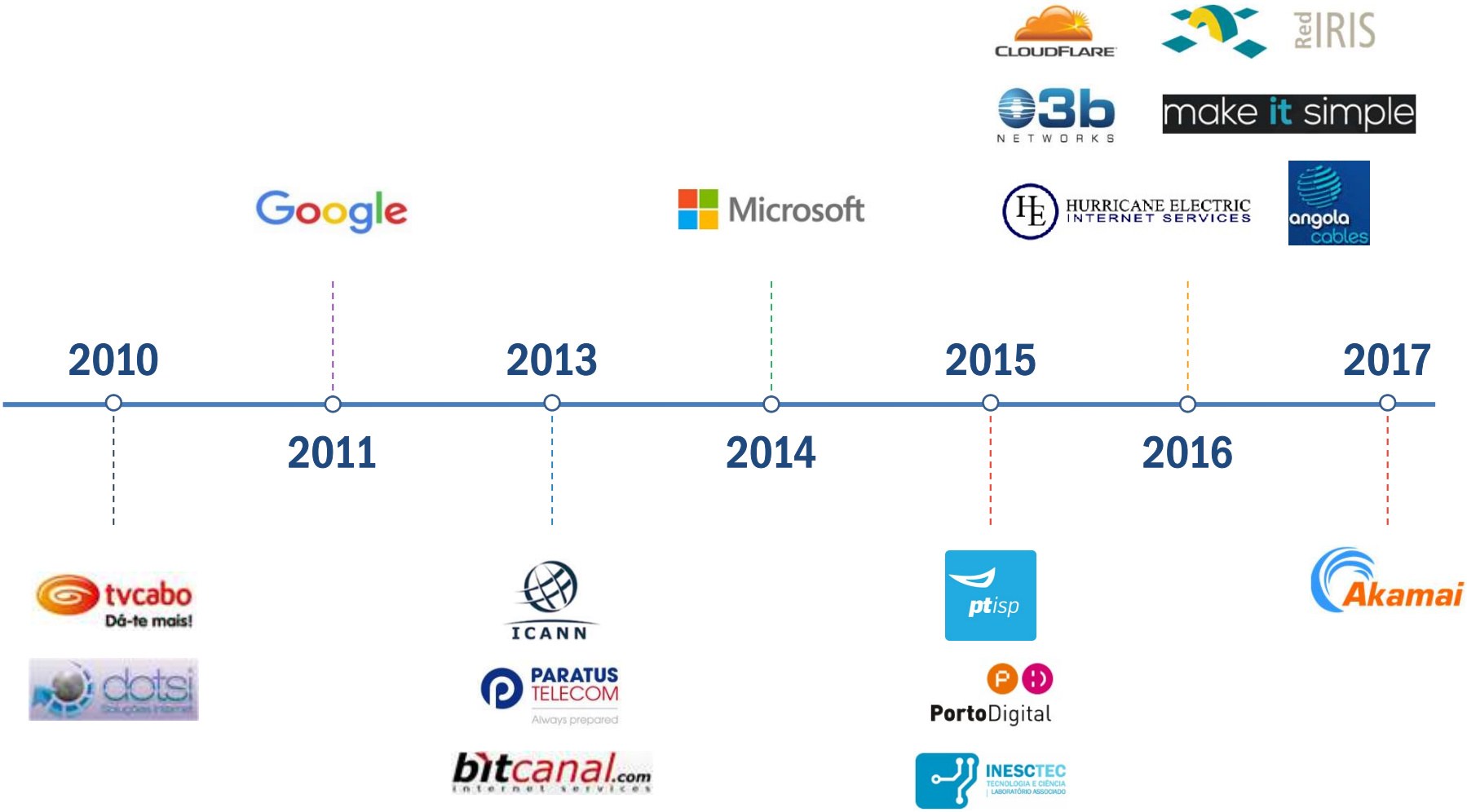
GigaPIX Achievements



Members


SOTERICA
TELECEL
PT
nortenet
CABOVISÃO
oni
JAZZTEL
COLT
ISC
cogent COMMUNICATIONS
Cgest
1995
2000
2003
2004
2005
2007
2008
FCCN
TELEPAC
EUnet
ip
NFSi
Soluções Internet
CABO
refertelecom
verizon
VeriSign

Members

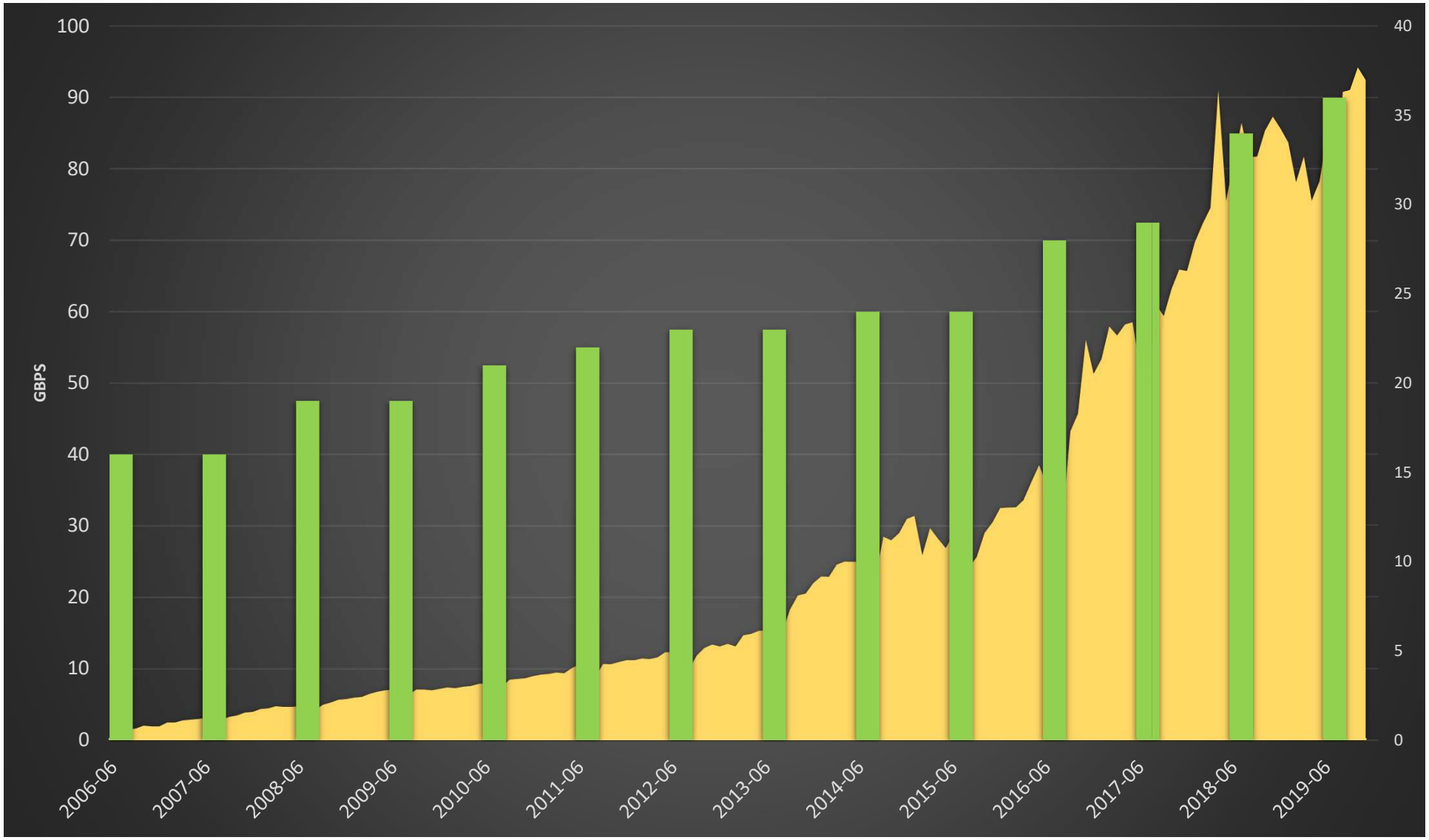

CLOUDFLARE
RedIRIS
o3b NETWORKS
make it simple
Google
Microsoft
HURRICANE ELECTRIC INTERNET SERVICES
angola cables
2010
2011
2013
2014
2015
2016
2017
tvcabo
Dá-te mais!
ICANN
ptisp
Akamai
dotsi
PARATUS TELECOM
Always prepared
PortoDigital
bitcanal.com
internet services
INESCTEC
TECNOLOGIA E CIÊNCIA
LABORATÓRIO ASSOCIADO

Members

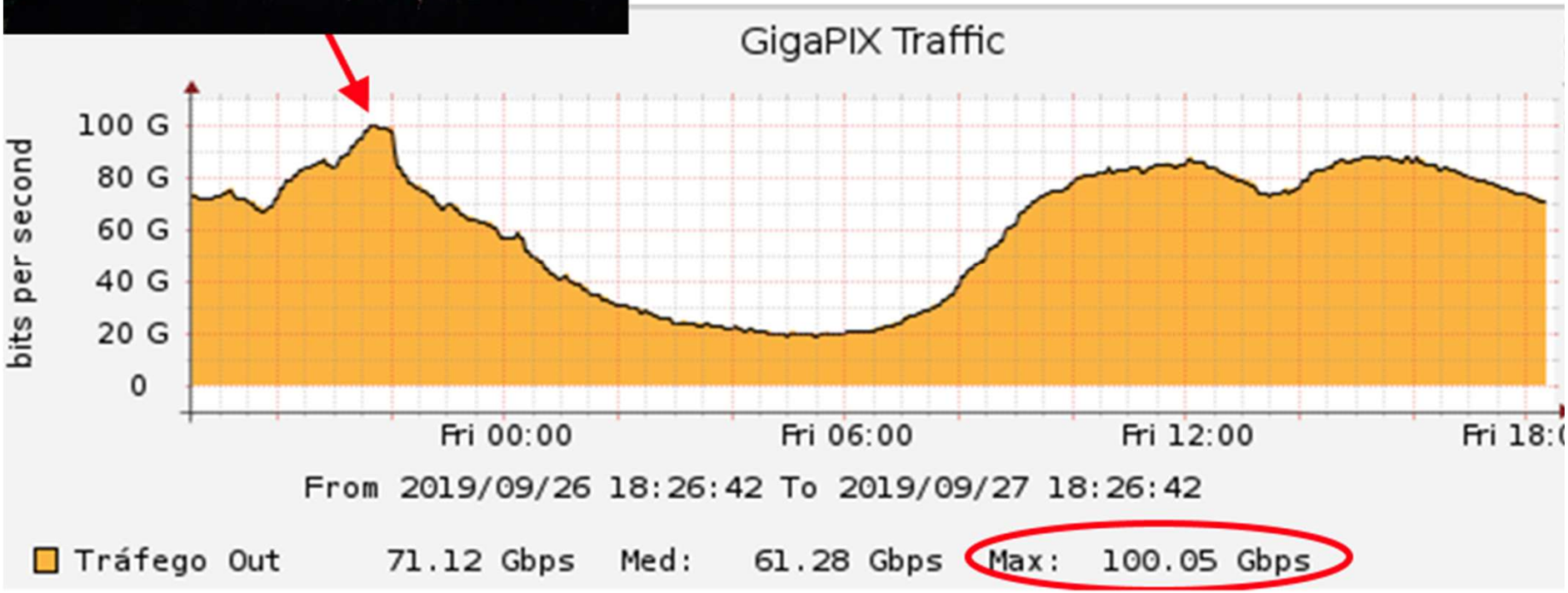
eurotux
Oath:
A Verizon company
2018
2019
PTServidor
hosting | housing | network
InterFiber
AFR-IX telecom
ANACOM
XERVERS
PCH
Packet Clearing House

All 38 Members

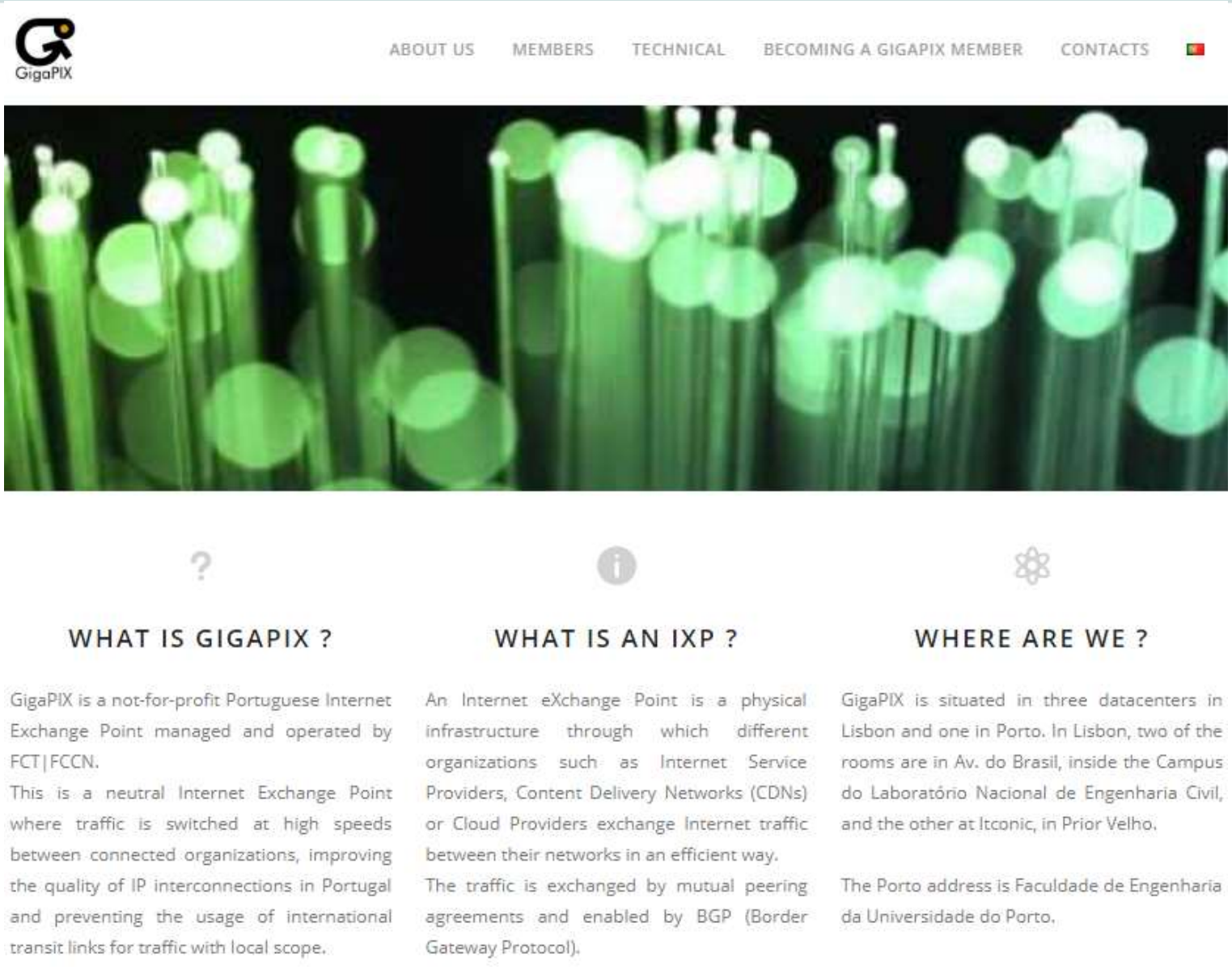
Member and traffic growth per year



GigaPIX – 100G



GigaPIX 2017



Planned Activities 2020

Route ServerArchitecture

1 Cluster

2 Groups

4 Containers

\+ Stability

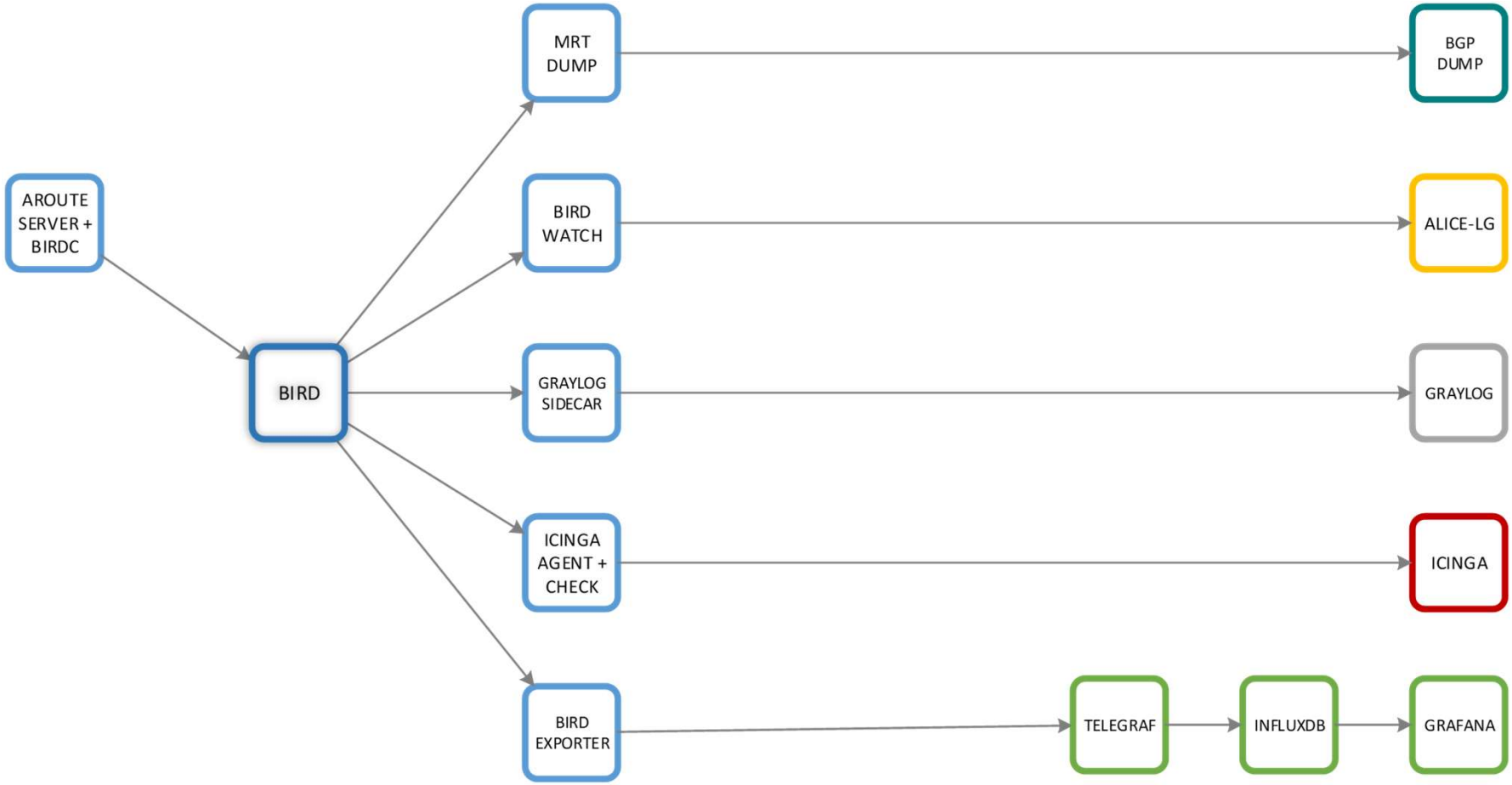
\+ Physical Hardware

\+ 2 Peerings per LAN

\- Complexity

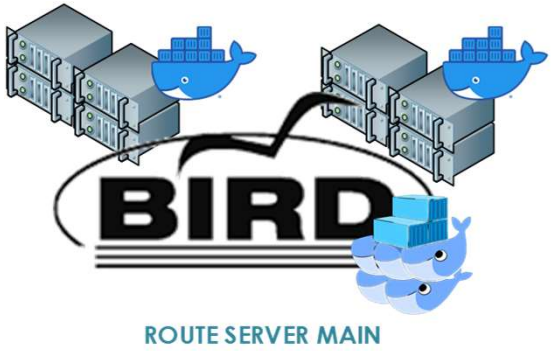
Planned Activities 2020

Container Architecture



Planned Activities 2020

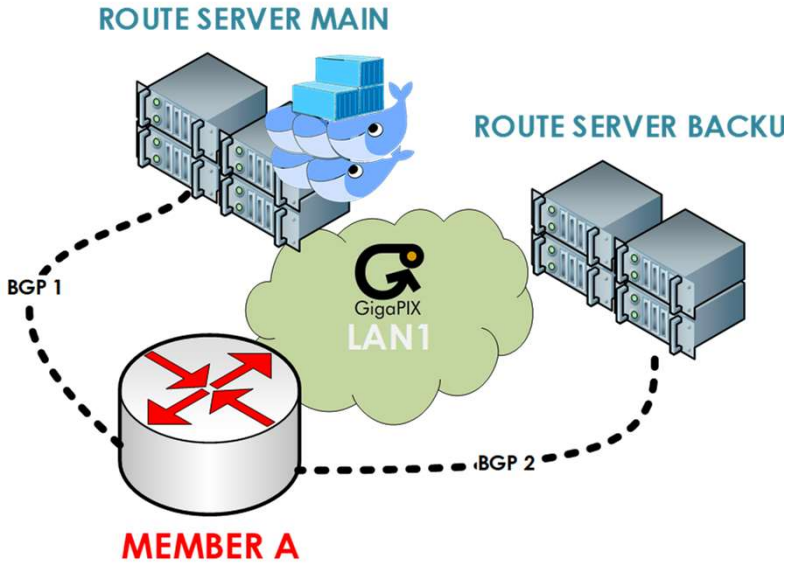
Route Server Upgrade



1

RS Availability
Micro-services adoption with docker clusters in RS1

1 Cluster with
2 Groups (one in SE06 another in Equinix)
4 Containers (2 LAN 1 and 2 LAN 2)
Containers with Failover between the two servers
+

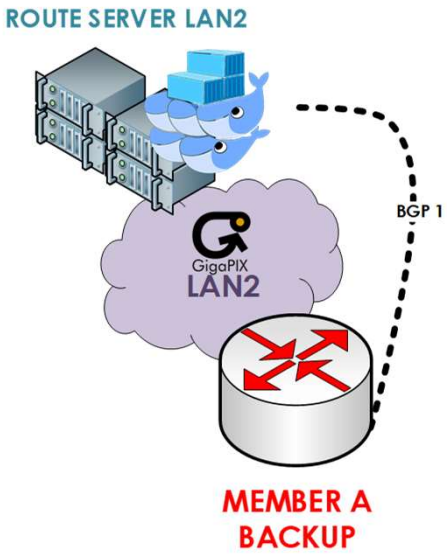


2

RS Session Redundancy
Two BGP sessions on LAN1 to isolated RSs

Planned Activities 2020

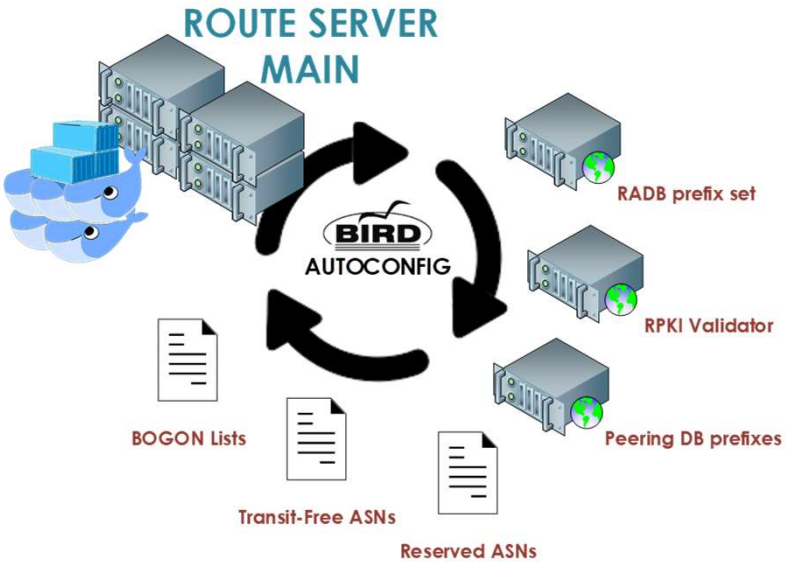
Route Server Upgrade



3

RS on LAN2

Another RS just for LAN2 connectivity



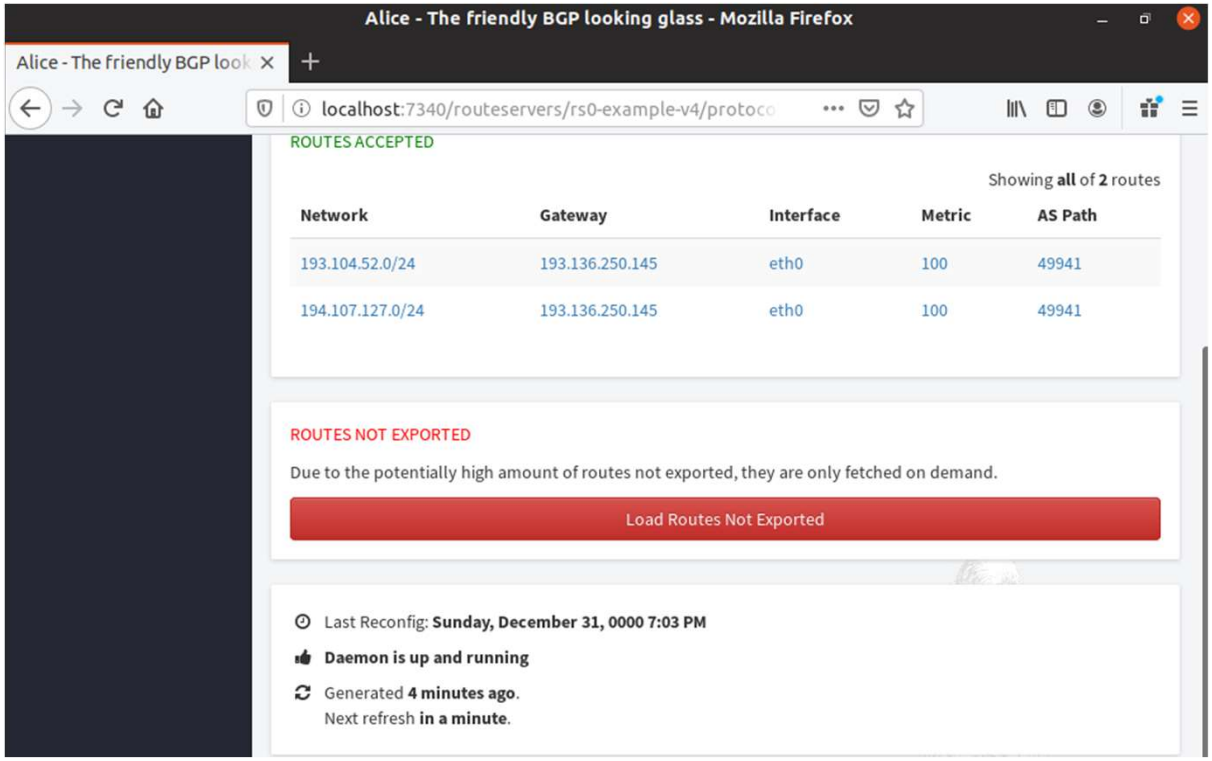
4

RS Filtering

BIRD configuration enrichment through dynamic and static sources

Planned Activities 2020

Route Server Upgrade



5

RS Looking-Glass

Online front-end for route filtering information

Planned Activities 2020

Route Server Filtering Guide

…More Security
RPKI invalid, bogons, reserved ASN will never reach a peer by default

…More Information
IRRdb prefix validation will be transmitted to peers

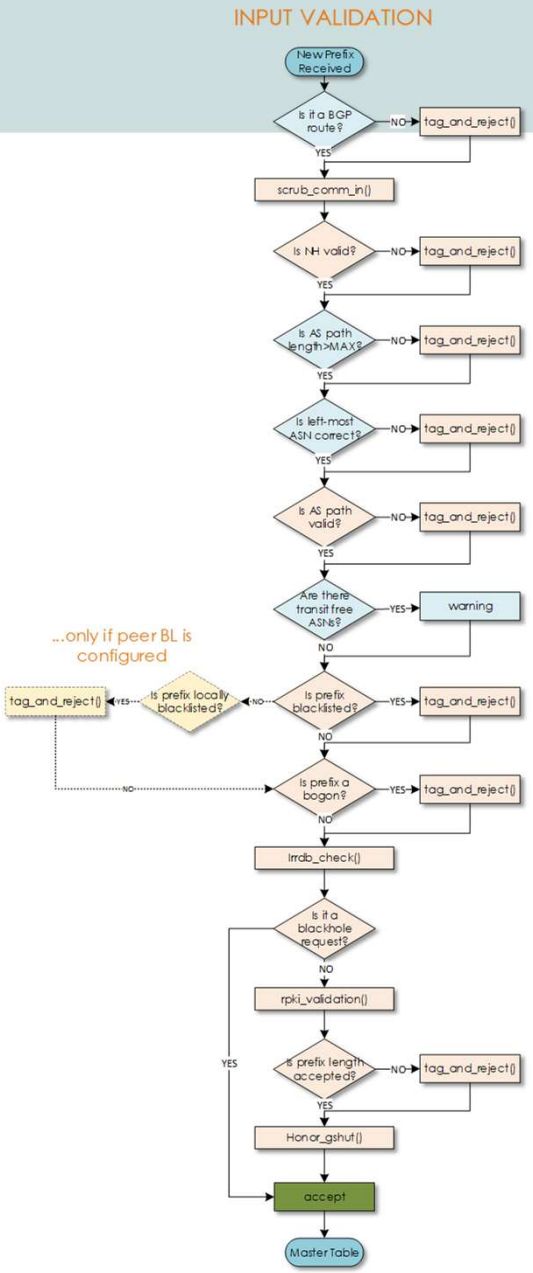
…More Control
Default RS drop policies might be changed on a peer basis

…More Services
Peers might use operational communities to:
- **Prepend** 1x,2x,3x on a peer basis
- **Blackhole** host routes
- **Add** RFC 1997 communities on a peer basis
- **Filter** output routes on a peer basis

…More Visibility
A web LG will be responsible to provide visibility on filters

What Changes to Peers?

Not much: just configure a new session to the new RS as the default policies will only act on peer's added communities and will only drops RPKI Invalid routes.



Planned Activities 2020

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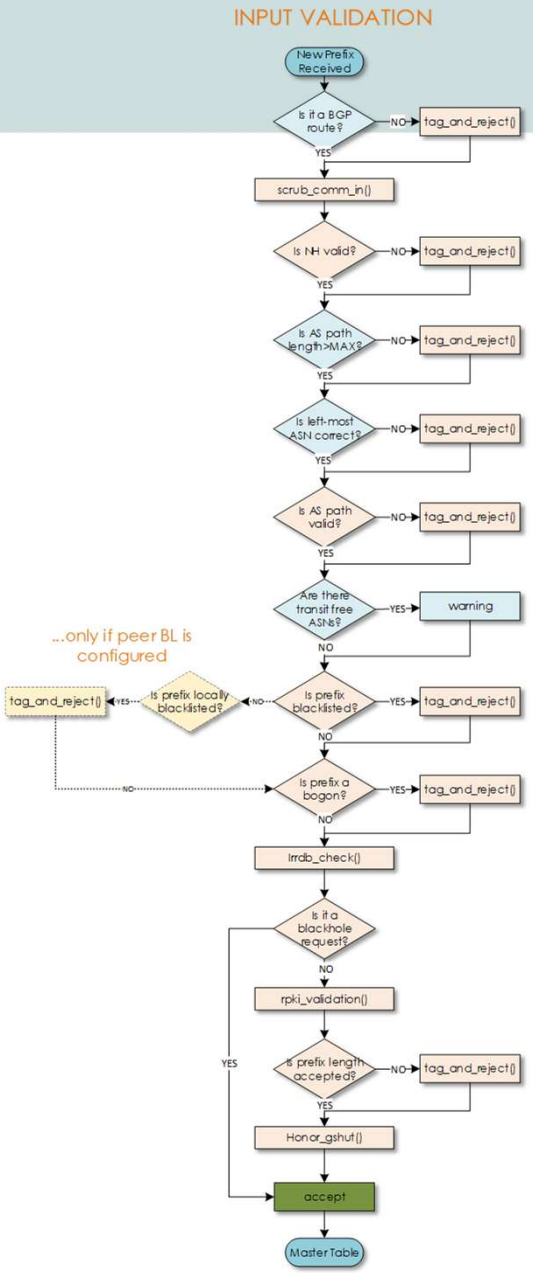

Planned Activities 2020

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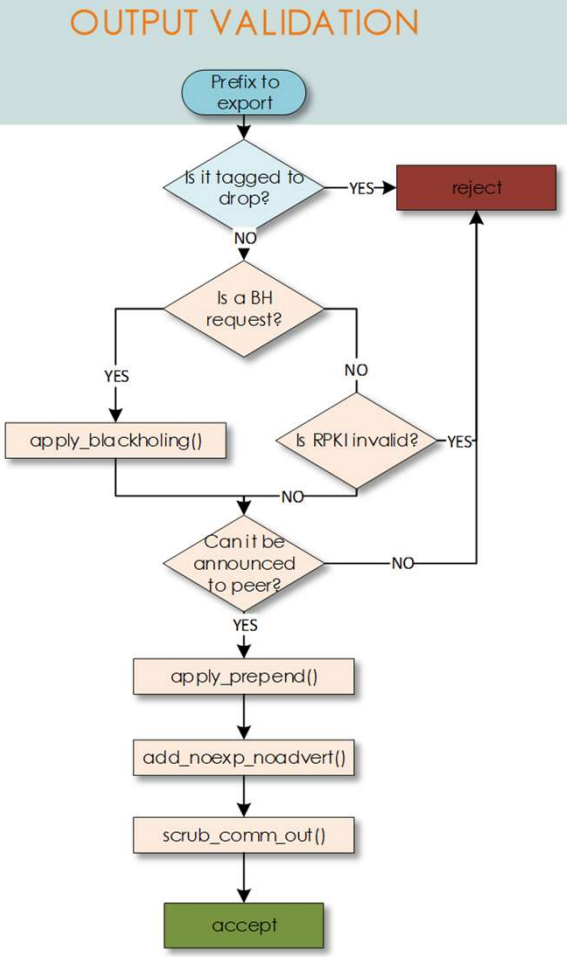

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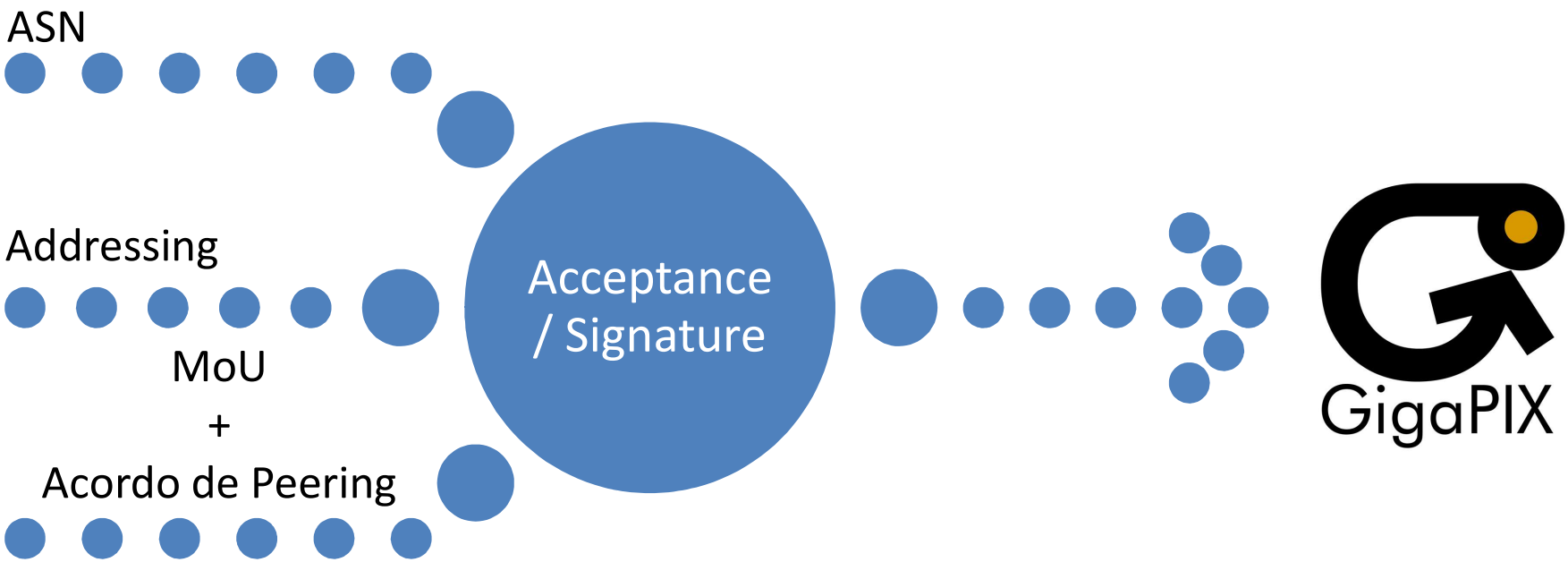
Connecting to GigaPIX



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Connect to GigaPIX:

noc@fccn.pt

More info at: www.gigapix.pt

Thank You

WE WELCOME
YOU IN
GIGAPIX