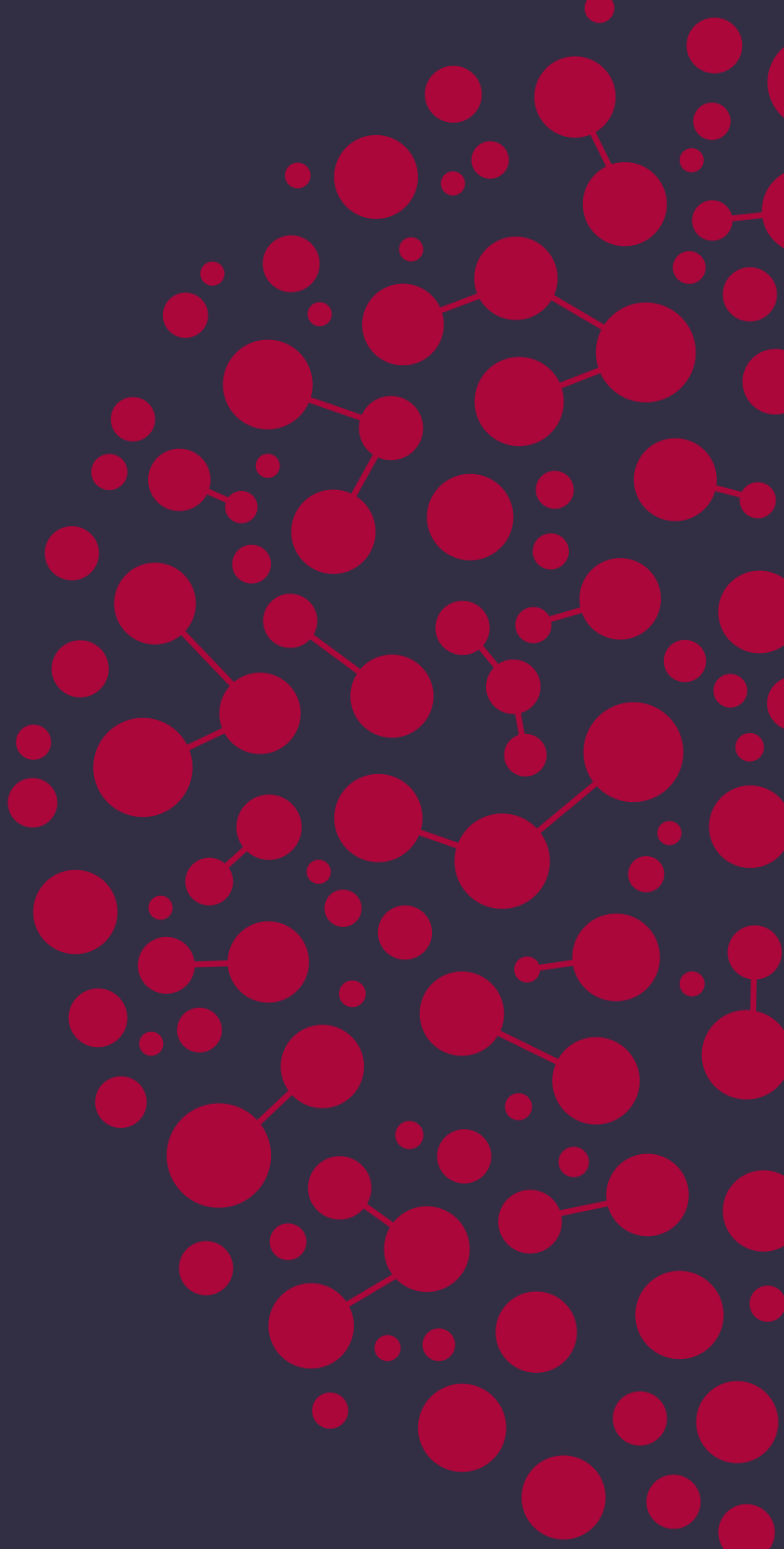




NAMEX
ROMA INTERNET EXCHANGE POINT

annual report 2022

Community is the key — May 2023



**«Rome is becoming
an indispensable and
strategic hub, not
only for Southern Italy,
but for the entire
Mediterranean.»**

——— **Maurizio Goretti** NameX CEO

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Namex at glance

Namex - Roma IXP, is a non-profit, neutral exchange and interconnection point between national and international Internet service providers (ISPs).

Namex was founded in 1995 as a neutral access point inside an academic institution (CASPUR, now CINECA). It was really the first attempt at creating an infrastructure that could optimize interconnection and reduce costs for the Internet providers, in a world where the Internet was still a niche known to a few enthusiasts and researchers.

Since then, Namex has grown significantly and today it counts over 200 connected networks, becoming one of Italy's leading internet exchange

points (IXPs). Located in Rome, Bari and Napoli, Namex provides a crucial link in the country's digital infrastructure, facilitating the exchange of internet traffic between different content and access providers.

The Namex consortium also counts many local ISPs operating



The Namex Team

in Italy, particularly in the South of the country. The purpose of Namex is to provide a neutral platform on which local and international operators can benefit from the interconnection services provided by the Consortium, improving the Internet infrastructure of Southern Italy.

Namex has established itself as a strategic point of presence for all ISPs operating in Italy, and it is now a point of reference for all the operators which need to provide high-quality service throughout the country.



Community is the key

Renato Brunetti Namex President

It is my great pleasure to reflect on another successful year for our Consortium. During 2022, we wanted to concretely strengthen our role as a member-based consortium.

One of our key achievements this year has been our expansion into new regions, consolidating Namex Bari and opening a new regional IXP in Naples. We have successfully leveraged our collective expertise to explore new opportunities and establish a stronger presence in the Southern regions, which are often the most suffering from the digital divide.

In today's digital age, access to the internet is crucial for individuals, businesses, and governments. ISPs play a critical role in providing internet connectivity but face challenges in expanding their services and infrastructure.

IXPs, like Namex, are essential in facilitating the interconnection between different ISPs and content providers. They provide a neutral

and efficient infrastructure that reduces the cost and complexity of internet traffic exchange. By peering at an IXP, ISPs can avoid costly long-haul transit and improve their customers' service quality.

In particular, the opening of regional IXPs is particularly important for a community of

«In today's digital age, access to the internet is crucial for individuals, businesses, and governments.»

small-sized and local providers, as well as for large content providers. The opening of edge IXPs in fact results in faster connectivity and

therefore it can help to improve the quality of service delivered to the end customers. In this sense, a regional exchange is a vital point for the strengthening and further development of a local community.

Another example is the ongoing energy crisis, caused by geopolitical difficulty and uncertainty, which has strained many businesses, impacting also on Namex members. Despite the challenges, Namex was able to absorb the impact of rising energy costs during 2022. Unfortunately, energy costs are one of our largest operating expenses, and they significantly impact Namex financials.

Nonetheless, a community-based IXP like Namex plays an even more crucial role in these difficult times. By serving as a human and infrastructural aggregator, Namex

«By serving as a human and infrastructural aggregator, Namex helps its members to mitigate the impact of rising energy costs by sharing resources and expertise.»

helps its members to mitigate the impact of rising energy costs by sharing resources and expertise.

As we look to the future, I am confident that our sense of community will only continue to grow. Namex will continue its tireless work as a human and infrastructural aggregator, seeking new ways to safeguard its members' interests. By promoting the growth of IXPs, we can contribute to developing a more robust and resilient internet infrastructure, which can benefit the entire digital ecosystem.



«Despite the challenges, Namex was able to absorb the impact of rising energy costs during 2022. Unfortunately, energy costs are one of our largest operating expenses, and they significantly impact Namex financials.»

The new Italian ecosystem and the role of Rome

— Maurizio Goretti NameX CEO

Rome has been growing quite fast in the last few years. Compared to 2018, NameX has more than tripled its connected networks, and for a member-based Consortium this is surely a crucial asset.

Indeed, because of the community-centered nature of NameX, we have not been growing alone. The growth in demand for interconnection in the city has gone hand in hand with the growth in demand for new datacenters.

During 2022, several operators made major investments in the city. Four major datacenters are under construction and some of them are expected to be fully operational by the end of 2023. The choice of Rome as the location for datacenter investments is also fostered by the NRRP, which plans to devote 40% of its funds to the development of Southern Italy, as well as to the public administrations in need of technological upgrades and evolutions.

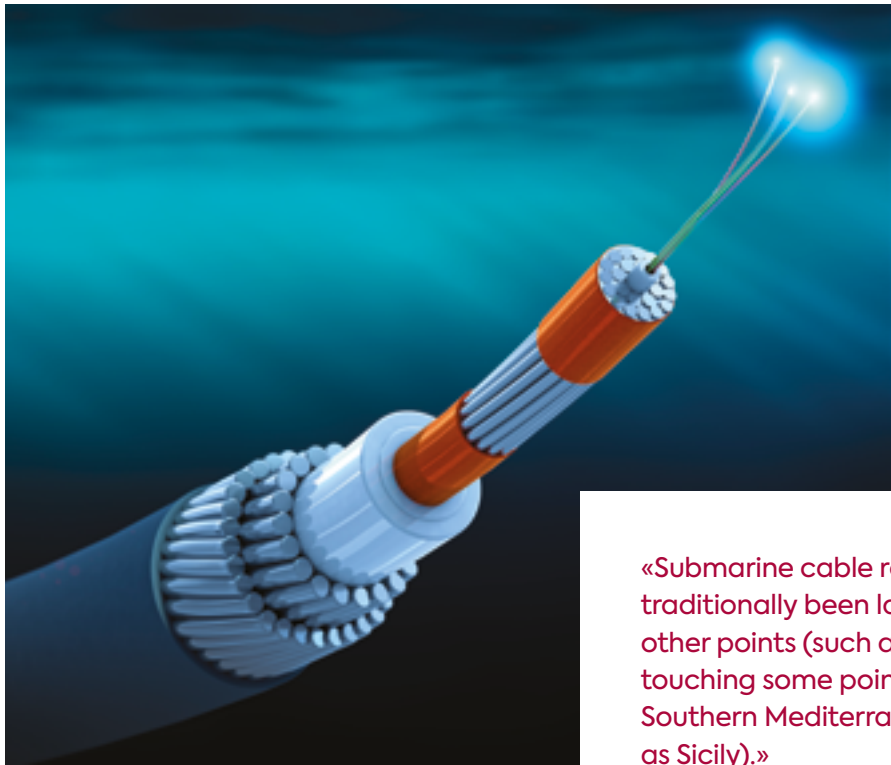
The growth trend of NameX and the

city suggests that Rome is becoming an indispensable and strategic hub, not only for Southern Italy, but for the entire Mediterranean. In fact, in addition to the new datacenters, two new submarine cables currently being deployed will land in Rome: Unitirreno (Unidata) and BlueMed (Sparkle).

Submarine cable routes have traditionally been landing in other points (such as Marseille), touching some points within the Southern Mediterranean (such as Sicily). The most recent geopolitical tensions have been rising again the issue of diversifying routes and landing stations for such critical infrastructures and Rome is becoming strategic in this context.

The interconnection of the Internet is shifting from concentration to an edge distribution.





«Submarine cable routes have traditionally been landing in other points (such as Marseille), touching some points within the Southern Mediterranean (such as Sicily).»

This means that the growth of the roman infrastructure has to be accompanied by investments that allows reaching also regions other than Rome. This is why we decided to open in another regional IXP in Naples this year, Namex Napoli. There are several advantages to having a local IXP, especially in densely populated area such as Naples::

1. Lower latency; as it reduces distance between operators and final users
2. Increased network resilience; a regional IXP provides an alternative route for traffic in case of network disruptions or outages.
3. Local content development: A regional IXP can help to promote the

development of local content, as it provides a more efficient and cost-effective way for local content providers to distribute their content to users in the region.

For these reasons, we will keep working on the development of our infrastructure, supporting the needs of all the network operators and trying to play a key role in in the development of our community.



«The growth trend of Namex and the city suggests that Rome is becoming an indispensable and strategic hub, not only for Southern Italy, but for the entire Mediterranean. In fact, in addition to the new datacenters, two new submarine cables currently being deployed will land in Rome: Unifirreno (Unidata) and BlueMed (Sparkle).»



There is more than Peering

— Flavio Luciani NameX CTO

Once upon a time, IXPs were simple creatures. When the World Wide Web became popular in the 90s, network operators needed to optimize traffic exchange and reduce transit costs.

The main aspect of peering was improving interconnections between network operators to lower latencies, costs and dependency from the ex-incumbents. Interconnects brought a huge value to the European ecosystem and helped to create a competitive market, the Internet more resilient and it also helped innovation.

The Internet had a clear hierarchy then, with large players at the top of the infrastructure. In this context, interconnection at a neutral location, such as IXPs, helped lower costs and created more competition within the market since it allowed Internet Providers to propose lower prices to their end users. In a nutshell, peering was intended as a mutual benefit among network operators.

Nonetheless, by the mid-2000s, Internet use became massive and new players emerged.

Content that used to be on single servers began to be distributed with CDNs. The rapid traffic growth, however, moved the deployment of CDNs inside the ISPs, slowing down internet exchange growth.

In recent years, we have observed a similar mechanism with OTTs, especially those providing live-streaming content. When the traffic grows fast, content needs to be deployed within ISPs, especially in local providers, so that the capillarity of the distribution is ensured. The absolute novelty is that CDN caches are now starting to be present also within long-tail network operators, which was uncommon during the past decade.

Undoubtedly, live streaming has been a crucial game changer. However, the

current context is quite complex and entails multiplying different actors that need to interconnect with access providers. In other words, we are moving from a system where ISPs look for interconnections with other ISPs and content providers to a telco industry with diverse stakeholders. CDNs, cloud, gaming, Enterprise, and cybersecurity are just a few examples of the diversity of the new community.

Therefore, the future role of IXPs would be much more than simple "peering points." First and foremost, the new interconnection model must be based on decentralization, pandering to the need for different network operators to be closer to end users. Namex has already started evolving its model by opening new regional IXPs, such as Namex Bari and Namex Naples. Nonetheless, the new model will also require decentralizing the services offered to meet the growing

«IXPs have come a long way since their genesis, and they have evolved from simple optimization points to critical components of the Internet's infrastructure, improving its reliability and efficiency.»

demand for local interconnection.

Then, for IXPs, there will be more than peering in the future, as they will be facilitators for the mutual exchange of traffic and services. This may lead to creating an interconnection system that is densely distributed throughout the territory and can provide mixed services on the whole national territory.

IXPs have come a long way since their genesis, and they have evolved from simple optimization points to critical components of the Internet's infrastructure, improving its reliability and efficiency. As the Internet continues to grow, Namex will need to continue to adapt, providing new services and features to meet the needs of its members.



«Undoubtedly, live streaming has been a crucial game changer. However, the current context is quite complex and entails multiplying different actors that need to interconnect with access providers.»

The Namex Board of Directors



Renato Brunetti
President
(Unidata)



Rosario Pingaro
Vice-President
(Convergenze)



Maurizio Goretti
CEO
(Namex)



Gianfranco Delli Carri
(IT.Gate)



Alfredo Giordano
(Warian)



Domenico Jannelli
(Akamai)



Danilo Lanzoni
(Wind Tre)



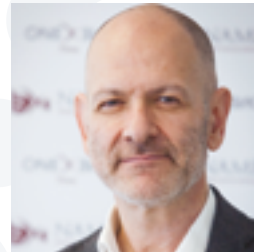
Quintino Pallante
(Interfibra)



Giuliano Peritore
(Panservice)



Carlo Sansone
(Cineca)



Antonio Soldati
(TIM)

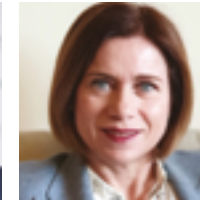


Luciano Talarico
(BALENO)

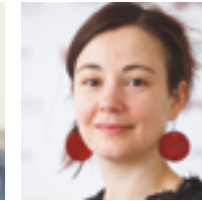
The Namex Technical Committee



Massimo Carboni
(GARR)



Francesca Cuomo
(University of Roma, La Sapienza)



Florence Lavroff
(Google)



Francesco Ferreri
(Namex)



Augusto Paolo Mari
(SED Multitel)



Federico Tito Moretti
(TIM)



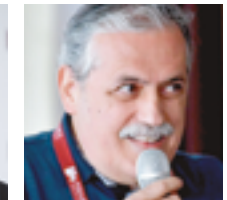
Luca Rea
(Ugo Bordoni Foundation)



Giampaolo Rossini
(Unidata)



Gianpaolo Scassellati
(ZTE)



Tiziano Tofoni
(Reiss Romoli)

The Namex Team



Maurizio Goretti
CEO



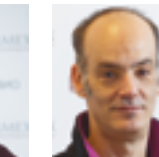
Flavio Luciani
Chief Technology Officer



Francesco Ferreri
Chief Engineering Officer



Marco Tocci
Facility Manager



Andrea Spadi
Facility Manager



Marta Burocchi
Network and Systems Engineer



Tiziana Pappalardo
Administration



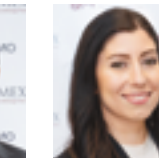
Ettore Palmieri
Administration



Luca Davoli
Membership Development and Marketing



Riccardo Zavatta
Senior Account Manager



Alessandra Festa
Communication and Events



Leonardo Sanna
Digital Media Specialist

2022 results at-a-glance



+24%

REVENUE
4,7 MLN EURO
+24% compared to 2021

+18%

AS 2022
209 ASNs

24 new ASNs joined in 2022, +15% compared to 2021 EOY, 24 new members and 3 remote aggregations



+50%

PUBLIC PEERING TRAFFIC
434 GBPS

average daily peak, +50% compared to 2021

New members in 2022

At the end of 2022, the total number of members of NameX is **209** operators. Below is the list of the 24 that became members during the last year:

8Route	www.glpr.biz	AS34428
Alfa Bit Omega	www.alfacom.it	AS208354
Arcolink	www.arcolink.it	AS51333
AS5398	as5398.com	AS5398
Devdata	www.devdata.it	AS211152
Enel Energia	www.enel.it	AS202098
Entraincittà	www.ipernetadsl.it	AS203485
Fibreconnect	www.fibreconnect.it	AS49991
Fowhe	www.fowhe.com	AS60443
Hal Service	www.halservice.it	AS44092
Iliad	www.iliad.it	AS29447
Intendo	www.tlcweb.it	AS34691
IP Telecom	www.twsitalia.com	AS29449
Lo Conte Wifi	www.twsitalia.com	AS206732
Mibura	mibura.com	AS400696
Neofiber	neofiber.it	AS205358
Progeform	www.ermes.biz	AS206961
Radware	www.radware.com	AS198949
Rai Way	www.raiway.it	AS209902
RETN	www.retn.net	AS9002
TechDigital	www.techdigital.it	AS199536
Tecno General	www.tecnogeneral.it	AS203591
WIBI	www.wibi.it	AS209003
Wifimultimedia	www.wifimm.it	AS206947

Resellers

Below is the list of Namex Resellers operators:

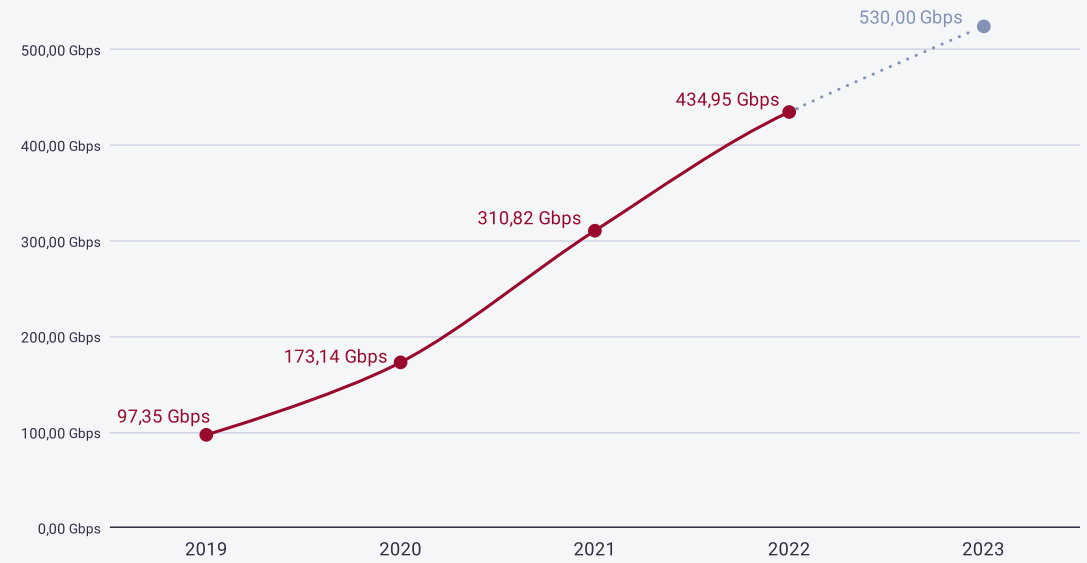
AS Reseller

Baleno
Convergenze
Fiber Telecom
Irideos
IT.Gate
Lepida
Retelit
Unidata
Warian



Public peering

The volume of traffic exchanged on the peering platform reached an average daily peak value up to 434 Gbps with an increase of 50% compared to last year.



Connected Networks in the last 10 years



Financial statement

The final balance sheet of Namex for the year 2022 shows that the consortium kept growing, with an increased turnover of 24% YoY, confirming the previous years trend.

Namex plans for 2023 are to keep reinvesting the surplus to

support its members, in order to compensate for the energetic crisis and keep developing new technological solutions to foster the development of the Italian Internet community.

	2022 Final	2022 Budget	2021 Final
Revenues	4.310.000	4.746.052	3.751.982
Costs	4.070.000	4.228.542	3.301.603
EBITDA	240.000	517.510	450.379
Credit Notes	-	-	-
Depreciation	130.000	166.985	131.574
Provisions Devaluation	-	4.659	5.788
EBIT	110.000	345.866	313.017
Financial income/(expense)	-	-	220
Extraordinary income	-	-	9.317
Extraordinary expense	-	32.759	5.414
Tax charges	-	89.956	105.489
FY PROFIT (LOSS)	110.000	223.151	211.211

NameX Bari

→ bari.nameX.it

This year activities were more focused on the datacenter with emphasis on the commissioning of basic systems and related maintenance. In addition, a supervisory system was installed and partially completed for monitoring the DC itself. The fire detection system and intrusion detection system are nearing completion.

By the end of 2022, 9 racks with a total of 12 afferents have been set up, with Microsoft and Netflix that completed their installations in the first months of 2023:

- Unidata
- Fiber Telecom
- Convergenze
- Progeform
- Numeria
- Intendo
- 8Route
- Fastweb
- Meta
- Openfiber

At the end of 2022, work began on the renovation of the current network architecture, which will include a pair of local transits and a strengthening of the hardware infrastructure and dedicated capacity, especially to ensure cache fill of content present on Bari. The work will be completed by spring 2023.





NAMEX
NAPOLI

Operations highlights

NameX Napoli

→ napoli.nameX.it

Signed in October 2022 a cooperation agreement between Naples and The Parthenope University for the use of a DC space located at 38 Via Amm. F. Acton 38 Naples. Within the same agreement the services offered by the University and the use of resources by NameX are defined.

The first inspection of the premises took place in the first days of November. The cluster dedicated to the peering service was prepared and resources requested from RIPE NCC for the allocation of an additional peering service.

The minimum hardware infrastructure required for the implementation of an interchange point node, taking into account the needs for redundancy and service continuity, consists of:

- 1 switch apparatus with 1/10/40G or 1/10/100G connectivity for the realization of the peering platform
- 1 server apparatus for the realization of Route Server functionality
- 1 1/10G switch apparatus for the remote binding, control and management of the installed equipment.

The server apparatus will be used both for

peering support functions (hosting of Route Servers) and as a support point for OOB management of the apparatuses that are part of the installation. The server will have one connection to the University network, with public addressing, so that it can be accessed remotely for management and configuration update operations.

A second link will be attested to an internal management VLAN (private addressing) on which the management interfaces of the other equipment (peering switch/ management switch) will be attested and to the peering VLAN to bind the server to a port on the peering switch, so as to attest the Route Server service (OpenBGPD or BIRD) on the peering LAN.

A third link with a public address to the University network will be used for the Cockpit monitoring and management system with which virtual machines will be managed and monitored.

End of January 2023, the installation of the cluster and physical fiber cabling between the various racks at NameX disposal has been realized.

ANIX Albanian Neutral Internet eXchange powered by Namex



Operations highlights



«December 2022 also saw the “Second ANIX Meeting,” which took place in person in Tirana.»

Namex activities related to the management of ANIX, Albania’s only neutral interchange point, continue. ANIX is hosted in the Data Center of RASH, the Albanian academic network.

During 2022, 6 local ISPs joined: Pronet, Nisatel, Keminet, Diginet, IBC Telecom, and FirstCom. The local afferent ISPs became 18. However, it should be noted that some of the ISPs that had declared their adherence have not yet connected (MCN, Next-TV, Diginet and Nisatel). Thus, the actually active local afferents are 14.

This increase in ISP presence was also aided by the activation at ANIX of a Netflix OCA cache, which occurred in late March 2022. Netflix does not directly face the peering LAN; the cache was installed on a LAN

with Namex addresses, and cache traffic is announced on the peering LAN via Namex’s AS (AS24796).

In 2022, the traffic increased considerably: the peak was about 3.5G in November 2021, after which it grew to around 7G in January 2022 and then stabilized between 20G and 25G, peaking at more than 26G in September 2022. This is a 650% increase in one year.

This is certainly due to Netflix’s new cache as well as the “unlocking” of Facebook’s cache, whose cache-fill was limited to 500M until December 2022 but has since been opened up by the activation of HE transit. In fact, Facebook’s traffic on ANIX has a volume of about 17–18G, while Netflix’s had until October 2022 a volume of about 6–7G (they

became 2–3G towards the end of the year). It can be said that almost all of the traffic, except for an estimated volume of around 1G of inter-ISP traffic, is from local ISPs’ data exchange with Netflix and Facebook. The volume of transit acquired by HE, which serves mainly to cache-fill Facebook and Netflix servers, is around 3–4G: thus, an overall ratio around 1/7 can be estimated between cache-fill traffic and traffic served on the peering LAN. It should be mentioned, however, that the ratios of Facebook and Netflix are different, and that Netflix’s cache-fill is done at night (when the rest of the traffic is reduced).

December 2022 also saw the “Second ANIX Meeting,” which took place in person in Tirana. It was the first ANIX Meeting that

took place in person, and the first physical meeting of Albanian network operators since ALNOG2 in 2018. There were 130 participants who attended in person (plus about 15 online). Seven companies intervened as sponsors (Catchpoint, ISOC, RIPE NCC – gold, DHH, EXA Infra, Flexoptix – Silver, RETN – Bronze), and speakers were (in addition to Namex and RASH) from Telegeography, EXA Infra, and RIPE NCC. The program was complemented by a panel consisting of local government, regulator and ISP representatives as well as two international players (HE and EXA Infra) focused on connectivity in Albania and its potential to become a gateway for Balkan Internet traffic.



Tech focus

Quality of Service

— Francesco Ferreri Namex Chief Engineering Officer



Assessing the quality of service provided by the peering platform has been a long-debated argument in the IXP community for years.

Besides impacting commercial aspects, such as business continuity and commitment to SLAs, the ability to monitor the performance of the peering platform is a valuable tool to assess overall platform health and to foresee and prevent service degradation. While measuring the performance of a single-location peering point might look superfluous, it may not be trivial in the case an IXP is distributed across multiple geographical sites as latency and other performance-related indicators may be affected by data center interconnect (DCI) infrastructures performance as well.

A traditional approach

Before we start talking about “performance”, we need to define some indicators for it and then devise a way to measure them in a reliable and repeatable way. A traditional approach is to use ICMP

packets (ping) to determine the round trip time (RTT) between any two points at the edge of the platform. Widely available ping tools generally provide a set of statistics about RTT which include min/max/average values and standard deviation measured over a repeated series of probes. This may not be the most accurate tool since ICMP packets are not so representative of generic traffic passing through a peering platform, but we can assume it is a “baseline” measurement that can give us an initial, neutral assessment of overall performance. Most IXPs have been using a classical tool, *Smokeping*, to perform routine checks of peer reachability across the peering platform. *Smokeping* inserts data collected from periodic measurements into round-robin databases, these data can then be published into a visually pleasing form that provides instant feedback about a peer’s health. Average response times are represented in color, surrounded by a smoky cloud (that’s where the tool’s name comes from!) that gives a hint about the dispersion of values from its average. Despite being an easy off-the-shelf solution,

the usual Smokeping deployment has some drawbacks:

- it shows the “point of view” of a single probe that pings all the other routers in the platform;
- as it shows a logical view of the network, it hides information about where exactly each target is located;
- it relies on responses from hardware routers, which may choose not to prioritize ICMP traffic and thus provide inaccurate or heterogeneous results.

That’s why we wanted to go a step further and adopt a more flexible approach that included the use of dedicated probes along with information about their location in space.

Introducing the IXPQoS framework

We devised the IXPQoS framework as a client-server system that includes:

- a set of hardware probes equipped with dedicated software and distributed at each geographical site hosting an edge node of the peering platform
- a central server that takes care of:
 1. distributing the operating configuration to each probe
 2. collecting and storing results from probes

The central server exposes its services to client probes by means of a RESTful API, at the current moment two services have been defined:

- Configuration repository: upon request, the server provides a client probe with a configuration set that includes information about:
 - how many target probes are

registered with the system, along with their IP addresses;

- how to execute a probing session, which means the number and the rate of pings to perform against each target;

Result collection: after a client probe has performed its probing session, it posts the results to the server.

In its turn, the server stores the result in a time-series database (we chose InfluxDB as a backend) according to a format that includes information about the source and target probes associated with each measurement.

On the other hand, client software consists in a script that may be periodically run by a cronjob (every 5 minutes), and performs the following activities:

- Request the server for current configuration: list of active target probes and probe session specifications
- For each probe in the list:
 - Perform a probe session and collect results
 - Post results to the server for persistent storage

A probe session is performed by sending out a given number of ICMP packets toward each target. Response times are then collected and min/max/average and standard deviation values are computed out of the results, along with packet loss information (if any).

Conclusions and future developments

Deployment of the IXPQoS system has enabled us to grasp a quick, standardized, and non-biased view of overall connectivity



status across the peering platform. While traditional Smokeping deployment (which we run embedded into IXP Manager statistics) can still give us useful information about each individual peer, a more generic and standardized approach is preferable to assess overall platform performance in a multi-site environment. Since the platform has a star architecture, with the main historical side at the center, the distribution of probes across the geographical nodes provides instant feedback about edge-to-edge performance between any two peripheral sites. Moreover, the retainment of historical data gives us advice on possible service degradation or any unexpected modification in DCI performance.

So far we have devised the basic architecture and implemented the minimum number of services needed to run an operational measurement testbed. We are thinking about expanding on this architecture by adding several features, including:

- Support for the management of planned maintenance activities, with temporary flagging of client probes as non-operational;
- Definition of a custom API for extracting data from the persistent database (data is currently read by direct interaction between external tools and InfluxDB);
- A monitoring, per-site threshold-based system to produce alerts and warnings.

IXPQoS software is fully written in Python 3 and currently relies on the ping3 external package. We plan to release the code as open source as soon as it is fully consolidated.

School of Advanced Networking

→ school.namex.it

The Namex School of Advanced Networking was held again this year and was a great success among the Consortium members. The training offer proposed and approved by the Technical Committee was widely appreciated and the collaboration with Reiss Romoli has heightened the prestige of the courses offered.

The initiative proved to be an incentive especially for small ISPs that see Namex as a unifying center and as an active community in their area.

The following two tables summarize the courses offered and some key numbers on the initiative.

Course	editions	participants
BGP: from theory to practise	2	33
Introduction to Routing Multicast	1	18
Introduction to Network Automation	1	21
Introduction to Cybersecurity	1	20
IPv6: Instructions for use	1	20
DNS	1	21
Introduction to Python Language	1	18
Ripe Database	1	49

Students in total (2021)	Certifications*	Companies reached
142	103	83

(*) this is a total aggregate of the certification issued since the start of the School of Advanced Networking. Students can do the certification up to six months after the end of the course.



«The Namex School of Advanced Networking was held again this year and was a great success among the Consortium members.»

Namex Annual Meeting #NAM2022

→ nam2022.namex.it

The Namex Annual Meeting (NAM) 2022 was held in a hybrid format, after two years of completely virtual events.

The meeting brought together a large and diverse group of professionals from the telco industry. NAM provides a great opportunity to meet with all the decision makers of the Italian Internet community, to discuss the latest trends and developments of the sector.



The conference began with a keynote address from the Namex President, who highlighted the rising importance of Namex role within the Italian infrastructure. After that, we welcomed an update from the Ukrainian conflict, hosting a speech with an Ukrainian ISP and presenting the Keep Ukraine Connected Project along with Jan Zorz.

The morning then continued with an intensive session on cybersecurity, which featured experts of the caliber of Roberto Baldoni and Corrado Giustozzi, two of the most prominent names on network security in Italy, taking turns on stage.

The conference then continued with an intense panel on the new IXPs, bringing together all the major Italian exchanges and discussing how the new interconnection model is moving to edge datacenters, at the network's periphery.

Last but not least was the panel that bore



«The meeting brought together a large and diverse group of professionals from the telco industry.»

the name of the event: "The game changers," which brought together C-levels from some of the key players in the profound transformation experienced by the Italian network during 2022, deeply impacted by the massive use of live streaming services.

Overall, the Namex Annual Meeting 2022 provided a platform for insightful discussions, knowledge sharing and business

development. The event consolidated the numbers from past editions, with 350 participants from more than 200 companies. Sealing the great importance of the event, the afternoon recorded 380 One-to-One meetings, confirming NAM as one of the leading Internet industry events in Italy.

Namex Supports

Namex supports some important initiatives within the Internet community and also some solidarity initiatives outside the telcos market.



Keep Ukraine Connected is an initiative aimed at supporting Ukrainian operators damaged by the ongoing conflict, so that the Internet infrastructure can be kept functioning.

FONDAZIONE



Telethon is an Italian non-profit organisation that support scientific research on rare genetic diseases.



Peter Pan is an Italian non-profit organisation that provides care for pediatric oncology patients and their families.



BIRD and **OpenBGPD** are the two software deployed on our Route Servers. Namex supports the developments of both software and strongly encourages software diversity.



IXP Manager is our customer portal and we happy to support its development. It helps us with automations, and it enhance customer experience.





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