MIX REPORT 2012

Table of contents

04 From the Chairman

06 General Information

What an Internet Exchange is

8 Milan Internet Exchange

The Organization Chart Why MIX Membership Requirements Whom is MIX for

16 Traffic and Services

The Traffic Public Peering Private Peering Colocation and interconnections Peering with Route Server Peering via a Closed User Group Membership Fees Monitoring Systems

24 Interconnection Modalities

Points of Presence The data center The Network Operation Center The maintenance calendar

32 European Scenario

34 Communication and Marketing

The logo The web site The newsletter The events

39 Financial Accounts 2012

43 Auditors' statement

From the Chairman



Looking only at the numbers of the budget, the 2012 would seem absolutely aligned on a gradual growth, with moderate conservative investments. According to the leading indicators the number of customers grows, with an even better trend from last year, while the exchanged traffic follows alternating phases of growth and lull; it is difficult to make a benchmarking analysis with the other European Internet Exchanges, because the European scenario has been characterized by very different trends that depend on whether we consider the large, medium or small

IXs, for the superposition of different causes. MIX ranks among the medium with a good trend of growth, not as static as it happened in some countries, but not even with an accelerated growth. Therefore "In media stat virtus"?

Not exactly. The results of this year are essentially the sum of several factors, even conflicting, that have characterized the Italian scenario.

On one side MIX has extended the presence of operators known as "Over The Top", like Google, Facebook, Amazon, and the presence of the major Content Delivery Networks has consolidated as well. In addition to this, there are the hubs of the new research networks, GARR-X and its corresponding European network GEANT, both hosted by MIX.

On the commercial side, during the 2012 there have been new opportunities for the service called "MIX Pooling", already launched last year: with this connection mode the attraction base towards small and medium operators is extended to the whole Italy, starting from two important regions such as Emila-Romagna and Piemonte.

But there are also negative signals: a new policy announced (and then put in place during 2013) by Telecom Italia has influenced the investment plans of many ISPs, producing a general attitude of delay.

If we want to represent how the 2012 has been for our company, the image I have thought of is the one of a diver on the trampoline: waiting, gathering his strength and courage to launch, but now ready to take a jump.

We have seen that in the first six months of 2013 something has been changing, with a new investment phase, a strong growth of new members and a series of initiatives both of partnerships and strategic investments that will find their fulfillment during the coming years.



WHAT AN INTERNET EXCHANGE IS

Internet is a system of interconnected networks where the players work to facilitate its growth.

Some of these, of neutral nature, allow the Internet Service Providers to connect themselves to a shared Peering LAN exchanging their IP traffic with all the operators connected without the need to use single interconnections.

These crucial points of the network where **traffic is exchanged** (peering) are called **Internet eXchange Points** (IXPs).

By doing peering agreements, the operators of an Internet Exchange Point have the advantage to optimize both costs and quality, thanks to a strong reduction of latency and hops.



The distribution of the Internet Exchange Points in

the world are rather uniform even if in Europe their concentration is superior, since peering is a service historically more developed.



OBA ITALIAN INTERNET EXCHANGE

MILAN INTERNET EXCHANGE

Founded in 2000 with the signing of 28 founding members representing the largest Internet Service Providers, MIX works to improve the infrastructure of the Internet in Italy and supports its the development facilitating the intercommunication among the different ISPs operating in the country. Thanks to a service provided through high performance Peering switching platforms and its strategic position within the technological Caldera campus where the backbones of some of the most important telecommunication operators merge, today MIX is the most important Italian Internet exchange with more than 100 operators connected to the peering LAN and Internet traffic of 110 Gbps.

Its **corporate structure** due to incorporations, handovers and sometimes bankruptcy, has changed over the years and currently its capital is divided among 21 companies with shares that go from 1.10% to a maximum of 10.85%.



The members meet in ordinary Assembly once a year to approve the budget while the Board of Directors, which has the responsibility to fix the strategic and organizational goals, takes care of the ordinary and extraordinary management of the company.

The Board meets in four formal meetings per year organized concurrently with the quarterly meetings of the Board of Auditors.

During the Ordinary Assembly of April, it has been decided to raise the number of the board members from 7 to 9 and Gianni Crocetti (Telecom Italia - he will resign later in November) and Renzo Ravaglia (Interoute) have been elected.

The General Direction and a staff of six people complete the workforce.



THE ORGANIZATION CHART



WHY MIX

Compared to the year 2011 that ended with 100 connected operators, in 2012 there was an **increase** of almost **10%** of Italian and international customers with a positive impact to the aggregate traffic that in 2011 exceeded 93Gbps while in 2012 reached peaks of 110Gbps.

Being connected to MIX for an operator means: having direct access to more than **150,000 networks** announced by **more than 100 other operators**, both national and international, and by the most important **CDNs** and **Social Networks** of the world,



establishing peering agreements with **root name servers** and **TLD DNS**, realizing dedicated transport or transit connections with other operators and Telcos with just a fiber cable inside MIX datacenter, having safe colocation services inside a **state-of-the-art data center** managed independently by a qualified technical staff, being inside the widest **technological Italian environment**.

All of this at very low cost with a significant saving in terms of construction and management of the network infrastructures.

NEW MEMBERS 2012

Afilias Continent 8 DTS Engineering.IT Estracom

Fondazione IFOM Hurricane Electric ICT Valle Umbra IX Reach

MEMBERSHIP REQUIREMENTS



MIX connection is dedicated to Internet Service Providers who provides Internet access or hosting/housing services and third parties who work in the production and distribution of contents. Essential requirements to complete the membership are: having the necessary authorizations to provide these services, having an Autonomous System number from which to announce own networks and having a connection to the global Internet independent from the connection to MIX.

WHOM IS MIX FOR

MIX is addressed to Internet Service Providers, Carriers, Content Providers, CDN, Broadcaster,

Web Hosters, Research and Public Administration networks, WISP, Telcos and operators who provide national and international connectivity.

Root-name-servers and **TLD DNS** that are connected to the peering switches and that offer super-partes services useful for Internet operations complete the operators list.



CARRIERS 2012

Asdasd	Interactive Network	Telecom Italia Sparkle
BT Italia	Interoute	Telia Sonera
CDLan	IX Reach	Telnet
CloudItalia	KPNQwest Italia	Tiscali Italia
Cogent Communications	Level 3 Communications	Uno Communications
Colt Technology Services	MC-Link	Verizon Italia
DTS	OVH	Vodafone D2
Easynet Italia	Prosodie Italia/ Internet FR	Vodafone Omnitel
Engineering.IT	Retelit	Welcome Italia
Enter	Seeweb	Wind
Fastweb	T.Net	Wind/IT. Net
i3b	Telecom Italia	
Infracom Italia		

PEERS 2012

Abilene Net Solution Acantho Active Network Afilias Amazon Aria Aruba Asdasd AT&T Global Network Services Atrato IP Networks Brennercom BT Italia BT Italia / I.Net CDLan Clio Club Nautilus / Maki **Cogent Communications** COLT International Comeser Continent 8 Dada **Digitel Italia** DIR.org DTS E4A Easynet Italia Enter ePress Estracom Eurocall EuroTransit Eutelia Fastnet Fastweb Fondazione IFOM FUB - Fondazione Ugo Bordoni Consortium GARR **Global Crossing**

Google H3G Hurricane Eletric i3b ICTeam ICT Valle Umbra Infracom Interactive Network Intercom Internet One Interoute Itelsi **ITGate Network** IX Reach **KPNOwest Italia** Leaseweb Level IP Italia / Internet FR Limelight Networks Lottomatica Mainsoft Mandarin Wimax Mc-Link Mediaset Metrolink Microsoft Netnod NGI NTRnet OKCom / Teleunit Omniwave **Optima** Italia **Orange Business** OVH Planetel Postecom RAI Registro .it Retn

RIPE NCC - RIS project BIPE-NCC - k root-server ScanPlus Seeweb Seflow Siportal Spin Sunrise Communications T Net Tata Communications TelecityGroup Italia Telecom Italia Telecom Italia San Marino **TELEImpianti** Teligo Telnet Tiscali Italia TopneT Telecomunicazioni Trentino Network TWT Unidata **Uno Communications** Utility Line Italia Verisian Verizon Italia Vodafone Group Warinet Global Services Webdiscount Welcome Italia Wifiweb Wind / It.Net Wolnext



THE TRAFFIC

The aggregated traffic is the result of Public and Private Peering sum achieved inside the IXP.

Over the years MIX traffic trend has always been positive thanks to the improvements of the provided services, for the presence of increasingly important operators and for a simplification of some membership requirements that in the past were more restrictive.

The variables that influence the IXP traffic growth are many and it is impossible to classify them due to the different strategies applied by the operators.

Thanks also to the membership of new national and international customers, January, February and April have been months particularly positive, the level of traffic growth in fact has never lowered **below the threshold of + 48%**. Compared to the last year, January starts with a + 53% and in February for the first time **the traffic exceeded the 100 Gbps**.

The annual peak of **110 Gbps** is recorded in April.

Despite the physiological decrease in August, although **increased by the 20% compared to 2011**, the trend of traffic starts to increase again in the following months stopped slightly towards the end of the year.

The trend throughout the year, albeit with different numbers, seems to be confirmed from year to year.



SERVICES: PUBLIC PEERING



Peering is the exchange of IP traffic among more than two Internet Service Providers realized in one Internet eXchange. This service at MIX is realized on two VLANs, one primary and another with back-up functions, both enabled for IPv4 and IPv6 traffic and able to optimally manage multicast traffic flows allowing different redundancy scenarios: with different routers (full backup), with different ports of the same router (simple backup), with a unique port for promiscuous use (q-tagging) for both

VLANs (virtual-back-up).

During the year, albeit with ups and downs, the traffic level of Public Peering has always been growing, and never decreasing below the threshold of **+ 40%**. The peak value was reached in April, with more than 96 Gbps, compared to the 74 Gbps of 2011.



SERVICES: PRIVATE PEERING

It is a service provided only to the operators connected to MIX and realized by **dedicated VLANs** or **interconnections between devices** installed in the data center, that involves only the interested subjects.

This type of service allows the use of a dedicated port on the switches or the **q-tagging** of the interface already in use for the Public Peering.



In case of a dedicated VLAN, the traffic of private peering is

monitored separately from the Public and the related data can be displayed only by the involved ISPs. To calculate the actual bandwidth consumption, the traffic exchanged on the private VLAN is added to the one generated on the public VLAN.

Compared to the Public Peering chart where the gap between the data of 2011 and those of 2012 is clear, the Private Peering is more or less on the same levels of last year, except in January (+ 26%) and November (+ 11%) when it has also been recorded the annual peak of almost 17 Gbps.



SERVICES: COLOCATION AND INTERCONNECTIONS

The presence of many ISPs and Carriers inside the same area has created an environment suitable for the development around, Peering, of many other services that the operators can take advantage from: transit selling/purchase, private peerings and physical interconnections among networks.

Colocation service is available to Carriers and ISPs connected to MIX needing room to host their network equipment.

Even if born as a subsidiary service to the institutional one and designed just for this purpose, as of today it still fulfills network providers needs: in 2012 more than 90 ISPs located their equipment in Blue Area (powered at 220 V AC) as well as in the Orange one (powered also at -48 V DC). If we consider also the carriers, equipment located in the Red Area, the optical boxes ending dark fibers in the Green Area and L2 transit equipment of the Yellow Area, at the end of the year we counted 460 devices installed in MIX Data Center.

With the growth of colocation service numbers we have also seen an increasing demand of laying interconnection circuits, and the Data Center evolved naturally to a big "Meet-Me-Room" representing today the biggest neutral one in Italy.



SERVICES: PEERING WITH THE ROUTE SERVER

The connection to the Peering LAN by route server allows the interested operator to configure a single BGP session with the route server and to open at the same time peering sessions with all the other subjects connected to it.

This service is particularly useful for any operator who just joined MIX because it can have an immediate advantage from its presence **exchanging traffic with more than 80 peers** that are present on the route server and to reach those operators that, for internal policy, prefer to configure only a few direct BGP sessions and rely on a route server for the majority of their peerings.

Since the success of the route server service, in 2011 a second machine has been available on the primary peering LAN, in order to have redundancy on the routing information received, in case of faults or malfunctioning of one of the two servers.



To optimize the management of backup peering sessions, the

secondary LAN has been equipped in October with a new route server.

To ease the maintaining and configuration of the platform, we installed BIRD on this second machine as well, since over time it also proved to be stable and widely adopted within the Euro-IX community. Both route-servers are of course configured to work as IPv4/IPv6 dual-stack machines.

PEERING VIA CLOSED USER GROUP

The service, available for all the ISPs connected to the Public Peering LAN, is offered to a closed group of ISPs that require **sharing a LAN** on which to route types of traffic subject to interest (SLAs) of the group itself.

MEMBERSHIP FEES

In the last years, as happens for other european Internet Exchange Points, we have adopted a **per-port charging** system that, thanks to the possibility to decide which virtual rate limit to use, permits the customers to easily plan their budget activities.

Together with an **annual fee of € 850,00**, the price is calculated depending on the speed of the port you want to use.

In the case where the traffic generated on the peering ports is higher than the possible fraction (Virtual Rate Limit), the traditional adjustment procedure is applied.

Except for 100 FE TX ports fractioned to 10 whose price has remained unchanged, from July 2012 the rates of all the ports have been reduced and those for the **additional 100 FE TX** (fractioned to 10 and 50), **1 Ge** (fractioned to 200) and **10 Ge** (fractioned to 2.000) have been introduced.

Port	Туре	Speed Mbps	First Port Fee (€/month)	Following Ports Fee (€/month)
	Full	100	192	128
100 FE TX	Fraction	10	80	80
	Fraction	50	128	128
1 GE LX o SX	Full	1.000	504	468
	Fraction	200	400	400
1 GE LH	Full	1.000	504	468
	Fraction	200	400	400
1 GE SR o LR	Full	10.000	1.500	1.200
	Fraction	2.000	1.350	1.350
1 GE ER o ZR	Full	10.000	1.500	1.200
	Fraction	2.000	1.350	1.350

(*)For these ports a one-shot cost for the gbic provisioning, subject to specific quotation is applied



MONITORING SYSTEMS

One of activities that MIX has looked after since the beginning is the display of interesting information for ISPs.

To monitor their own traffic, together with tools of public knowledge such as MRTG, which allows each member connected to the Peering LAN to check at any time the daily values of its own traffic and display the one generated on the peering VLAN, the members have also other tools to analyze in **detail their own traffic**.

In addition to the creation of the "**peering matrix**" (that is the traffic matrix among all ISPs connected to MIX) built from the actual traffic data and not, as usually happens, from static DB entries, we have developed the "**traffic matrix**" exchanged between couple of ISPs and the "**typology matrix**" that allows to display the composition of traffic exchanged between two ISPs in terms of protocols and applications used.

The idea of "how much traffic am I exchanging with whom and how is it composed" is of great interest for both ISPs and other european IXPs, is refined by the possibility of composing an "on-demand" graph, either for protocols (TCP, UDP, etc) and the most used applications (http, ftp, eMule, etc).



MORE THAN 100 OPERATORS AND OVER 150.000 NETWORKS

INTERCONNECTION MODALITIES

To facilitate the interconnection to MIX, the operators can choose the solution that best suits their technical needs.

Connection to the peering switch through the router installed at MIX.

The connection between the router and the Peering LAN

will be realized through the pre-cabling made available by MIX.



Connection to the peering switch through the router installed in a data center in Caldera.

The connection is realized using the fibers already available throughout the campus and ending in one of the optical boxes which are in MIX data center.



Connection to a PoP of MIX.

Thanks to partnerships with Telecity Group, KPNQwest and Infracom,

MIX has opened some Points of Presence connected directly to the Public Peering LAN.

If one ISP has their equipment in one of these data centers, its router will be connected directly to the local switch, according to the rules, procedures, and costs of the provider of data center space.



Connection through a LAN extension service offered by a carrier (remote switch). The patches used for the interconnection between the

end device and MIX switches are provided by the supplier of the LAN extension service. If the ISP uses one or more Fast Ethernet connections, a fiber/copper rack-mount mediaconverter will be used.

Connection with Pooling@MIX service

It allows ISP groups to connect sharing the transport circuit and the port on the peering switches having a clear advantage in terms of cost reduction.

To open a MIX Pool there must be a Pool Registrar (PR) who has a direct contact to MIX and two or more ISPs interested to connect to MIX (Pool Element). The Pool has 1 Gbps and 10 Gbps ports available, on which control mechanisms for an optimal and secure traffic exchange are enabled, as it already happens on the peering ports of the switches.

All the ISPs that connect in this way are, to all intents and purposes, full MIX members, that is, will have the same peering opportunities and will have access to all the complementary services as if they were individually connected to MIX.



Connecting by a radio-link

For this type of access, MIX provides a dedicated structure on the top of building D inside Caldera campus (whose ground floor hosts the main MIX PoP) on which the operators can install their antennas, in order to connect to MIX through a radio-link circuit.

Management and control equipment (modems) of the operators can be installed and powered in a specific shelter near the structure that supports the antennas, and can be connected to the main datacenter by means of fibers provided by MIX. Within the datacenter, radio-links are then connected to the active equipment (routers or switches) of the MIX members.

POINTS OF PRESENCE

To **improve peering relations** among the incumbents and **facilitate the access** to those who, for geographical or technical reasons have had difficulties, we have opened some **PoP** (**Point of Presence**) in the Milan area.

MIX is present inside **Telecity Group (South of Milan)**, **KPNQwest Italia** and **Infracom** (inside Caldera Campus) datacenters where access switches have been installed and through which the customers of each operator can connect to our Internet Exchange.

The basic service is offered in these data centers in the same way and at the same prices than the interconnection realized directly in the headquarter of Via Caldera.

At national level, an agreement has been signed with **Interoute**, allowing the presence of MIX equipment inside the Interoute landing station in **Bari**.



Network Infrastructure 2012

THE DATA CENTER

Contextually to MIX development, a new space started to populate, the space that will become its **key** element: the data center.

Unlike many European IXPs who have their own data centers in many points of the city, MIX has decided to have its headquarters close to the data center in order to ensure at any times NOC intervention and to guarantee the complete neutrality of the exchange point.

Over the years, thanks to the increase of members, the data center has seen several improvements until it was finally enlarged, in 2007, up to 270 sqm.

From the electrical point of view it has been designed to ensure the **continuity of the service**, both for the 220V and -48V powered equipment: taking advantage of the two parallel and independent lines of supply, that form two physically distinct electrical systems, it can minimize the risk of unavailability to all those systems with redundant power supplies.

Each electrical system is connected to an UPS and the continuity of service is ensured by a pair of



generators both of 250 kVA to achieve a perfectly symmetrical design of the electrical system of the data center.

Some maintenances of the electrical system have been realized during the year to ensure a higher level of reliability, as a first step we have upgraded the electrical power available on each supply line to 150 kW and then we have installed two new -48V DC power stations.

The data center is equipped with **fire**, **flood** and **burglar systems**, and it is monitored by means of closed-circuit video-cameras.

The internal temperature is constantly maintained at 19C° thanks to the presence of **seven internal cooling units** with external air condensers.

To make its management easier, the data center has been divided in five areas:

Red Area : dedicated to the operators that provide data **transport services** on their own equipment (for ex. ADM, xWDM or other). This area has been equipped with two completely redundant -48V DC power stations which include a battery system able to guarantee a supplementary endurance of 6 hours even in case of lack of UPS systems and generator.

Green area: dedicated to the operators present inside the Campus who **end their backbones in their optical boxes** installed inside the data center. These racks are already pre-cabled to the peering switches with singlemode and multimode fibers.

Blue area: is the area dedicated to the installation of **peering equipment** (router and switches) of MIX members. The area is equipped with racks provided with redundant 220V AC power and certified copper/fiber cabling to the peering switches.

Orange area: is the area studied to provide the operators and/or the ISPs both AC and DC power. Yellow Area: dedicated the switches and other AC powered equipment of the operators that offer Lan Extension services towards MIX.

The access to the data center is possible only after NOC authorization.



NETWORK OPERATION CENTER

It manages the activities related to the technical services provided, supporting the operators in any condition, it is responsible for the data center organization and maintenance and it monitors the traffic so that any possible problem is quickly managed.

The NOC staff is subject to weekly shifts of on-call availability with a 24x7x365 formula, during which it carries out regular checks on the switching equipment and it receives real-time alerts, from the internal alarm systems, related to any failure of connections to the peering switches and data center facilities. In 2012 the NOC managed more than 300 interventions, mainly for ordinary requests, for a total activity of more than 1000 manhour, both during day and nighttime.



MAINTENANCES CALENDAR

Name	Category	Day	Time	Notes
Electrical testing	Ordinary/ Critical	Wednesday	6-8 a.m.	2 annual tests
Electrical board maintenance	Ordinary/ Critical	Wednesday	6-8 a.m.	2 annual tests contemporaneous to the electrical tests
UPS maintenance	Ordinary/ Critical	Wednesday	6-8 a.m.	4 annual tests; 2 of them contemporaneous to the electrical tests
Electrical generators maintenance	Ordinary	Wednesday	Flexible	3 annual tests
-48 DC power station maintenance	Ordinary	Wednesday	Flexible	2 annual tests
Conditioning plant maintenance	Ordinary	Wednesday	Flexible	12 annual tests
Fire/Flood/Burglar plants maintenance	Ordinary	Wednesday	Flexible	2 annual tests
Switch and peering equipment maintenance	Ordinary/Extra- ordinary Critical	Tuesday	23 p.m 05 a.m.	On need

TWO WORDS FROM THE GM



Started under the best auspices with a traffic growth of 21% in the first five months of the year (+ 10% compared to the average of the other European IXs in the same period) exceeding since January the threshold of 100Gbps for the first time, and with the membership in the first six months of ten new members, after the summer period, year 2012 has recorded a setback.

The easy explanation is the "depeering" announcement, that is, the closing by Telecom Italia of all peering relationships at MIX (and not

only) in favor of paid peering proposals.

The impact that this decision will have on the balances that have been developed over the last 13 years, on the access quality perceived by Telecom Italia customers as well as the access to the contents hosted inside Telecom network from customers of other operators, and finally on the Italian Internet market growth, will be seen in more detail when (if) Telecom will actually proceed in this way.

At the moment we can only observe how this decision takes Italy back to 15 years ago, when MIX did not exist and the Network was in the hands of a few Telcos that were suffering from it, rather than understanding and riding it as an opportunity.

It is true that other (not all) European ex-incumbents apply restrictive peering policies or sometimes (not always) do not open free-peering relationships, but we can't avoid observing some important differences with the rest of the European countries, whom we are struggling to look like; transport is still very expensive in our country, Italy is one of the few countries where there are no neutral datacenters, the voice interconnection is dated, there is an operator which still holds more than half of the access market... In short, in other countries they have "only" depeering. In Italy we have "also" the depeering.

EUROPEAN SCENARIO

The **European Association of Internet Exchanges** (Euro-IX) was born in May 2001 with the aim to enforce the Internet Exchanges community and to share experiences and technical knowledges. Conscious of the international market importance and the basis on which the association would have

been established, with AMS-IX (Amsterdam), BNIX (Brussels international airport), DE-CIX (Frankfurt), LINX (London), NETNOD (Stockholm) and VIX (Vienna) MIX is one of the founders and it has been a member of its board of directors for six years.

Initially created only for European exchanges (Standard Members), over the years it has evolved and expanded



beyond its original borders. It was open to non-European IXPs (Associate Members) in 2005 and to others, who had the interest to be part of the community of Internet eXchanges (Remote Members) not being able to participate to the forums for geographical reasons and limited human resources, in 2009.

Over the years, the success of Euro-IX and the strength of the Community of European IXPs led to the creation of APIX (Asia Pacific Internet Exchange Point Association) and Lac-IX (Latin American and Caribbean Internet Exchange Point Association).

To date the members who are part of Euro-IX represent 40 countries and are 66:

Standard Members: 41 (from 25 European countries)

Associate Members: 9 (from 6 non-European countries: Brazil, Curacao, Egypt, Japan, India and United States)

Remote Members: 16 (8 from 5 European countries: Germany, Finland, Italy, Luxembourg and Ukraine and 8 from non-European countries: United States, Iceland, Kenya, Nepal, Nigeria, Tanzania, Mozambique and South Africa).

Every year the Association gives to its members the possibility to host two forums during which, thanks to an agenda full of interesting presentations, the numerous participants have the opportunity

to confront each other and to plan their public relations and business meetings.

MIX itself proposed to host a Euro-IX forum and it chose the frame of the beautiful Catania to celebrate the tenth anniversary of the Association. During this year the two forums scheduled have been held in Amsterdam, organized by AMS-IX, and in Stockholm, hosted by Netnod, and both have been a great success in terms of participants. A Memorandum of Understanding (MoU) has been signed among APIX, Lac-IX and Euro-IX during the forum in Stockholm with the aim to create an Internet Exchange Point Federation (IX-F) which will be a platform for all the exchanges affiliated to an IXPA (Internet Exchange Point Associations). Other important international forums of 2012 have been AfPIF held in Johannesburg and the Conference on International Telecommunications in Dubai. During the first event the community of Internet eXchange points in Africa has created the African Internet Exchange Point Association (Af-IX) that as soon as it will be ready will become part of the Internet Exchange Point Federation. Regarding the WCIT, due to the negative impact that the review of ITR guidelines would have had on the future of the Internet, Euro-IX board responded with a Position Statement in which some important points have been listed and defended to continue to guarantee the open, competitive and innovative nature of Internet in the future. To further strengthen Euro-IX position on the proposed topic at WCIT, a letter signed by 49 Euro-IX Members (37 IXPs present in 24 countries) has been sent to the Conference of Postal and Telecommunications Administrations (CEPT) and a copy was sent to the Secretariat of the Commissioner Neelie Kroes, in which Euro-IX members have requested support from their governments.



COMMUNICATION AND MARKETING

THE LOGO

Conscious that communicate does not always mean to be understood, we use carefully the several communication channels because there must be coherence between the corporate identity and the image determined by the communication process.

Over the years, the new communication tools and the improvement of those usually used have brought significant changes in MIX communication.



The first breath of fresh air came in the occasion of the tenth anniversary when a new corporate logo and website have been officialised.

To give the brand a continuity, some graphic elements have been preserved, such as the elliptical shape around the logo and the arrow partially cut, while the news introduced have been the color, the orientation and the three circles that conceptually reproduce the

image of a chip and graphically balance the optical dynamism created by the arrow.

Today, MIX logo fully respects its distinctive features: it is original, extremely recognizable and able to be used in different communication tools.



Due to the several contexts in which the logo is used, we have realized a brand manual where we consider all the using possibilities so that the end image is always coordinated and able to communicate in a strong and recognizable way.

THE WEB SITE

The site has been organized so that the user is able to gather the required information quickly and easily.

From the home page it is possible to be updated on the latest news and daily data traffic while scrolling through the side menu the user can discover the services provided, the rates and other details regarding the company and the context in which it works.

The web site has a **reserved area** that MIX uses to communicate directly with its customers and it is accessible only **after authentication**, here the user can find useful information as the monthly report, the application form for the interventions, the private documentation, the statistics and some other tools.

The private pages have **different levels of access** to display general information, to edit



technical information and to view aggregated statistics of other peers.

THE NEWSLETTER

Written with the aim to be a dialog instrument with members and anyone interested, the **newsletter** is published three times per year and it deals with news involving MIX and the Internet world.

The **registration** can be done by filling and sending a form from the website in the Public Relations section, while the cancellation from the mailing list should be required directly to MIX and will have an immediate effect.

Together with the last numbers, each new newsletter is downloadable in the "**Press Kit**" area of the web site and its publication is communicated via email to the subscribers list.

INTERNATIONAL EVENTS

Participate to several **national and international events** allows MIX to compare their modus operandi with the one of important foreign companies and to be always up to date on issues and news about the Internet world.

Conscious of the importance and the ease with which social relations are established during a business meeting, we use foreign events to meet potential customers who would be otherwise more difficult to achieve.

In 2012, MIX participated to: NANOG 54 (February - San Diego), Capacity Middle East (February - Dubai), 20th Euro-IX Forum (April -Amsterdam), Menog X (April - Dubai), EPF 7 (September - Malta) and 21st Euro-IX Forum (November - Stockholm)



NATIONAL EVENTS

To share current issues and technical news involving MIX and its members we are used to organize the Salon and Salottino. The choice of the name, rather unusual for this kind of events, is a clear reference to the Enlightenment, where the salon is a place to meet and socialize, and where to spread knowledge while developing new contacts.

SALON

Salon is open to a wide audience composed of network and research experts, general managers, technical and trade directors and other subjects who are around the world of Internet.

The formula used is the one of a workshop where high-level speakers discuss issues of current topics generating a debate.

The edition of 2012 "Carriers Vs OTT", due to the high level of conflict that the proposed theme could cause, has begun with a brief introduction to the topic by **Geoff Houston**, Chief Scientist of the Internet Registry for the Asia-Pacific (APNIC) and Luca Rossi, partner of AT Kearney.

The different points of view of the two speakers have created the right conditions for the start of the debate that after the honors made by MIX president, **Joy Marino**, has seen the presence of: **Maurizio Dècina** (AGCOM - Commissioner), **Marco Fiorentino** (KPNQWest Italia - Ceo), **Luigi Gambardella** (ETNO President), **Kurtis Lindqvist** (Netnod CEO), **Stefano Quintarelli** (Entrepreneur) and **Gianfranco Ciccarella** (VP Next Generation Access Networks - Telecom Italia).



SALOTTINI

Organized with the aim of creating a direct contact among MIX and its members, there are generally two **Salottini** per year depending on the proposed themes and they have by choice an easier organization than Salotto. They are organized in our headquarters in Via Caldera and open exclusively to our members and/or prospect customers.

The agenda is usually very simple: the first part in the morning is dedicated to updates on the latest news involving MIX during the last months while during the other part of the day we discuss about a main topic chosen in collaboration with our members.

During the edition of May the main topic was VOIP and it has been discussed from different points of view, firstly by AGCOM Commissioner **Luigi Santella** who spoke about VoIP Interconnection: the resolution 128/11/CIR' and then by **Claudio Bentley** (Fastweb) who proposed "VOIP Interconnection: an approach." These presentations were completed by the one of **Marco D'Itri** (Seeweb) who spoke about "Plan of addressing an IPv6 network", **Giuseppe Lanzillotto** (Gulf Bridge International) who discussed the "Straight to the heart of Europe" and that of **Enrique Garcia-Ayesta** (X Connect) who told about "Next Generation Interconnection Exchange."



Participants

Photos of the day

10.00 - 11.00		Registration - Welcome coffee			
11.00 - 11.20	1	Welcome and open session with MIX Update - Valeria Rossi (MIX)			
11.20 - 11.50	1	"Addressing scheme of an IPv6 network" - Marco D'Itri (Seeweb)			
11.50 - 12.20	L	"Straight to the heart of Europe" - Giuseppe Lanzillotto (Gulf Bridge International)			
12.30 - 14.30		Lunch			
14.30 - 15.00	L	"VoIP interconnection: the resolution 128/11/CIR" - Giovanni Santella (AGCOM)			
15.00 - 15.30	L	"Next Gen Interconnection Exchange" - Enrique Garcia-Ayesta (X Connect)			
15.30 - 16.00	L	"VoIP interconnection: an approach" - Claudio Bentley (Fastweb)			
16.00 - 16.15		Discussion			
16.15 - 16.30		Lightning Talks - Open Mike			
16.30		Closing			

FINANCIAL ACCOUNTS 2012

During 2012, the financial stability of MIX has been reconfirmed. Thanks to a general increase of the access bandwidth to MIX (+ 15%) which is converted in the increase of connected ports or their capacity, primary source of MIX revenue, in July we proceeded in the revision of the access rates. In



particular, the price of 100Mb and 1Gb ports has been lowered by 20% and 28% for 10Gb ports.

Supported by a positive use of the services provided for the data center (mainly meetme-room services), as last year, and the receiving of the balance from the European research project (MOTIA) finished in March 2012, MIX has been able to propose a

promotional offer accounting interesting for the year 2013 but belonged fiscally in the 2012 budget, amounting to \in 53.500. The total value of the production ended with 1.595.000 euros, about 100 thousand euros more than the last year. The production costs have been keep checked and despite a physiological increase of the energy costs(+28%), due to the growth of the energy consumption and its cost, they have remained as those of the last year. There has not been changes in the staff, always composed by 6.8 full-time employees (FTE). The most important investments during the year are related to the modernization and expansion of data center systems while those for peering equipment are scheduled for next 2013. Before taxes, the balance sheet has been closed at \in 114 thousand (+67%) with a profit of \in 66.000 (+139% over the last year). As it is since MIX foundation, profits have not been redistributed among members but they have been retained as reserves to ensure liquidity for the future investments, bringing MIX net asset to \in 625.870.

Last 5 years snapshot

		2008	2009	2010	2011	2012
Clienti collegati	Customers	69	77	86	100	109
Traffico di picco (Gbps)	Peak Traffic (Gbps)	35	49	68	95	116
Personale tempo pieno	FTE staff	5,8	6,8	6,8	6,8	6,8
Ricavi (K€)	Revenues	1.302,0	1.277,0	1.452,0	1.498,0	1.595,0
EBITDA (K€)		129,0	145,5	207,6	194,4	223,6
Ammortamenti (K€)	Depreciation	104,5	95,6	108,1	126,9	115,9
Utile Netto (K€)	Net result	8,0	19,6	49,0	27,6	66,3
Investimenti (K€)	Investments	322,9	113,4	124,4	89,8	99,4
Patrimonio Netto (K€)	Net Assets	463,2	482,9	531,9	559,5	625,8

Stato Patrimoniale Balance Sheet	2012	2011			
Attivo Assets	1.263.622	1.050.287			
Immobilizzazioni	487.574	508.756			
immateriali	11.026	3.915			
materiali	476.548	504.841			
finanziarie	0	0			
Attivo circolante	737.253	503.046			
crediti	323.668	165.710			
disponibilità liquide	413.585	337.336			
Ratei e risconti attivi	38.795	38.485			
Passivo Liabilities		1.033.323			
Patrimonio	625.870	559.561			
Fondi per rischi e oneri	77.424	32.668			
Trattamento di Fine Rapporto	218.330	191.000			
Debiti	256.055	152.904			
Ratei e risconti passivi	85.943	114.154			

Conto Economico Profit & Loss	2012	2011
A- Valore della produzione Revenues	1.595.310	1.498.170
Ricavi	1.594.971	1.495.521
Altri Ricavi	339	2.649
B- Costi della produzione Costs	1.487.646	1.430.700
Materie prime e sussidiarie	2.251	2.402
Servizi	637.399	614.938
Godimento beni di terzi	182.498	179.676
Costi per il personale	486.722	474.935
Ammortamento	115.950	126.961
Altri Accantonamenti	40.000	0
Oneri diversi di gestione	22.826	31.788
A-B	107.664	67.470
Proventi ed oneri finanziari	5.804	900
Proventi ed oneri straordinari	716	477
Risultato prima delle imposte	114,184	68.847
Imposte Taxes	-47.877	-41.199
Risultato Netto Net Result	66.307	27.648

From the Auditors' statement

During the accounting period ended on 31st of December 2012, we supervised on the observance of the law and of the company act; we participated to the General Assembly and the Board of Directors' meetings, done accordingly to articles, laws and regulations rules; we can reasonably assure that board resolutions have been done with the keeping of law and articles and haven't been unwary, careless, in clash of interests or compromising the company assets integrity.

We have also had knowledge of the adequacy of the organizational, financial and accounting structure of the company and supervised on it. Furthermore, during our three-monthly inspections, we have verified the correctness of the bookkeeping.

The financial data as above reported are coherent to the Balance Sheet we have examined and they are in accordance to the accounting results of the Company.

Dr. Alberto Gulisano President Board of Auditors



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