

# Update on ANIX

**Maurizio Goretti**

**Namex CEO**

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**ANIX Meeting 2022**



# NameX **staff** here

ANIX Meeting 2022  
Tirana December 13th 2022

**ANIX**  
powered by NAMEX

**ANIX  
MEETING  
2022**

**13 Dec 2022**  
**Tirana International  
Hotel**

**NAMEX**  
ROMA INTERNET EXCHANGE POINT

**MAURIZIO GORETTI**  
CEO

**LUCA DAVOLI**  
Membership Development  
and Marketing

**FLAVIO LUCIANI**  
CTO

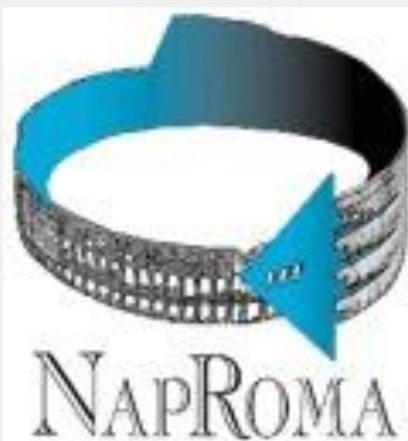
**RICCARDO ZAVATTA**  
Senior Account Manager

**DANIELE ARENA**  
ANIX Project Manager

**LEONARDO SANNA**  
Digital Media Specialist

# The Rome Internet Exchange Point

## A short history



It all started in 1995  
in a (neutral) data  
center of a  
University  
Consortium in  
Rome – 4 ISP



**Different names  
same people**



On a voluntary  
basis until 2001



NaMeX (Nautilus  
Mediterranean  
Exchange Point)  
was created in 2001  
as a non-profit ISP  
consortium



The new logo made  
in 2017 to showcase  
the city in which we  
operate

# NameX at a glance

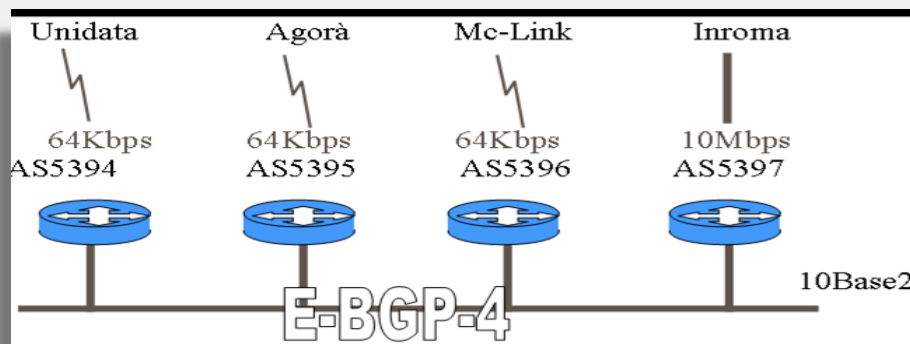
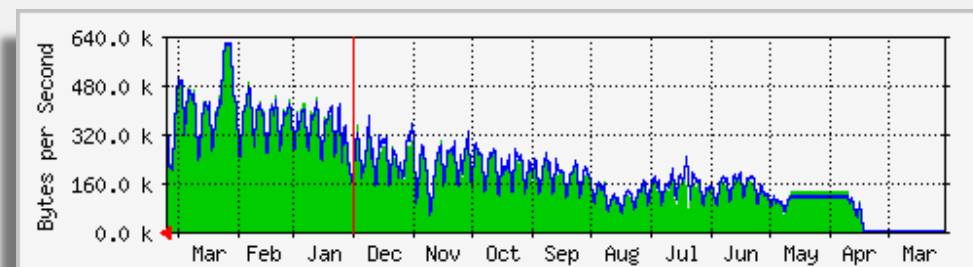
- NameX is a **member based** consortium **owned by members**
- Any member has **same share**
- 160 members – 210 ASes connected
- **Not for profit**
- **Neutral**





# NomeX at a glance

- March 1995 – 4 ISPs asked, together, one AS to RIPE
- They received 4 contiguous ASs **5394 \* 5395 \* 5396 \* 5397**
- 64 Kbps leased lines
- No switch, just RG58 black coaxial cable! (10 Base2)  
Every time new member entered the IXP ... IXPs stops!



# 2022 - 210 Networks Connected

## CONTENT PROVIDERS



## INTERNATIONAL CARRIERS



## ITALIAN ISPS



## INSTITUTIONS, AGENCIES, RESEARCH

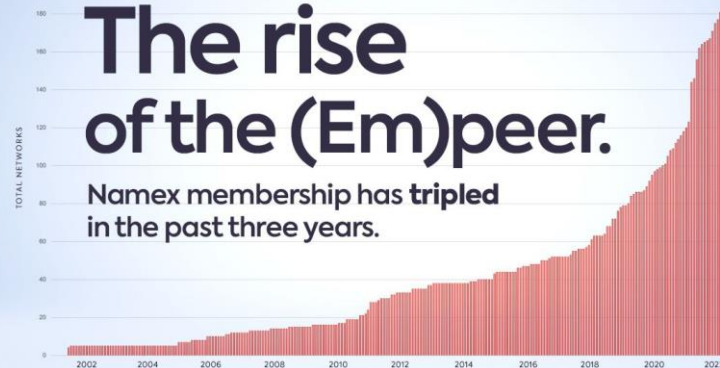


# The Roman Em(peer)

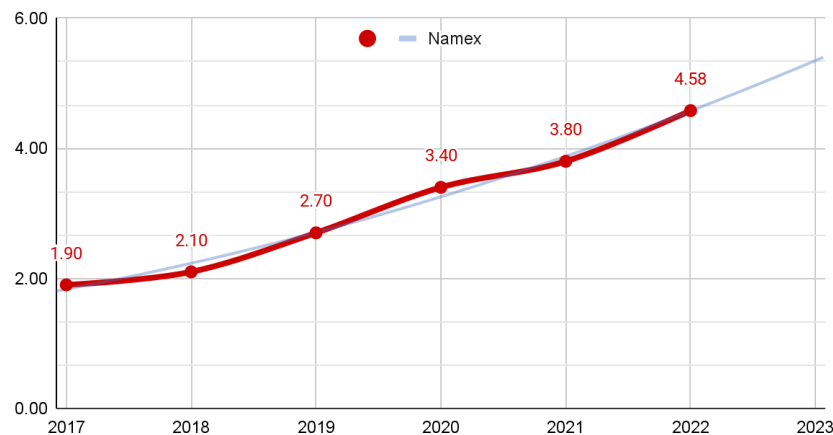


## The rise of the (Em)peer.

Namex membership has **tripled** in the past three years.

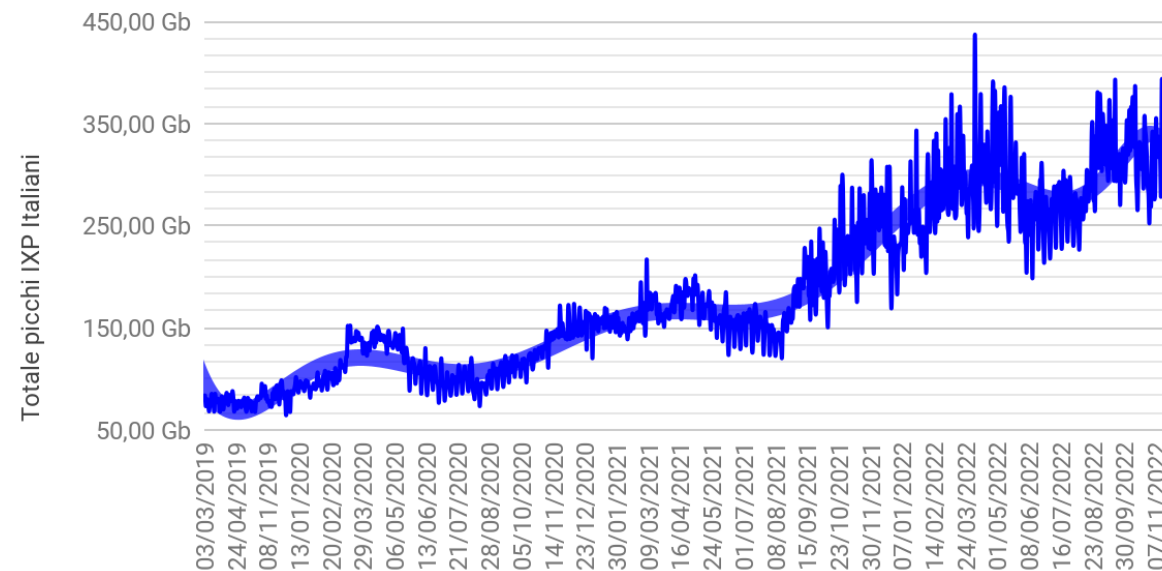


Namex revenues by year (Mln Euro)



## NaMeX daily peak

75,33 Gb Linea di tendenza per NaMeX peak  $R^2 = 0,912$



# Interconnection in Rome is growing

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Rome is increasingly important for the interconnection of Content Providers and Access Providers

The content needs to be close to the final users

Italy is long and narrow (more than 10 ms) and Content Providers need to be in Rome to cover Central and Southern Italy





# Killer application for peering

Serie A boosted traffic

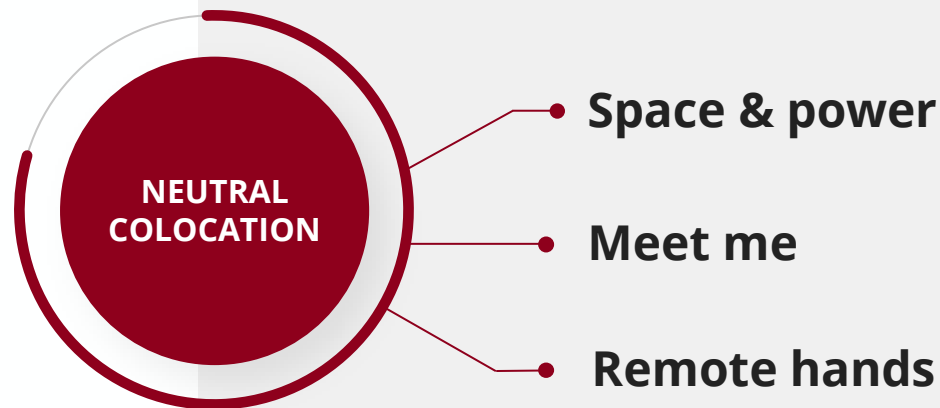


# Services catalogue

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160  
Racks in  
colocation

1000+  
Private Network  
Interconnections  
(PNI)



Remote IXP



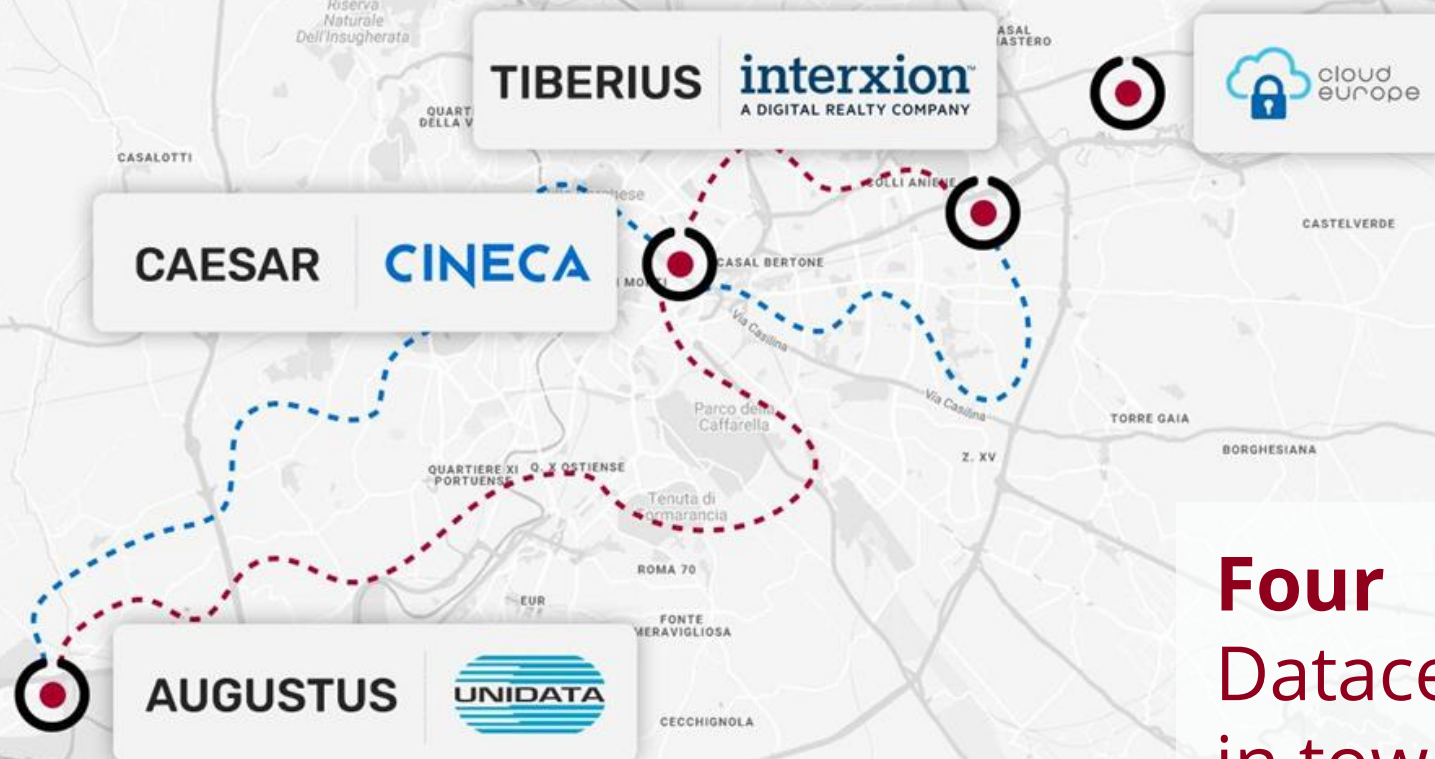
Remote Aggregation





# Namex **DC** environment today

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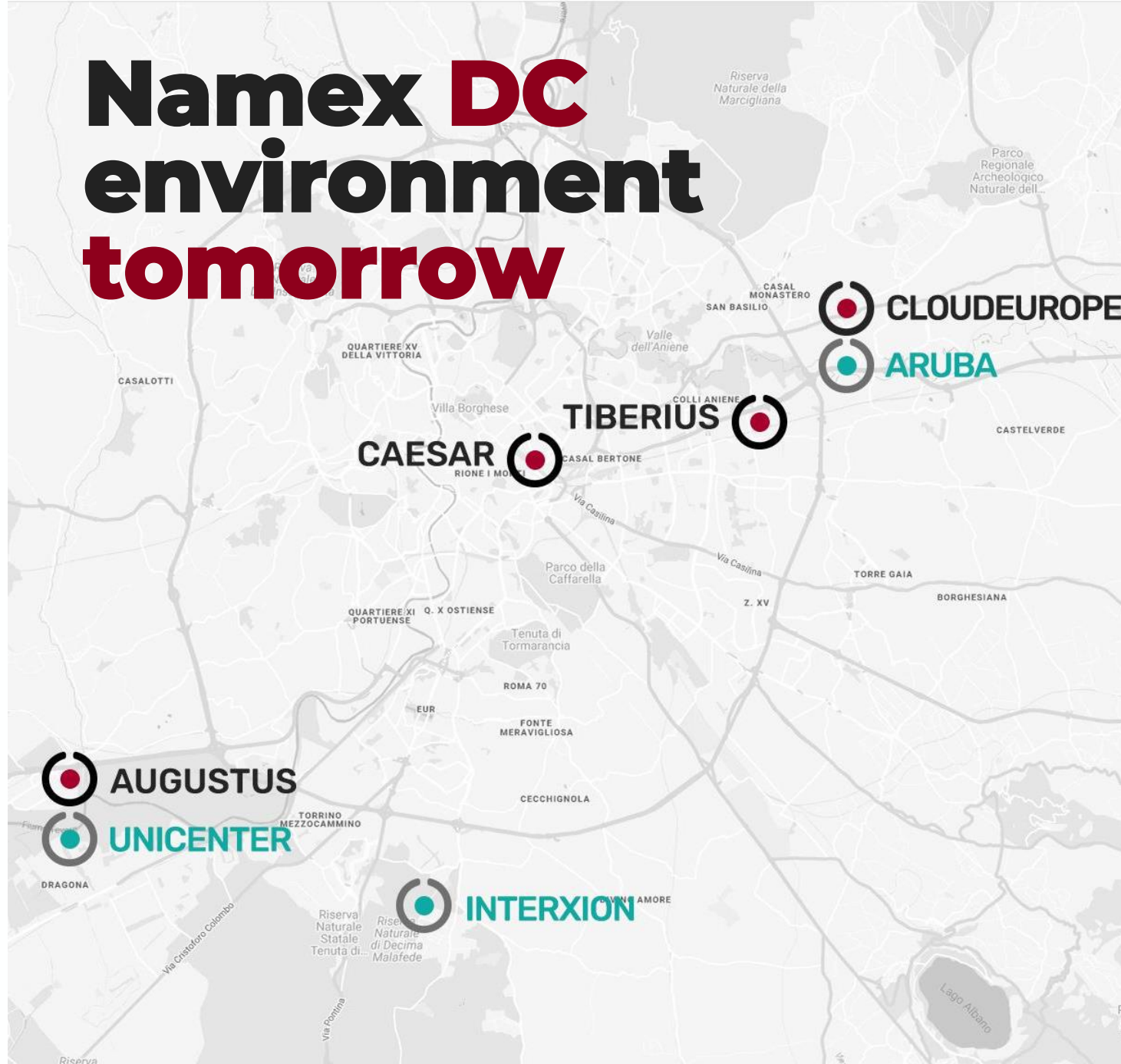
**Four**  
Datacenters  
in town

# NameX DC environment tomorrow

## Three more Datacenters in Rome

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12



### Aruba Hypercloud

Tecnopolo

30.000 sqm – 30 MWatt

March 2023

### Interxion ROM1

Trigoria - Campus Biomedico

16.000 sqm – 32 MWatt

October 2024

### Unicenter

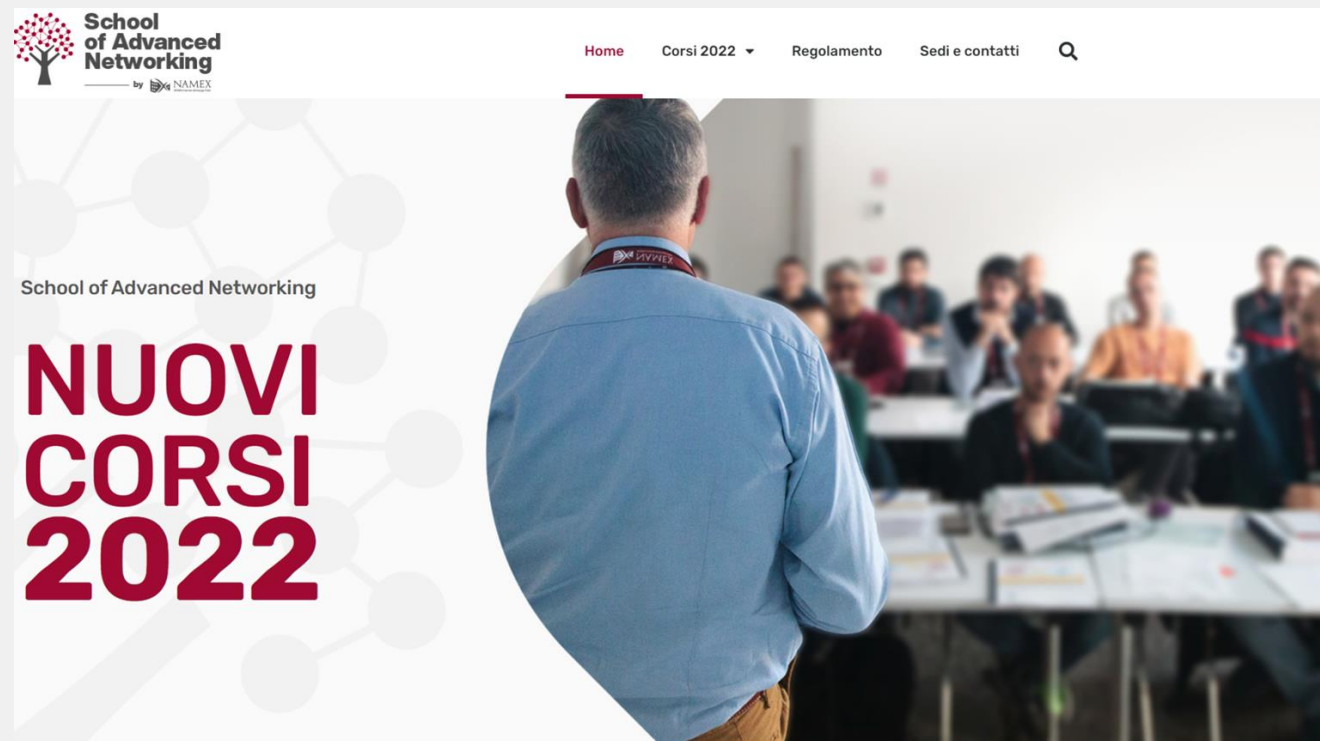
Nuova Fiera di Roma

36.800 sqm – 37 MWatt

2024

# School of **Advanced Networking**

TRAINING FOR ISPS MADE BY ISPS



In 2022:



**More than 180 people**  
trained



**8 FREE Trainings**  
3 days (15/30 attendees)



**87 ISPs** attending



More than **50 certificates**  
(Open Badge) issued after  
the end-of-training exam



# Community builder

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**Rome**  
**June 2023**

## NAM Annual event



One of the largest Italian ISP events



Unmissable since 2004



More than 300 attendees



Renowned speakers



One-to-One meetings

ONE X ENO  
Time

# NAMEX supports

NAMEX is glad to support several projects for the good of Internet's community

- **ANIX**  
The Albanian Neutral Internet Exchange
- **OpenBGPD**  
Emergent Route server project
- **BIRD**  
Leader Router server project
- **IXP Manager**  
IXP member portal project



# Nomex Bari is born.

A new Namex Internet  
exchange point for the South.

[bari.namex.it](http://bari.namex.it) →



NAMEX  
BARI INTERNET  
EXCHANGE  
POINT

Italy-Greece-1 (IG-1)  
Asia-Africa-Europe-1 (AAE-1)



# Nomex Napoli is born.

The second Namex regional IXP.



# Regional IXP(s)

## Why do we open regional IXPs

- Peering moves towards the edge
- Carrier neutral DCs for local ISPs
- OTT caches for smaller ISPs
- Marketplace for wholesale ISPs
- National and international ISP POPs



NAMEX  
**BARI** INTERNET  
EXCHANGE  
POINT



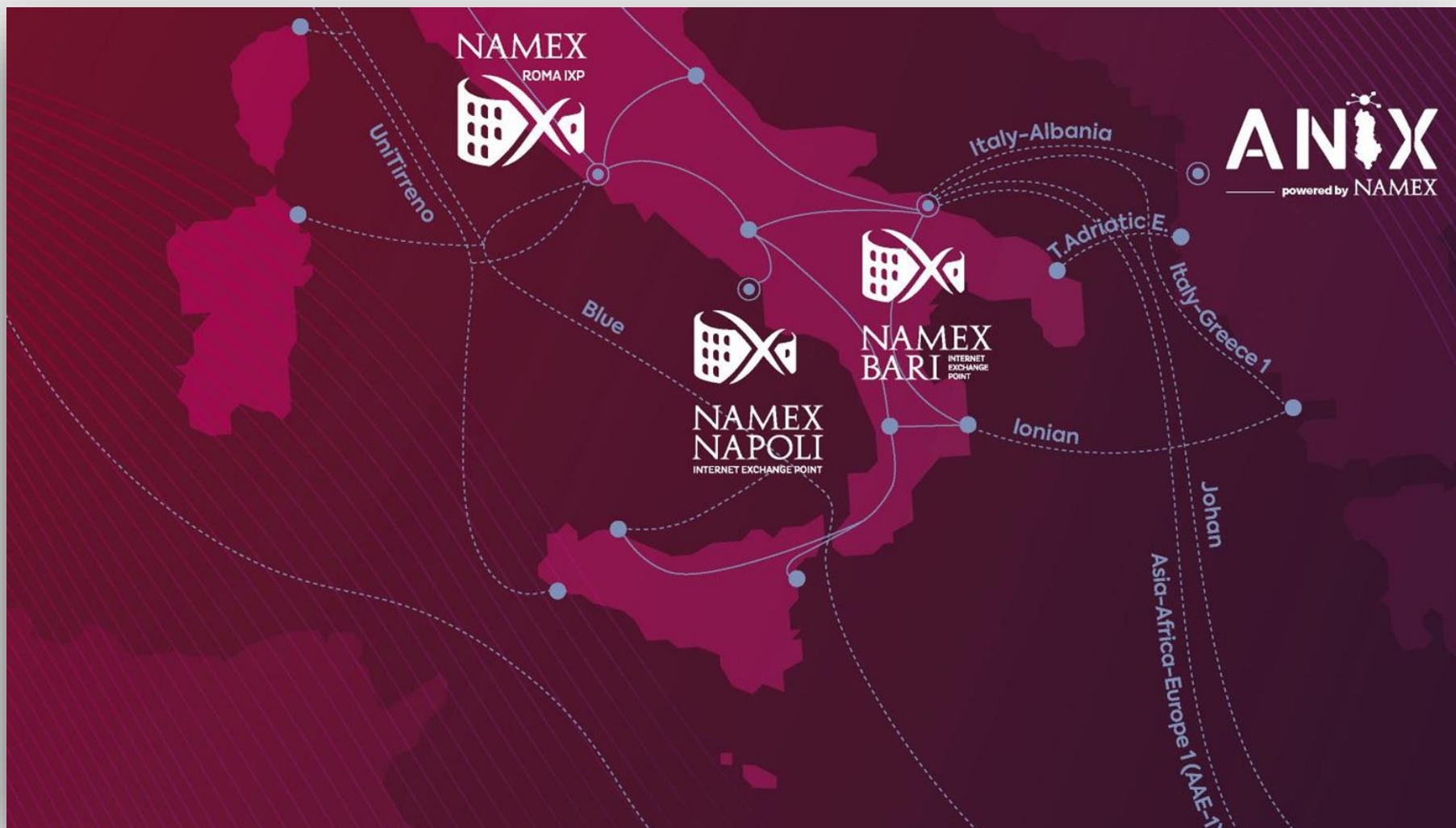
NAMEX  
**NAPOLI**  
INTERNET EXCHANGE POINT



# NameX at a glance today



# Nomex today



# COOPERATION AND DEVELOPMENT

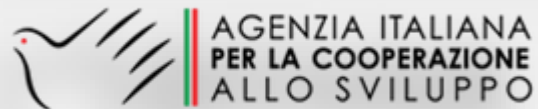
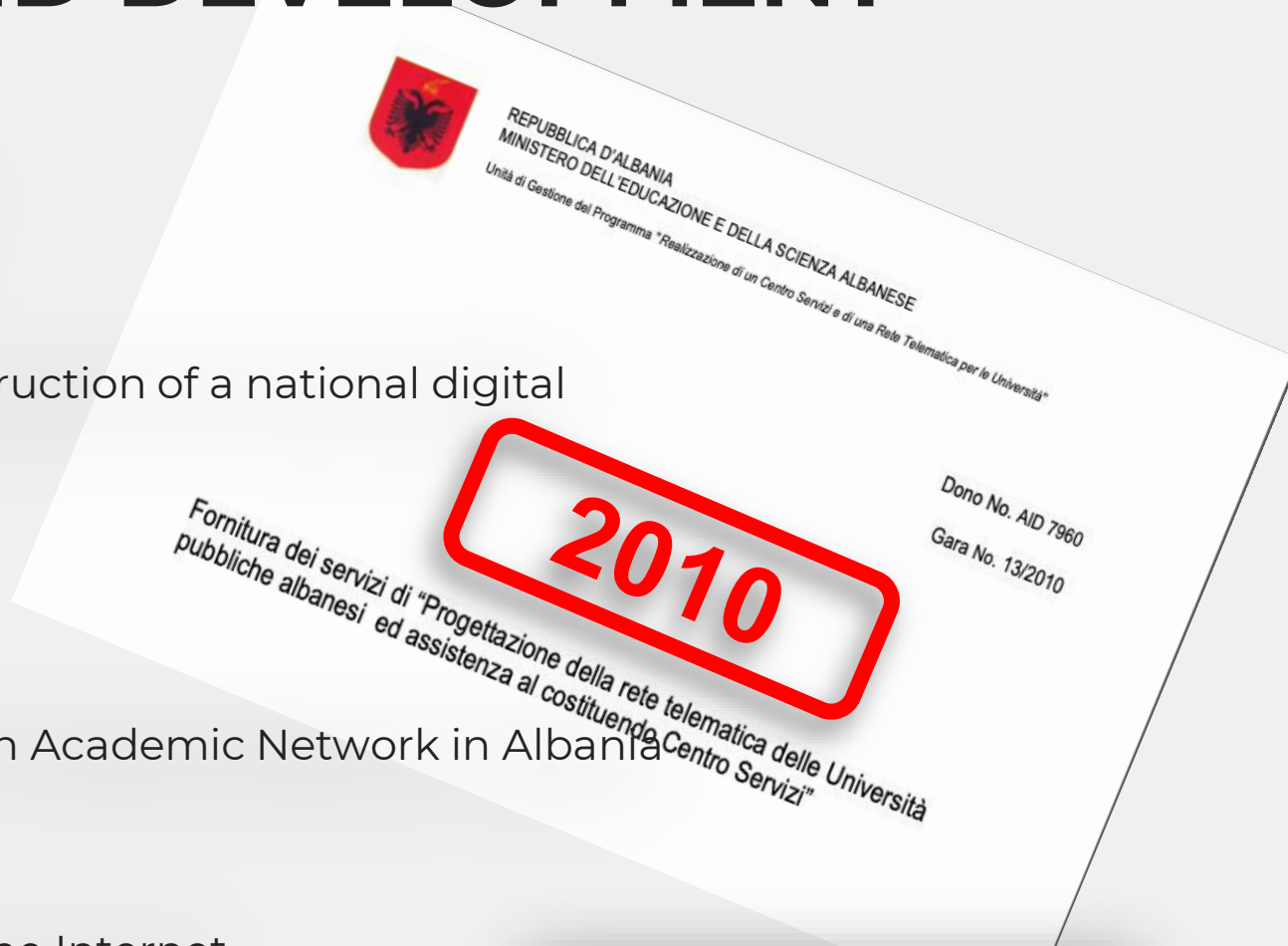
The Italian government decided to finance cooperation and development in Albania

One of those initiatives was financing construction of a national digital research network.

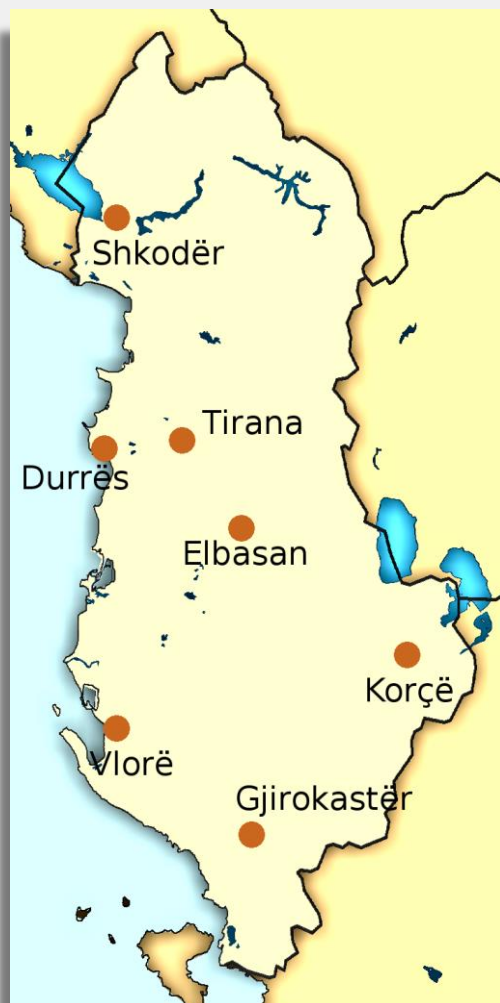
This is where we came in.

There had been several initiatives to build an Academic Network in Albania (ANA) throughout the years

Each university had its own connection to the Internet



# THE ALBANIAN ACADEMIC NETWORK



The network had to connect 11 public universities in 7 cities

3 research centers

Ministry of Education

**2012**

Albanian NREN had to be connected to GEANT through Italian NREN GARR

RASH was finally founded in 2012

**RASH**  
RRJETI AKADEMIK SHQIPTAR

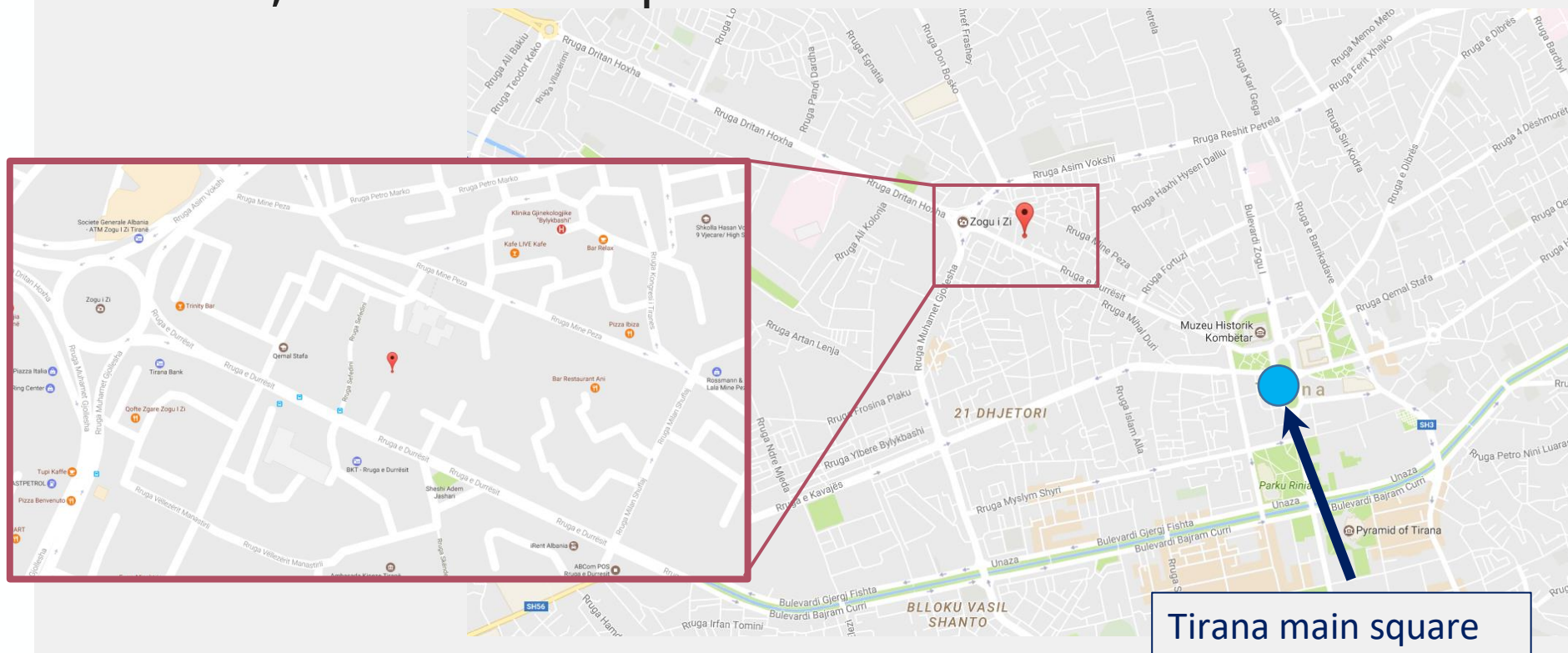


# DATA CENTER

2016

RASH has its own DataCenter in downtown Tirana, Albania's capital.

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# BACK TO THE ROOTS

NREN mission was accomplished



But we're IXP guys ...



What was the Albanian ISP Interconnection like?

# Before **ANIX** Existed: 2017

## Albania:

- **ISP-rich environment (51 ASNs)**
- **No neutral IXP**  
(one non-neutral IX managed by the incumbent)

## Where does local Albanian traffic go?

- Shkodër to Tirana: 70 km
- Traceroute:
  - Athens
  - London
  - Amsterdam
  - Hamburg
  - Prague
  - Bratislava
  - Budapest
  - Belgrade
  - Podgorica
- RTT: 108.7 ms



(Made with RIPE Atlas)

RIPE SEE6, 12 June 2017, Budva

# HOW TO INTERCONNECT IN ALBANIA?

## One existing “IXP”: ALB-IX (established in 2011)

A service of ALBtelecom (the incumbent) - 8 customers

Main drawback: lack of trust of ISPs in the incumbent

Competitor  
Non-neutral

### ALB-IX



Internet Exchange Points (IXP) are vital elements of the internet infrastructure that enable networks to exchange traffic with one another. Multiple internet service providers (ISP) can connect with IXP and can create a good potential for technical, and economic benefits.

#### Albtelecom Internet Exchange Point

#### Albtelecom IXP

#### ALB-IX Common Services

An IXP enables the network connections to connect to one single provider, rather than through other third-party networks. The IXP keeps the internet traffic local, thus avoiding international links, and which can result in cost savings, in providing local substantial bandwidth, as well as in significantly improving the local Internet performance.

The ALB-IX service is currently offered to below entities:

- Abissnet
- Nisatel
- Tring
- IBC
- AKSh
- AMC
- Primo
- Blela Net

There are three main key benefits for ISPs to connect to an IXP:

- **Bandwidth & Cost Saving.** Bandwidth saving is the initial goal for IXP creation, and this happens in order to keep the internet traffic local for the connected ISPs and not use the international transit lines which are very expensive
- **Quality of Service (decreasing Latency).** Using IXP makes possible an improved network performance and an enhanced QoS (quality of service) for customers, due to the bandwidth savings, decreased RTT and use of local links.
- **New Revenue Opportunities.** Through the IXP connection, an ISP can create new business models that drive the domestic links: e-banking, e-commerce, e-government, VPNs, content hosting and many other services that normally can be severely hampered by the high latency/high congestion on the upstream links.



# ALNOF

**November 2017**

More that 100 attendees

50 Albanian ISPs and agencies



# ANIX is alive!

**March 2018**

**ANIX**

Albanian Neutral Internet eXchange

Technical

Home

Statistics

Looking Glass

Join Anix

Contact Us

Username:

Password:

Login

## \*<sup>4</sup> Ping RASH to ABCOM

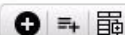
General Information

Probes

Map

LatencyMON

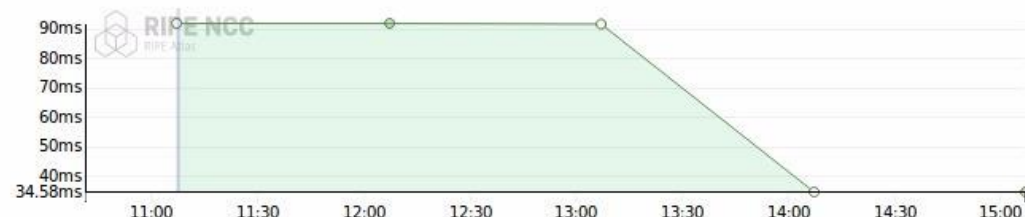
Results



RIPE Atlas ping measurement #11997147 to email.abcom.al

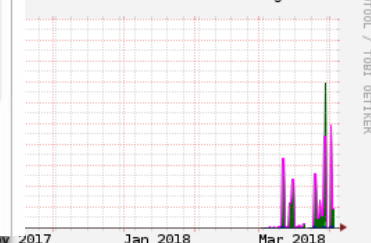
Streaming on

From 2018-04-06 10:41 to 2018-04-06 15:07



**Probe 28243 (AL)**  
IP v4: 37.139.119.6  
AS: 57961  
Prefix v4: 37.139.116.0/22  
Target: email.abcom.al

neutral Internet eXchange



	May 2017	Jul 2017	Sep 2017	Nov 2017	Jan 2018	Mar 2018
Out	138.59M	16.99M	16.99M	968.67k		
In	99.24M	15.39M	15.39M	958.53k		

Albanian Neutral Internet eXchange

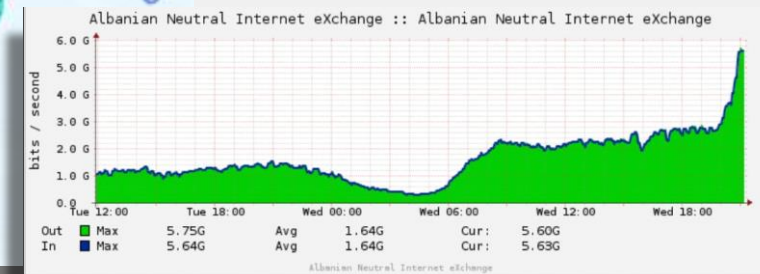


# First Content Provider

**December 2020**



**Facebook is active  
and is peering at  
ANIX, the Albanian  
IXP powered by  
Namex!**



# Traffic milestone

**February 2022**

**ANIX**  
powered by NAMEX

**+10 GBPS**  
**ANIX IS GROWING!**

ANIX Tirana :: ANIX Tirana



# First International Transit provider

**March 2022**

**Hurricane Electric is active  
and is peering at ANIX,  
the Albanian IXP  
powered by Namex!**



HURRICANE ELECTRIC  
INTERNET SERVICES





2017

From 0 to 18(+1)  
members in 4 years

2018

14 Albanian networks

2019

5 international players

2020

Traffic peak of 26 Gbps

2021

Powered by Namex

2022

Housed at RASH (NREN)

With the support of:



NAMEX  
ROMA INTERNET EXCHANGE POINT



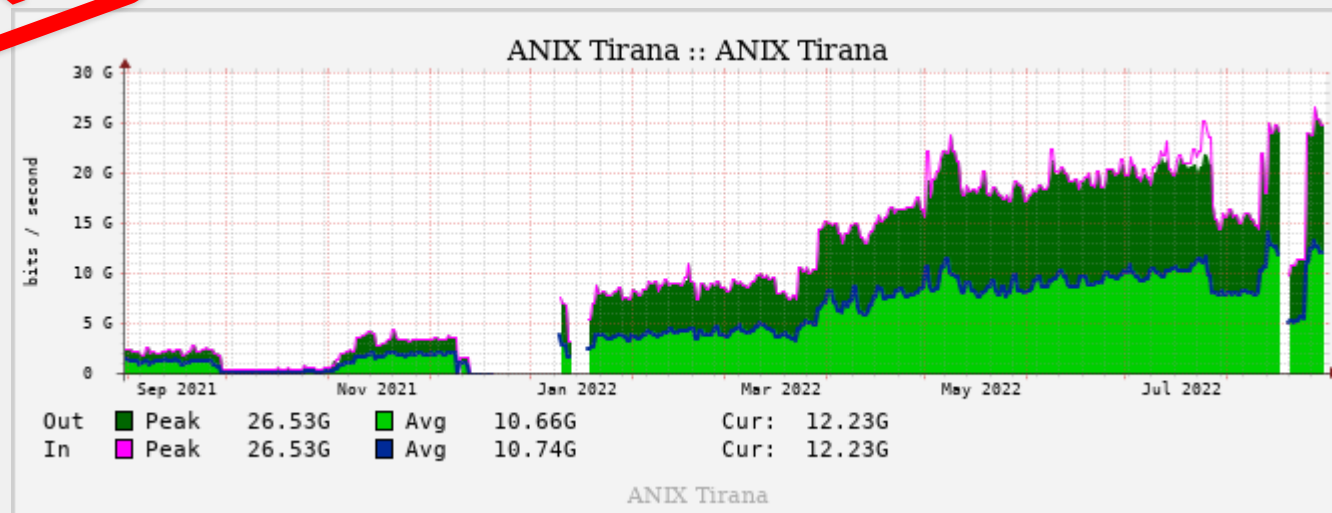
RASH  
ALBANIAN ACADEMIC NETWORK



RIPE NCC  
RIPE NETWORK COORDINATION CENTRE

PRO-BONO

# ANIX Development





NETFLIX



Today



mobitel

tibo



# ANIX Today

- **Neutral IXP**
- **Albanian ISP Hub**
- **Carrier Neutral Datacenter**
- **Content Providers**
- **International Transit Provider**

- **Useful!**
- **A promising future!**



# International Gateway

- **ANIX** has the opportunity of becoming an important **International Internet Hub**
- **New Submarine Cable Players**
  - TAE by Exa
  - Italy-Albania by TIS & AlbTelecom
  - Italy-Greece 1 by WIS
  - Ionian by Islalink

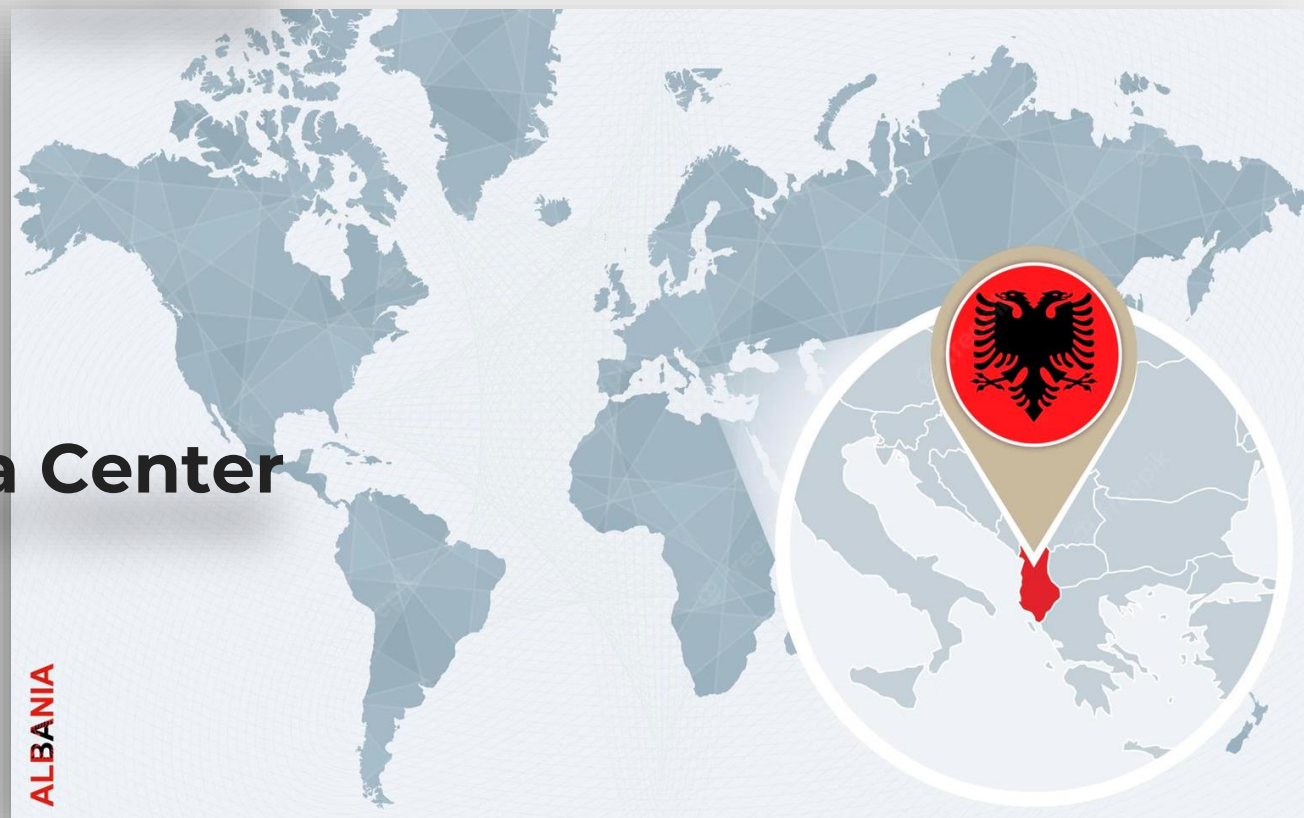


# Time for a **new course**

- **ANIX** has become **too important** to keep on being “**voluntary based**” and **pro-bono**.
- It must be **sustainable** to be able to **grow**
- ANIX will be **managed by RASH** and “**Powered by Namex**”
- **Namex** will also be a **reseller** of ANIX services

# Opportunity for Albania

- **Albania** can be an International hub with opportunities for local market
- But it needs:
  - Neutral IXP
  - Open Market
  - Carrier Neutral Data Center
  - ISP Community





# ANIX: The Only Neutral Internet Exchange in Albania

# Thank you!



NAMEX  
ROMA INTERNET EXCHANGE POINT



NAMEX  
ROMA INTERNET EXCHANGE POINT



NAMEX BARI  
INTERNET EXCHANGE POINT



NAMEX  
NAPOLI  
INTERNET EXCHANGE POINT

ANIX  
powered by NAMEX



RASH  
ALBANIAN ACADEMIC NETWORK