Starting an IXP: Mix Milano Experience

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Mix in one page

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- Not-for-profit

- Own Datacenter historically due to limited presence of neutral colocators in Italy

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Peering in Italy

- MIX history equals Peering history for Italy

- Lets try to break out into eras:

  - Pre-historic (1992-1995)

  - The Early days (1995-2000)

  - Modern Times (2000-today)

MIX Internet Landscape

- Italy is not an hub for several countries sharing the same language (like Spain, UK or others) : IXP customer base is still mainly national

- Italy has a strong Incumbent, which usually is also a critical factor: hard to attract international players without the Incumbent support

- The Italian ISPs vision has been always focused on trying to extend service portfolio as much as possible in order to gain more and diverse type of customers : MIX is sometimes perceived as a competitor to their transit or even colo services

- There were (and still are) large areas of very difficult penetration of Telecommunication Services while there are high demand areas across the country, so hard to gain big numbers in traffic

- However, Italy had and has in general a lot of enthusiasts and early adopters

A bit of History

- Pre-historically, there was at least one attempt from the Academic World to set up a NAP in Milan…at that moment the number and size of ISPs was very low

- At the beginning of the Early Days 'business ISPs' start to develop, mainly in the north of the country. Dial-up access, end-users ISPs, were also starting up in nearly all country.

- There were only two main Internet Transit Wholesale Suppliers, one was the Incumbent and nearly all the independent ISPs were reluctant of using the incumbent transit service, and another International carrier which had only one Pop in Milan, Caldera Campus

Caldera Campus

- ...So in the Early Days nearly all independent ISPs start to look for a PoP near that carrier location, being customers of the alternative Supplier. This was the birth of Caldera Campus becoming soon the Hub of TLC business in Italy.

- In 1996, the independent ISPs decided that the time was come to start exchanging traffic among themselves. As a volounteer effort MIX was born and a switch was turned on inside a Pop of one of the Independent ISP partecipating to the initiative.

- This phase was rather long and ended up in 2000 when:

    - the ISP hosting the MIX switches entered colo and outsourcing business

    - ...that mainly convinced all the members to change MIX structure

MIX 'DNA'

- Setting up MIX in Caldera campus was quite a straightforward decision

- However in 2000 still Caldera was missing Independent Colocators

- Building small network PoPs there was easy, large IDC wasn't

- But Members decided that they deserve a truly neutral solution for the IXP

- Here the 'tricky' solution: let's build a Company which develops and IDC which hosts the NAP Switches!

- They were aiming at a not-for-profit Consortium, but a Limited in the end was easier to manage and quicker to establish according to the Italian Law

- So nearly all the Initial members become shareholders of MIX

MIX and the Incumbent

- MIX members asked the Italian Government to force the Incumbent to hold some MIX shares and accept to peer with all National ISPs at the MIX

- The Government agreed to this principle and then the Incumbent was forced to interconnect his National AS to MIX and to have an Open peering policy with MIX Italian members. This was a temporary rule (2000-2006) but is still honoured as a Gentleman Agreement these days.

- However, we're not getting any traffic contribution from Peering between the Incumbent and International Players. Some among the largest italian independent ISP are doing the same

Our market approach

- Is peculiar in many aspects: MIX was not born to jeopardise colo business: many of its members were developing it adn is still one of their main business

- So MIX IDC is not hosting content servers or is not selling bespoke colocation projects, nor offers suites or cages. It simply gives away for free 12 unit of AC powered standard 19" racks (more space can be achieved but with additional fees) to member ISPs or standard 60x60 DC powered tiles to Carriers.

- The MIX fees on the Peering LAN main service were peculiar also. In order to help small players we started with a pay-as-you-go approach using the metric of the Nominal Bandwidth: anyone being an ISP could start connecting at 100 Mbps for a few euros per month. Since January 2010 we switched to the simpler port-base fee scheme.

Admission Rules Path

- Again we stand apart: at the beginning only ISPs could connect to MIX (in addition to standard technical prerequisites)

- MIX was an ISP-driven initiative so they were not keen to open up peering to potential customers

- Slowly this rule has been relaxed so that content owners could connect

now we accept any enterprise whose main business is Internet related (content distributors, hosters, broadcasters....)

MIX Tier IV Data Center

- 270 m^2 (~ 2900 ft^2)

- Up to 80 cabinets

- 7 cooling units

- 4 UPS

- 2 generators (twin 250 kVA)

- 4 power distribution panels

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Mix Today's Numbers

- 88 Member ISPs, (+12 in 2009) 28 Carriers

- more than 170 active peering ports

- 64 Gbps peak traffic

- more than 125k routes announced on the exchange by members

Mix 2010 Fees: Peering

- 850 € / Year membership fee

- Peering ports:

  ▶ 1x100 mbps full 300€/m

  ▶ 1x1 Gbps full 700€/m

  ▶ 1x10 Gbps full 2,300€/m

- 'Fractional' ports available (not rate limited)

Mix 2010 Fees: IDC

MIX Datacenter is not general purpose. We host only routing and transmission equipment for Carriers and Peering members
The only servers admitted are Root and TLDs NS, on a project basis.

- 19" Rack Space, AC A+B (routing eq. only)
    - 1/3 rack : free;
    - 2/3 rack : 217€/m;
    - 1 full 19" rack: 492€/m

60x60 tile, AC/DC A+B power, Transmission and Routing eq. only: 4K€/Year

- power included -

The 'Med' Project

Deploying MIX access PoP in
Italian Landing Stations:
open to committed partners

Thank you!

- Website

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