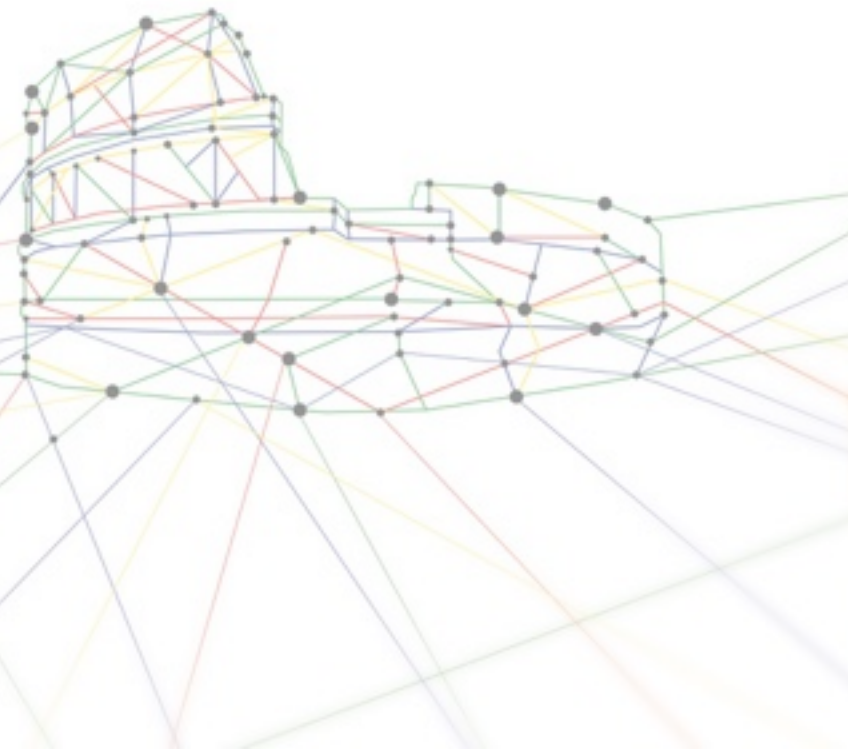


# NAMEX/ROMA

## TECHNICAL UPDATE

*ITNOG2016, Bologna*

francesco ferrer / flavio luciani



# OUTLINE

- Quick facts
- Peering platform
- Remote peering
- Development
- QXN2
- Datacenter evolution and expansion sites



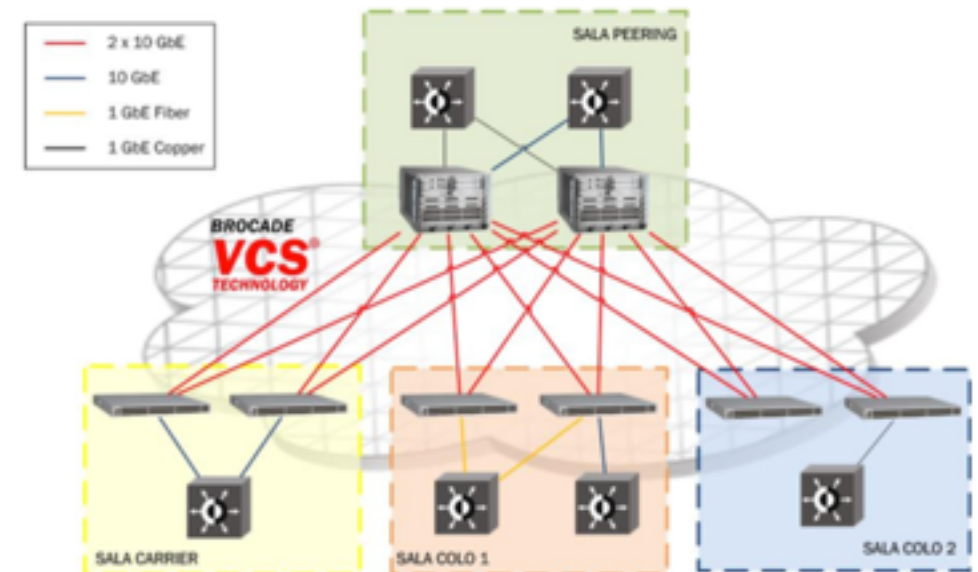
# QUICK FACTS

- Neutral, no profit, member-based
- 72 members
  - National/International carriers
  - CDNs/OTT
  - Local ISPs
  - RN and NGOs
- Public peering, colocation and meet-me room
- ~30Gbps publicly exchanged traffic
- Major network hub and marketplace for Rome and central/southern Italy



# PEERING PLATFORM

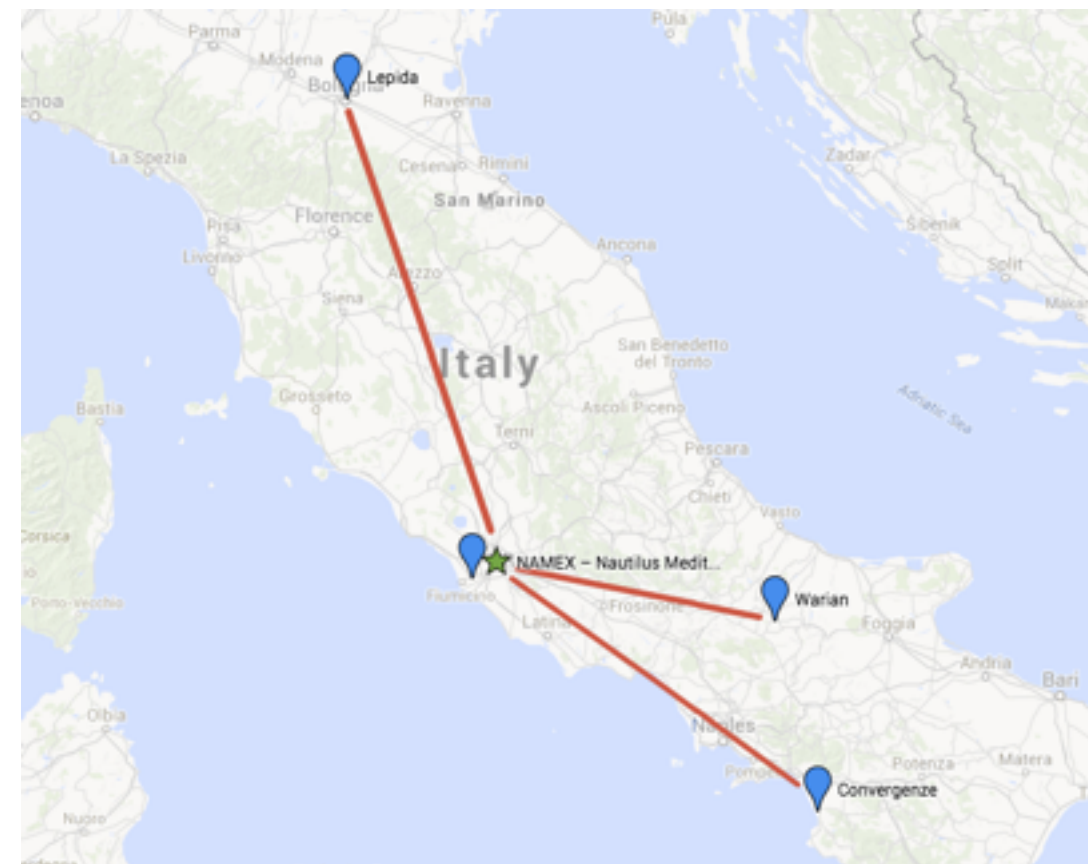
- Brocade VDX series
  - Leaf-spine layout
  - 2x VDX8770 at the core
  - 4x VDX6740 at the edges
- Brocade VCS Ethernet fabric technology
  - fully redundant fiber mesh “backplane”
  - At least 20G bandwidth between any two nodes
  - Fully transparent data paths management and load balancing
  - Logical chassis (all platform seen as a single virtual switch)
  - On-demand scalability
  - Full redundancy (power, management, data control and data forwarding)
- 100M, 1G/10G connectivity - 100G ready (VDX8770)





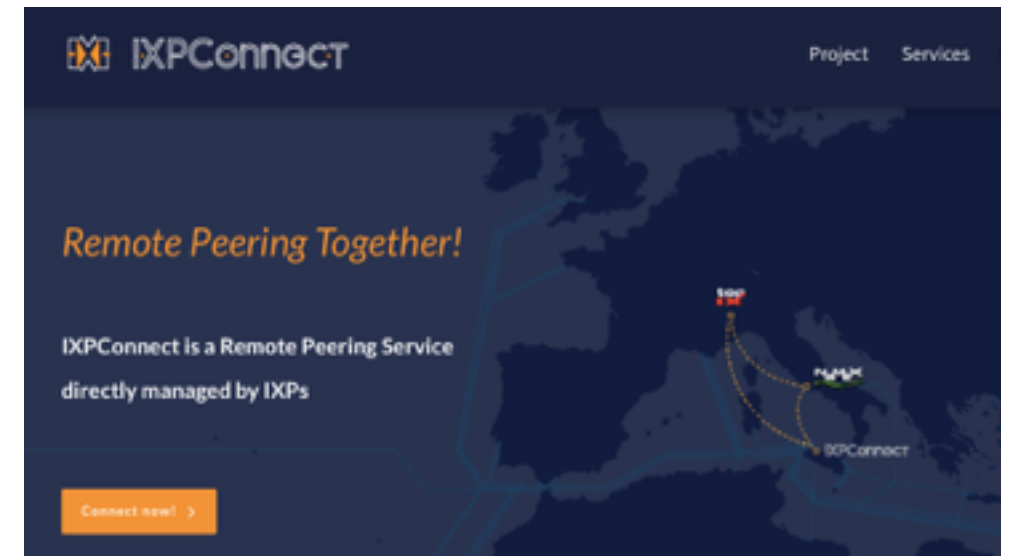
# REMOTE PEERING

- **Remote groups @NaMeX**  
A partner aggregates customers and provides physical link to NAMEX:
  - Current partners: Lepida, Convergenze, Unidata, Warian
  - 8 active remote customers
- **Reseller program**  
NAMEX customers can share a virtual transport link to connect to partner IXPs in Europe
  - AMS-IX, Amsterdam
    - established since 2010
    - 10 connected networks
  - LINX, London
    - just signed a partnership agreement, will start up soon
  - Looking for other partners throughout Europe!



# REMOTE PEERING/2

- **IXPConnect**  
Open initiative by a federation of Italian IXPs:  
aim is to help local and foreign operators better connect to national networks
- Remote aggregation towards multiple IXPs
- Shared transport and peering LANs extension
- Aggregation points throughout Italy
  - Palermo, SicilyHub
  - Roma, NAMEX
  - Torino, TOP-IX
  - *more to come ...*



# DEVELOPMENT

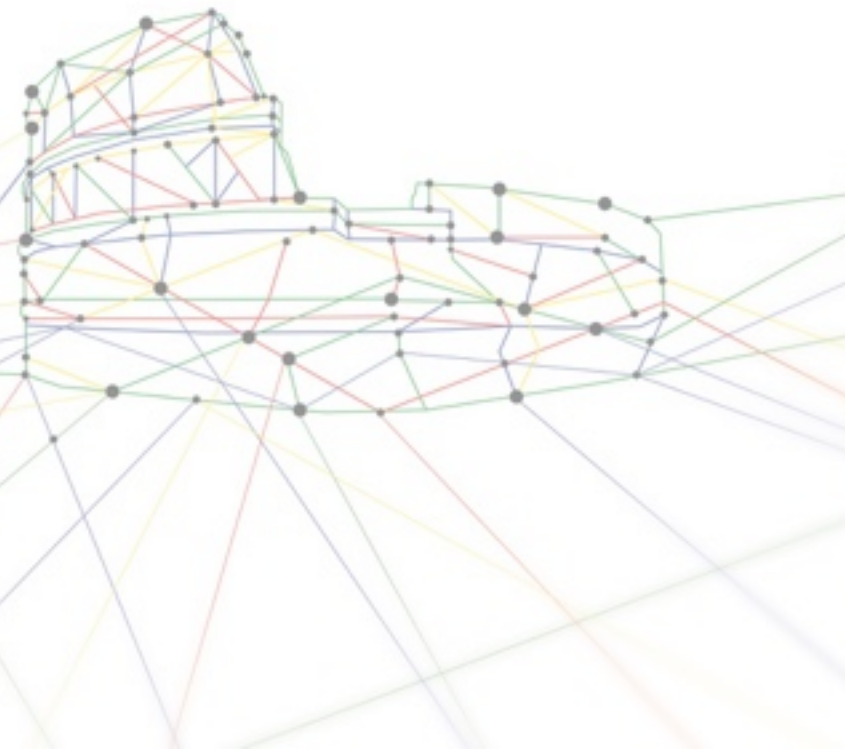
- Moving to a single peering VLAN
- sFlow monitoring platform
  - Peering matrix
  - Per-peer traffic statistics
- Remote peering
  - New dedicated hardware for customer and partners aggregation
  - Brocade MLX-4
- Will host a RIPE Anchor very soon!





# QXN2

- NAMEX already hosts Qualified Exchange Network infrastructure (QXN), an exchange point for the Public Connectivity System (SPC)
- A new infrastructure is ready to be deployed in Rome and Milan (QXN2)
- NAMEX will provide colocation for the new infrastructure as well, it will be hosted in a new colocation room.
- Both nodes will run in parallel until full migration is completed





# DATACENTER

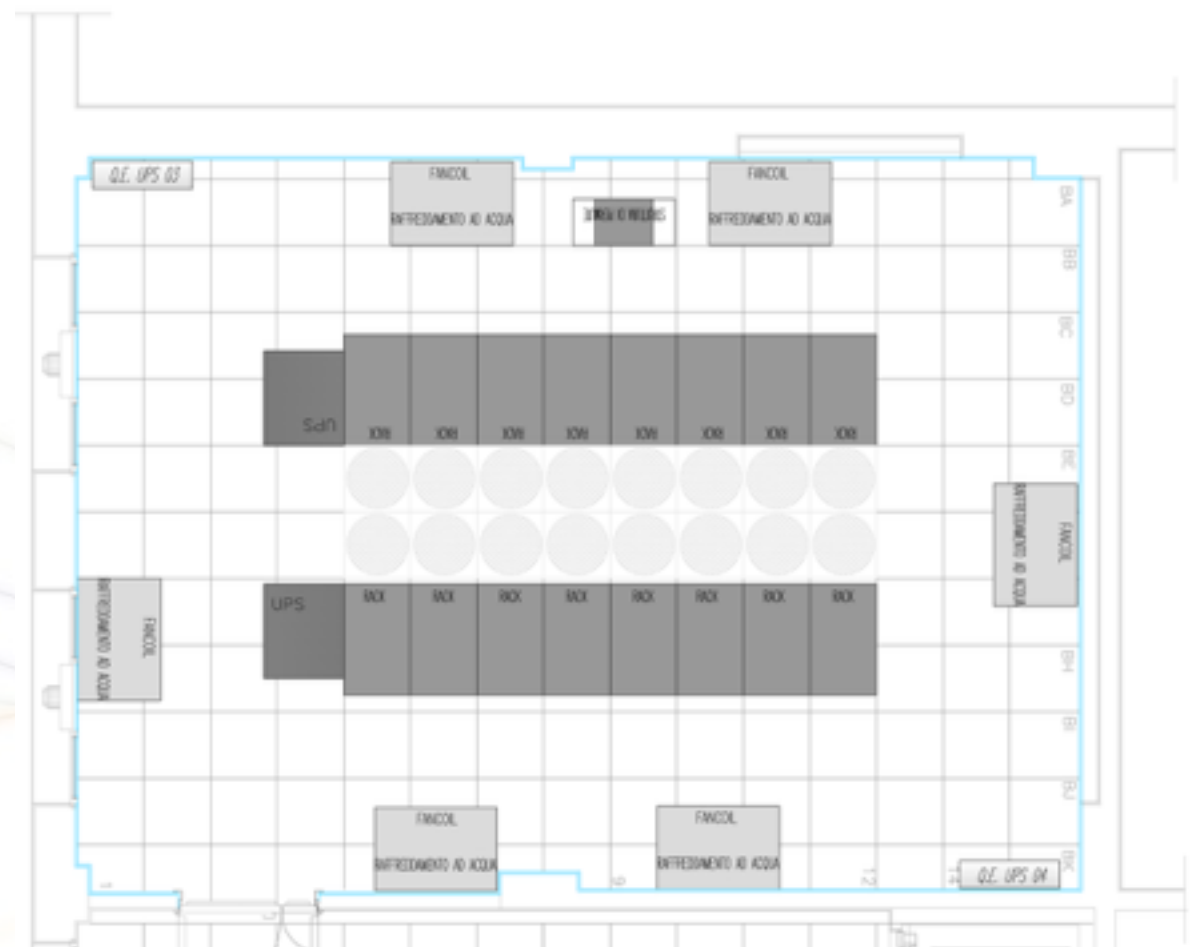


- New Meet-me room infrastructure
- **MPO** (Multifiber push-on) cabling technology
- Higher fiber density (96 LC fibers on 1 RU)
- Nearly plug-n-play

- New **colocation room** at main site
  - 16 more 600x1000x2200 footprints
  - 100 kW power budget
  - Redundant UPS protected power lines
  - QXN2 + colocation

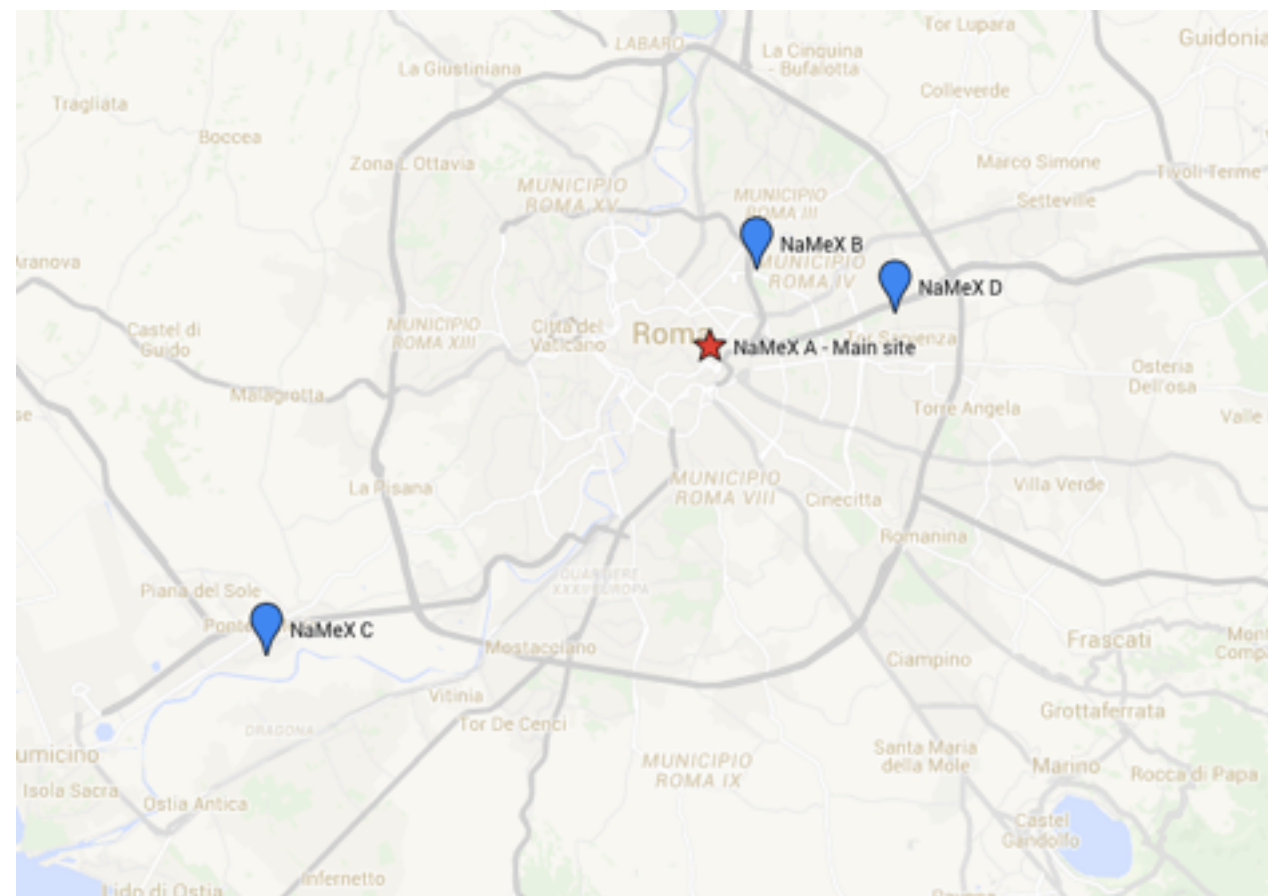
- CINECA **datacenter expansion**

- +300 sqm
- RFS 3Q2017



# EXPANSION SITES

- New expansion sites inside Rome metro area
  - **NAMEX-B:** Via Lanciani ~10km
  - **NAMEX-C:** Ponte Galeria, ~40km
  - **NAMEX-D:** Tor Cervara, ~15/30 km
- Two dark fiber pairs from main site to each expansion site
- ADVA FSP3000 platform:
  - Starting with 10x 10G lambda to each site, expandable up to 40x 10G
  - Physical protection



# Thank you!

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