Euro-IX and IX-F Update

March 2015

bijal at euro-ix dot net
Twitter: @euroix
What do we do?

• 2 Forums per year
• Maintaining IXP Database and tools
• Newsletter – Subscribe here: www.euro-ix.net/newsletters
• Working Groups
• IXP Reports
• Twinning Program

Why do we do it? For the good of the community!
Association of IXPs

77 affiliated IXPs:

• 53 IXPs in the Euro-IX Region
  => in 32 Countries, operating over 100 IXPs

• 24 IXPs from the rest of the world

• Newest Members:
  Angonix (Angola), SOX (Serbia),
  ARMIX (Armenia), KOSIX (Kosovo), TPIX (Poland)
11 Patrons

- ADVA Optical Networking
- Alcatel-Lucent
- Brocade
- BTI Systems
- Extreme Networks
- Huawei

- Interxion
- Juniper Networks
- MRV
- Telecity
- Telehouse
Internet Exchange Federation
Internet Exchange Federation (IX-F)

- MOU signed by APIX, Euro-IX and LAC-IX to form the IX-F in November 2012 – [www.ix-f.net](http://www.ix-f.net)
- Af-IX signed the MoU to join the IX-F in 2014
- Idea to have a Global IXP DB
- Global BCPs for IXPs - [https://www.euro-ix.net/euro-ix-bcp](https://www.euro-ix.net/euro-ix-bcp)
- Automate Data Collection from IXPs
- Plans to collaborate with other external Databases
IX-F Board

- **Af-IX**
  Nishal Goburdhan – JINX (South Africa)
  Kyle Spencer – UIXP (Uganda)

- **APIX**
  Raphael Ho - Equinix (Hong Kong)
  Katsuyasu Toyama - JPNAP (Japan)

- **Euro-IX**
  Arnold Nipper - DE-CIX (Germany)
  John Souter - LINX (United Kingdom)

- **LAC-IX**
  Ariel Graizer - NAP CABase (Argentina)
  Milton Kashiwakura - PTT.br (Brazil)
Global Traffic Growth – 12 months

- Known aggregated traffic over public peering LAN
- From 14,326 Gbps to 20,861 Gbps
- Data from 134 to 165 IXPs
IXP Database
IXP Database Project

- There are many IXP Databases...
IXP Database

- A single canonical place for IXP data
- Development of IXP Database has started
- IXP data maintained by IXPs this ensures greater accuracy
- Useful for the IXP members to see IX data in context
- We want it to be open and pluggable
The plan

• Others will be able to mirror IXP Data
Work in progress..
IXP Database

IXP DB API server written using Python / Django, which can:

- Get / create / update / delete IXP and Organisation objects
- All interaction is JSON
- IXPs will be able to create, update and delete IXPs from the databases.
- All code is available on the Euro-IX GitHub repository [https://github.com/Euro-IX](https://github.com/Euro-IX)
Euro-IX Database
Range of ASNs connected to Members

- 3 - 25 ASNs (30%): TunIXP (Tunisia), FICIX (Finland)
- 26 - 50 ASNs (18%): SOX (Serbia), DIX (Denmark)
- 51 - 100 ASNs (23%): NaMeX (Italy), BIX.BG (Bulgaria)
- 101 - 200 ASNs (15%): UA-IX (Ukraine), TorIX (Canada)
- 201 - 400 ASNs (8%): France-IX (France), MSK-IX (Russia)
- 401 - 670 ASNs (6%): PTT.br (Brazil), AMS-IX (NL)
Switch/Router DB – Vendors used

- Brocade: 34%
- Cisco: 26%
- Extreme: 13%
- Glimmerglass: 10%
- Force 10: 8%
- Juniper: 7%
- Alcatel-Lucent: 2%

Bar graph and pie chart showing vendor market share.
Route Server DB – Deamons used

- Bird: 52%
- Quagga: 19%
- OpenBGpD: 16%
- Quagga: 13%
Euro-IX Tools
Euro-IX Tools

- IXP Service Matrix - euro-ix.net/tools/ixp_matrix
- Peering Matrix - euro-ix.net/tools/peering_matrix
- ASN Search euro-ix.net/tools/asn_search
- ASN Filter - euro-ix.net/tools/asn_filter
- Newest ASN entries - euro-ix.net/tools/asn_newest
- Most common ASNs - euro-ix.net/tools/asn_common
Enter an ASN, IXP or organisation name:

<table>
<thead>
<tr>
<th>IXP</th>
<th>IXP Participants</th>
<th>IPv6 active</th>
<th>Unique ASNs</th>
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Note: The ASN information contained within this database is a combination of both affiliated and non-affiliated IXP content. While the affiliated IXP content is highly accurate, the non-affiliated IXP content is updated on a best effort basis and is nonetheless considered to be quite accurate.
### ASN Filter

#### ASNs that peer at:

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<th>Left</th>
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<td>ANG-IXP (Angola)</td>
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- [ ] List all
- [ ] Only
- [ ] And other IXPs
- [ ] And at ➞
- [ ] But not at ➞
- [ ] And other IXPs, but not at ➞
## Peering Matrix

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<th>ASNs that don't peer at other IXPs</th>
<th>% of ASNs that don't peer at other IXPs</th>
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<th>% of ASNs that peer at other IXPs</th>
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## IXP Service Matrix

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<th>Rs Asn</th>
<th># Of Customers</th>
<th># IPv6 Ready</th>
<th>% IPv6 Ready</th>
<th># Of Sites</th>
<th>Last Month Traffic (Gbps)</th>
<th>Public Stats</th>
<th>Non Profit</th>
<th>Priv. Peering</th>
<th>IPv6 Lan Type</th>
<th>IPv6 Registry</th>
<th>Multicast</th>
<th>Vlan Services</th>
<th>Out Of Band Access</th>
<th>24x7 Service</th>
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Euro-IX projects
Traffic during FIFA World Cup

- Collaboration with RIPE NCC

Traffic at PTT Sao Paulo
(Brazil vs. Germany)

Traffic at LINX London - Juniper LAN
(Brazil vs. Germany)
Euro- IX Project

- IXP BCOPs updated -
  https://www.euro-ix.net/euro-ix-bcp

- IXP Bogon list - Team Cymru
  http://www.team-cymru.org/ixp
Euro-IX Project

- Work done by the Euro-IX Data Task Force is being implemented, thanks to Elisa and Nick - [https://www.euro-ix.net/euro-ix-bcp](https://www.euro-ix.net/euro-ix-bcp) IXP Member list JSON Scheme

- 8 IXPs already implemented!
Internet Revealed, a film about IXPs

https://www.youtube.com/channel/UCFyucVRAAMzxyJIsxnGwsjw
Available in French, German, Portuguese, Spanish, Romanian, Arabic, Russian, Czech and Italian!
Interested in translating the video in your Language? Contact us!
Thank you!

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