# euro-IX

# IXPDB

Internet eXchange Point Database

**CEE Peering Days – 2018**

Rebecca Class-Peter

# Euro-IX

- Membership based organisation for IXPs, 83 IXP Members

- 2 Fora per year

- Maintain and develop the website, database and tools

- Benchmarking

- Mailing lists

- Newsletter – Subscribe here:  https://www.euro-ix.net/en/communications/newsletters/

- Working Groups

- Social Media
    - Twitter @euroix
    - Facebook fb.me/maineuroix
    - YouTube youtube.com/channel/UCFyucVRAAMzxyJIsxnGwsjw

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# The Internet eXchange Federation



EURO-IX

APIX

LAC-IX

AFIX

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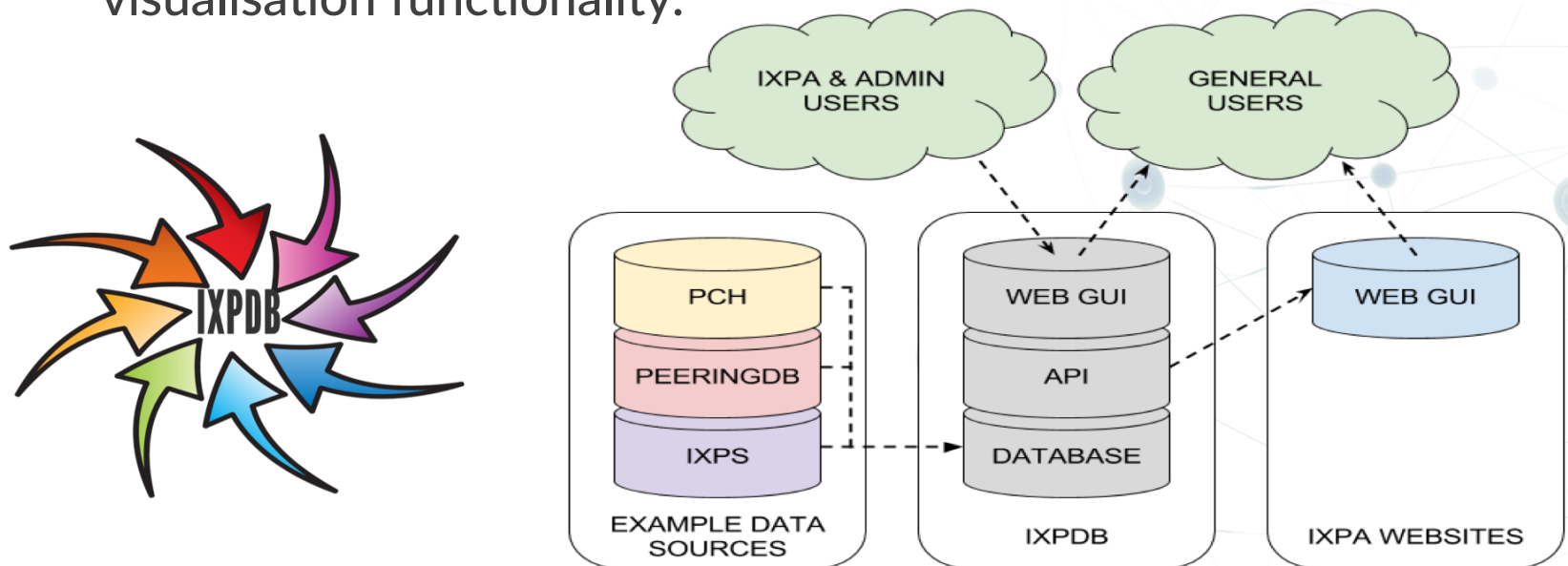
3

# Where do we get IXP data from?

- IXPs are considered core Internet infrastructure and carry a growing percentage of the world's Internet traffic.

- While there are a number of directories and databases which contain various data on IXPs, none are globally authoritative or complete.
  - Some are maintained by the database admin only
  - Some have manual input for IXPs
  - Some have no input for IXPs

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# The IXPDB Platform

- The Internet eXchange Federation (IX-F) is developing a system that will fill this gap.
  - It will acquire data directly from IXPs through automation;
  - aggregate and promote useful third-party data sources;
  - and provide valuable insight, reporting, data export and visualisation functionality.
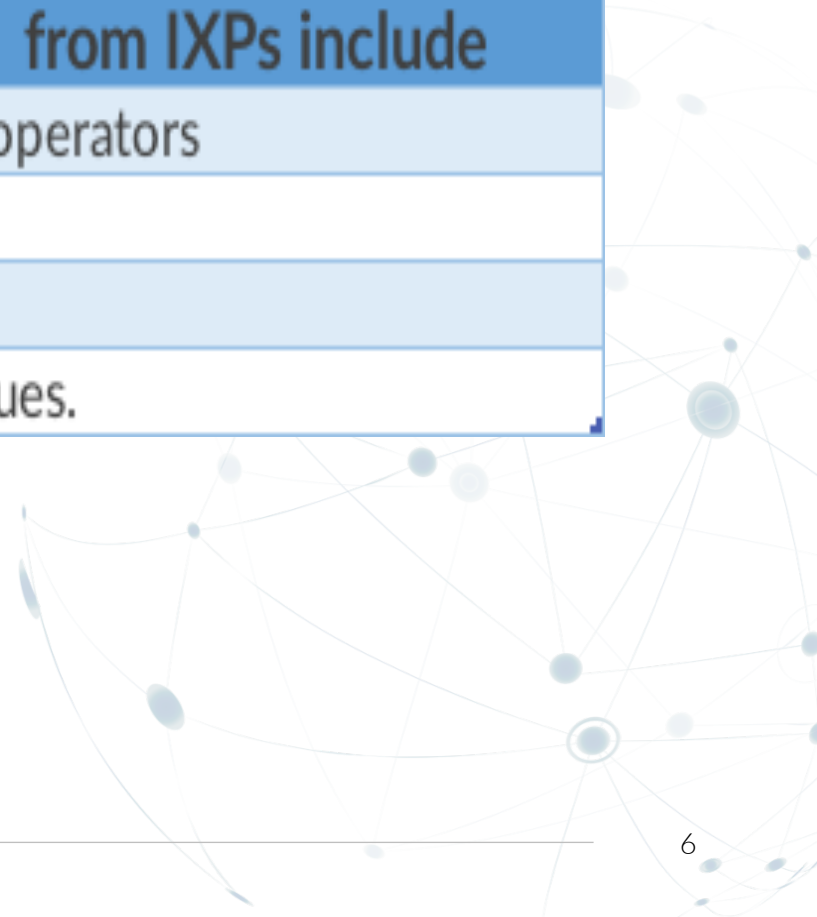


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# Database Content – IXP data

| First-party data collected directly from IXPs include |
|---|
| Essential information on IXP providers/operators |
| Platforms |
| Point of presence (PoP) locations |
| Aggregate traffic data with historical values. |

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# Database Content – Network data via the IXP

| Detailed information on the networks present at each IXP including: |
|---|
| ASNs |
| join date |
| switch |
| switch port |
| port pricing |
| port capacities |
| VLANs |
| peering policy |
| route server usage |
| max prefix setting |
| prefix announcements |
| and contact data. |

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# Use cases: Building Queries

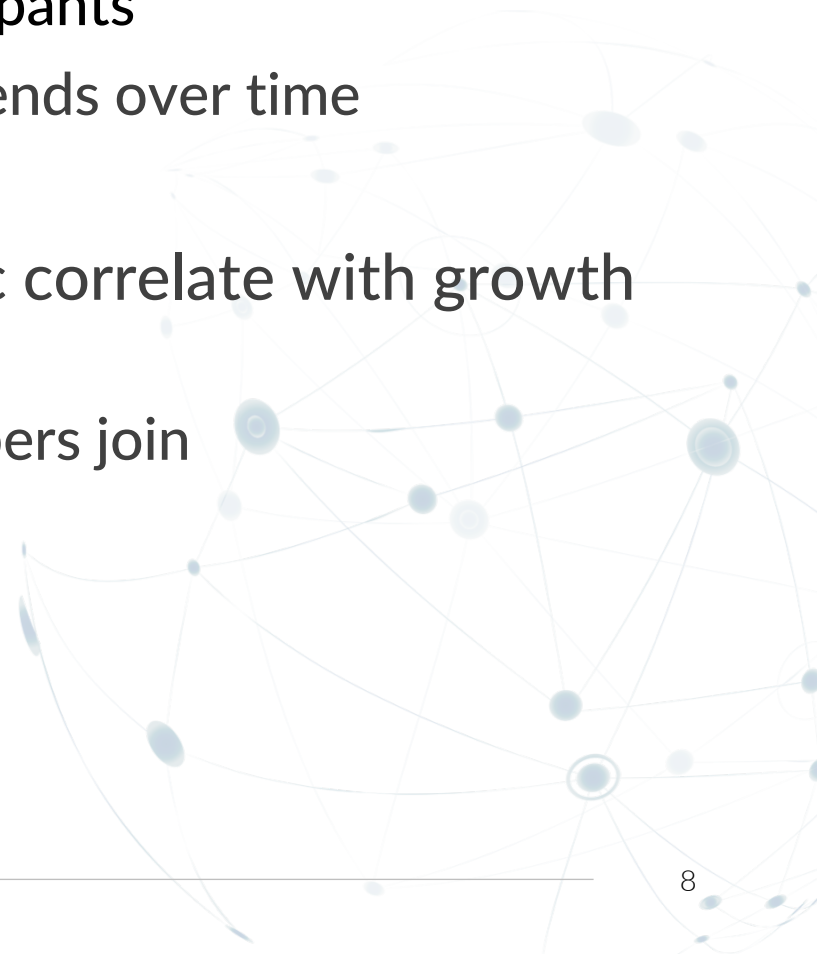Which IXPs in my region are growing at the fastest rate? What are the growth trends?

→ **Join dates help identify new participants**

→ Join dates help illustrate growth trends over time

How does aggregate growth traffic correlate with growth trends?

→ Ability to see growth as new members join

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# Use cases: Building Queries

What **<u>types</u>** of networks are connecting to IXPs in my region, directly, indirectly, and how has that diversity changed over time?

→ Categories such as transit, CDNs, ISPs, Gaming, transport etc

→ Categories facilitate the exact mix of networks you are looking to peer with

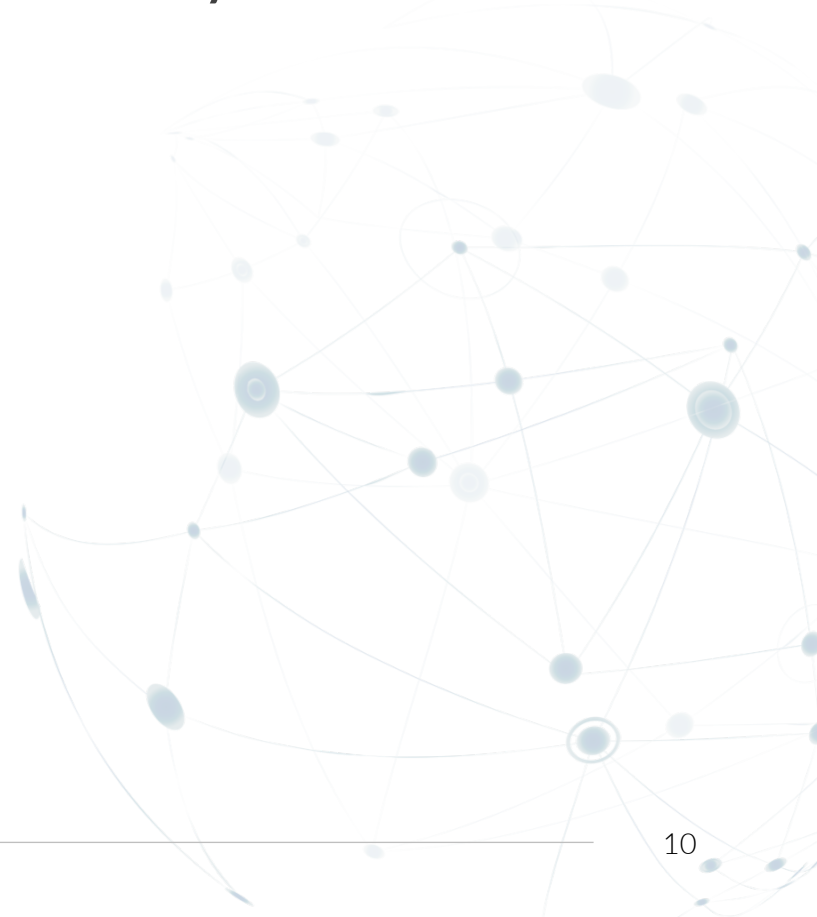Which IXPs have a high density of ASNs and prefixes that I need to reach?

→ Use the compare function to see ASNs are presents at which IXPs

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# Use cases: Building Queries

Further refine queries to include route server data, in
particular what routes are being offered at the IXP

→ How do these routes improve on what you have now

→ Which of these are unique

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# Use cases: Building Queries

Scoping by Geography

Which sub-regions in Europe are performing best across various metrics?

→ Prefix availability, unique ASNs availability

How does my country or region's interconnection ecosystem compare to others across various metrics.

→ Using the compare tool

What new networks or network prefixes are starting to appear in my region?

Integrating map based visualization of query results

# A wise man once said...



"Automation is the key to our success"
Walt Wollny HE.net

# Where are we..

We began working on this in July 2017 and have recently launched a limited version of the system which performs automated data collection from the following sources:

- IXPs that have a JSON IX-F Member Export – https://ml.ix-f.net/directory

- IXPs that use IXP Manager – www.ixpmanager.org/users.php

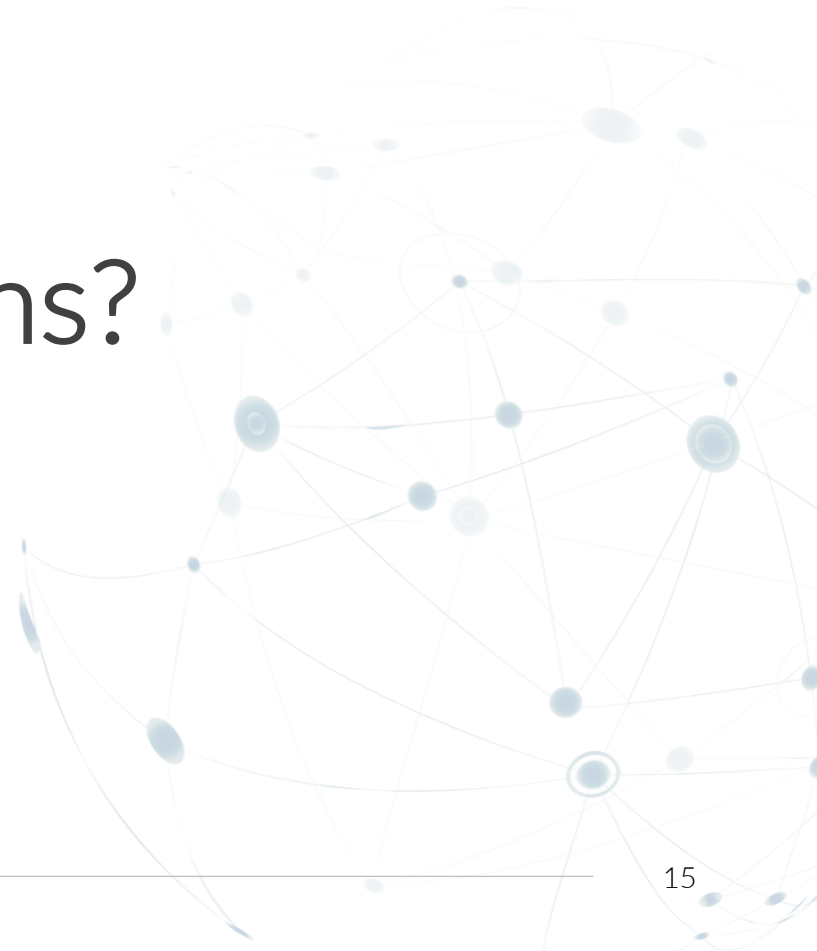## www.euro-ix.net/ixpdb

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# Still lots to do..

- Work with IXPs to implement the latest IX-F JSON Schema

- Encourage IXPs using IXP Manager to update to latest version

- Migrate IXPDB to it's own website

- Work with the community to identify popular queries and integrate to GUI and API

- Funding – we're looking for sponsorship, if you're interested, see me, the IX-F Board members and / or Jesse Sowell (postdoctoral fellow at Stanford)

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# IXPDB

Questions?

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