



euro-IX

IXPDB

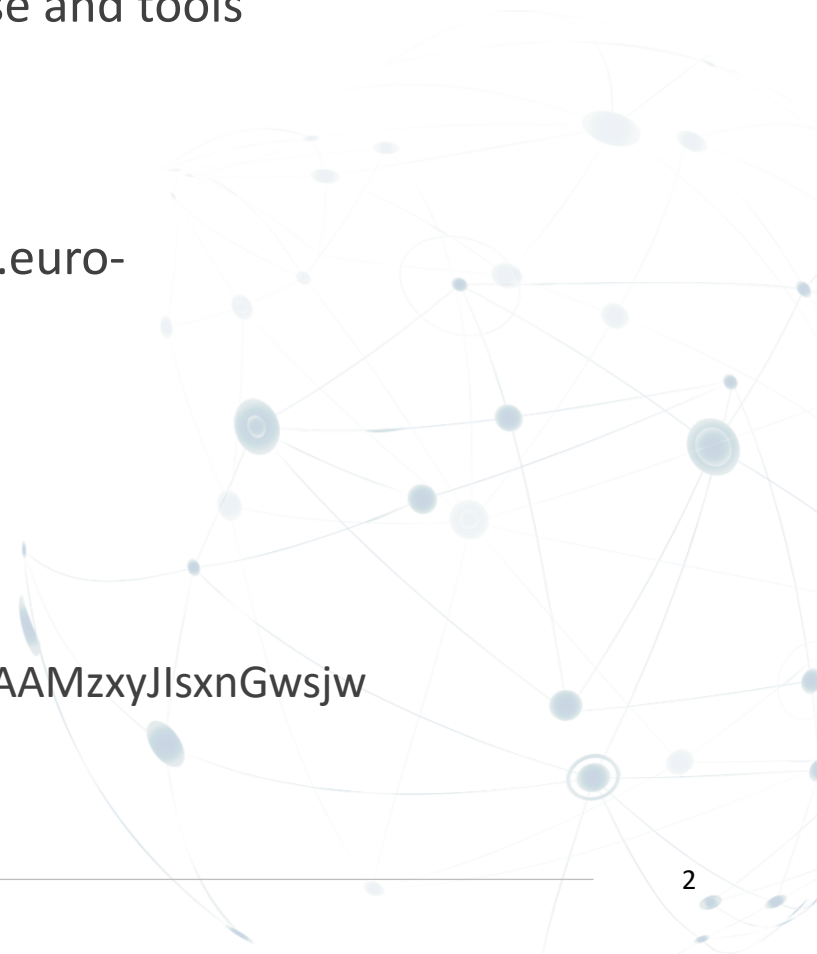
Internet eXchange Point Database

Bijal Sanghani



Euro-IX

- Membership based organisation for IXPs, 84 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/UCFyucVRAAMzxyJlsxnGwsjw





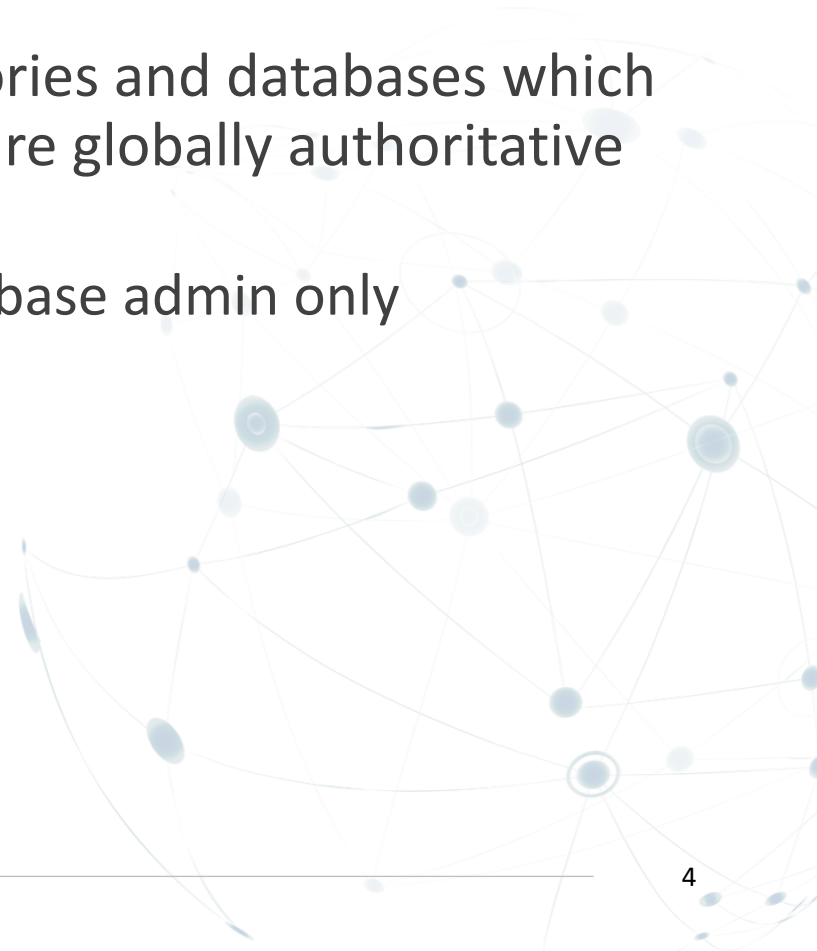
The Internet eXchange Federation





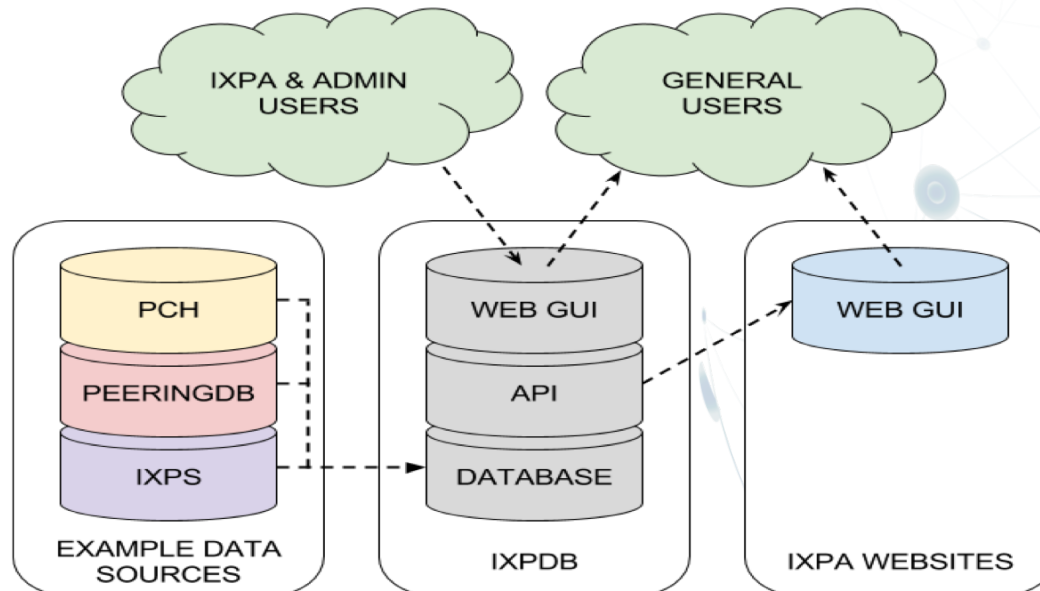
Where do we get IXP data from?

- 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



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.





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.



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.



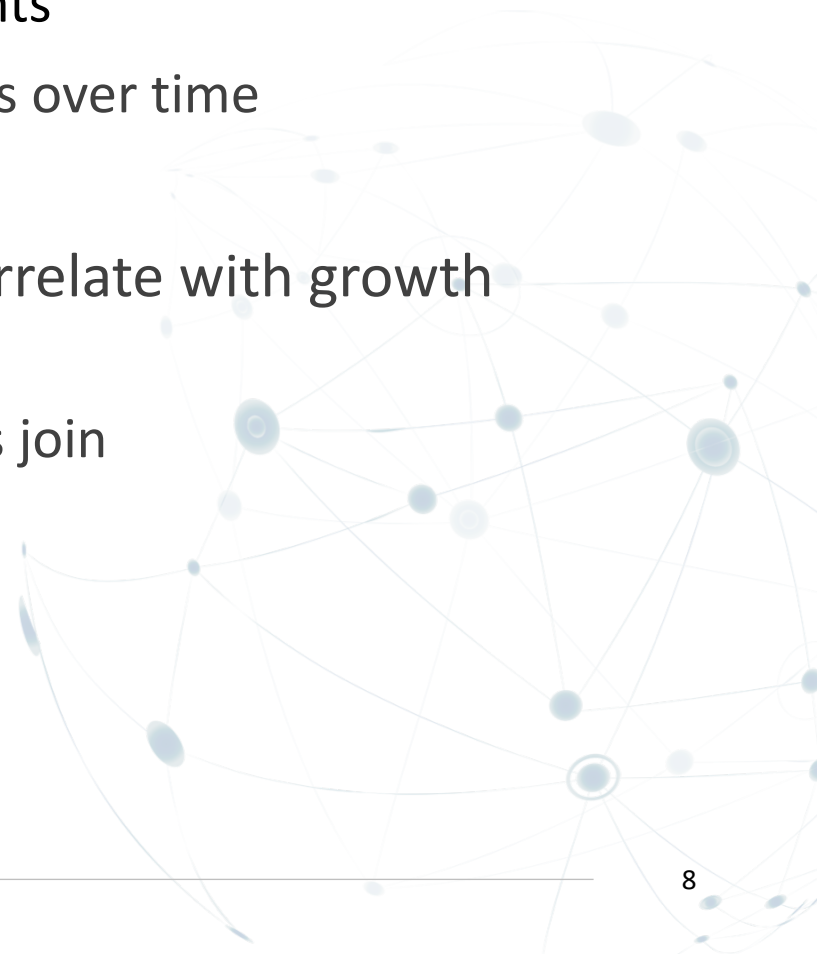
Use cases: Building Queries

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





Use cases: Building Queries

What **types** 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?

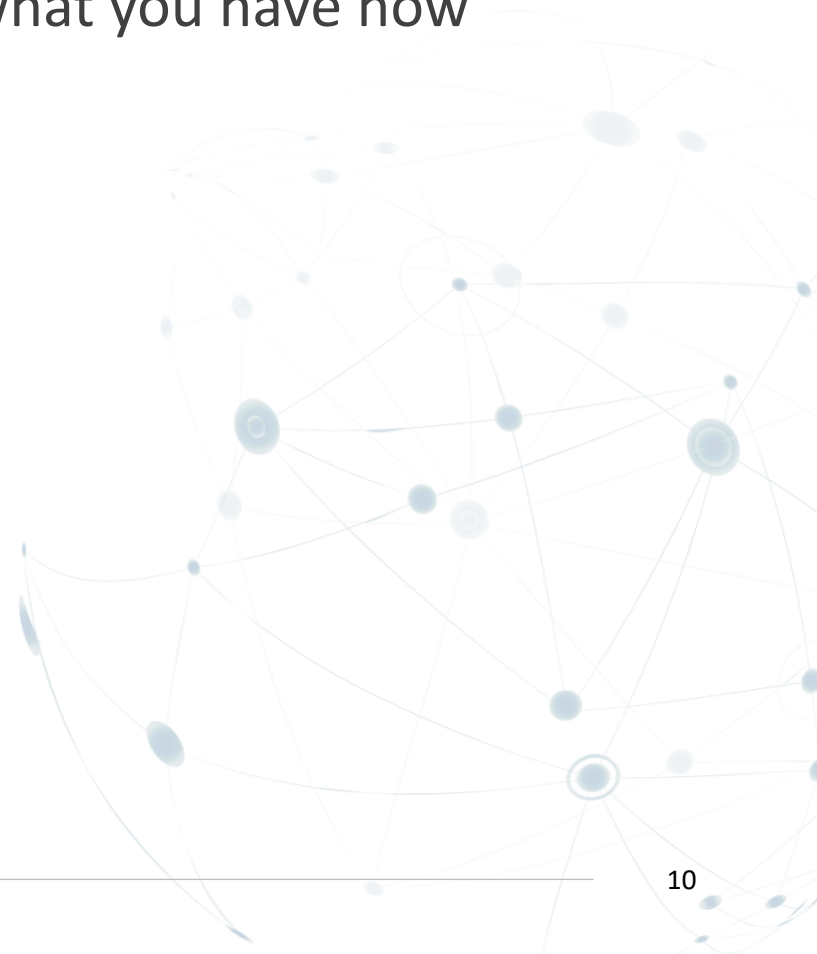
- Use the compare function to see ASNs are presents at which IXPs



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





Use cases: Building Queries

Scoping by Geography

Which sub-regions in Asia 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

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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



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
- Develop query training – manuals and videos
- **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)**

Questions?



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