



euro-IX



Euro-IX Update

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Peering Days – 27th April 2022



ARISTA

cira 

 EQUINIX
WHERE OPPORTUNITY CONNECTS

 Extreme[®]
networks

 FLEXOPTIX

interxion[™]
A DIGITAL REALTY COMPANY

 Internet
Society

JUNIPER[®]
NETWORKS

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Optical Transceiver Technology

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Membership Association of IXPs



Events

- Two Membership events per year hosted by our Members
- Number of physical workshops per year
- Online/ virtual workshops



Services

- Reports
- Newsletters
- Mailing list
- IX Talks



Tools & Community Projects

- Internet eXchange Point Database – IXPDB
- Peering Toolbox
- Fellowship & Mentor-IX programs
- Route Server Large BGP Communities list

The IX-F & IXPDB

What is the Internet eXchange Federation ?



What is the IX-F JSON Schema?

- A community driven schema that allows IXPs to report their data in a standard automated fashion.
- It includes data sets on:
 - The IXP participants
 - IXP locations
 - Hardware used at IXPs and it's participants
 - Route Servers
- You can find the schema and documentation here - <https://github.com/euro-ix/json-schemas>
- IXPs can also add their IX-F export urls to PeeringDB - <https://docs.peeringdb.com/ix-f-json-import-rules/>

What is the IXPDB?

- The Internet Exchange Point Database (IXPDB) aims to create and sustain an authoritative and fully comprehensive set of data on Internet eXchange points (IXPs).
- The IXPDB imports the IX-F JSON schema directly from IXPs
- Can interact with IXP management and measurement tools such as IXP Manager / BIRD.
- Can be used in order to provide a single comprehensive and graphical view of the global internet ecosystem.

IXPDB Key Features

- **Automated data collection**

- Organisational
- Infrastructure
 - IXPs & facility locations
 - Peering LAN prefix(es)
 - Switch hardware
- Connected networks
 - Ports and speeds
 - MAC & IP address(es)
 - (Prefixes announced – coming soon)
- Aggregate traffic

- **Easy integration**

- Standardised JSON schema
- Automatic export from IXP Manager / Asteroid

- **Accounts for IXPA relationships**

- Data can be filtered by region
- IXPA's manage membership

- **Incorporates third party data sources**

- MANRS
- PeeringDB

- **Web-based GUI**

- Search interface
- Data tables & visualisations
- Comparison tools for IXPs & ASNs
- User accounts for manual data entry

Homepage Statistics - Live Data

IXPs by Connected ASNs

Name	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
IX.br Sao Paulo, SP (SP))	São Paulo	BR	2021-09-23 8:11:49 UTC	✓	✗	✗	2413
DE-CIX FRA (DE-CIX Frankfurt)	Frankfurt am Main	DE	2022-04-20 18:08:58 UTC	✓	✗	✓	1067
AMS-IX	Amsterdam	NL	2022-04-20 18:08:58 UTC	✓	✗	✓	871
LINX LON1 (LINX LON1)	London	GB	2022-04-20 18:08:58 UTC	✓	✗	✓	813
EPIX (e-Poludnie Internet Exchange)	Warsaw	PL	2022-03-21 11:03:06 UTC	✓	✗	✗	561
NAPAfrica IX Johannesburg (NAPAfrica)		ZA	2022-04-20 18:08:57 UTC	✓	✓	✓	503
EPIX Warsaw (e-Poludnie Internet Exchange)	Warsaw	PL	2022-03-21 11:03:35 UTC	✓	✗	✗	475
IX.br Fortaleza, CE (CE))	Fortaleza						
DatalX Internet Exchange (DatalX Internet Exchange)	Amsterdam						
IX.br Rio de Janeiro, RJ (RJ))	Rio de Janeiro						

Newest IXPs in the Database

Name	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
Era-IX	Amsterdam	NL	2022-04-20 14:12:06 UTC	✗	✗	✗	0
Namex Bari	Bari	IT	2022-04-06 8:37:12 UTC	✗	✗	✗	0
AMS-IX Singapore	Singapore	SG	2022-04-04 10:13:41 UTC	✗	✗	✗	0
AMS-IX Hyderabad	Hyderabad	IN	2022-04-04 10:05:33 UTC	✗	✗	✗	0
DE-CIX Phoenix	Phoenix	US	2022-04-20 18:08:55 UTC	✗	✗	✓	0

IXP Directory and Compare Tool



☐ Only with API

☐ Only with Traffic

☐ AFIX

☐ APIX

☐ Euro-IX

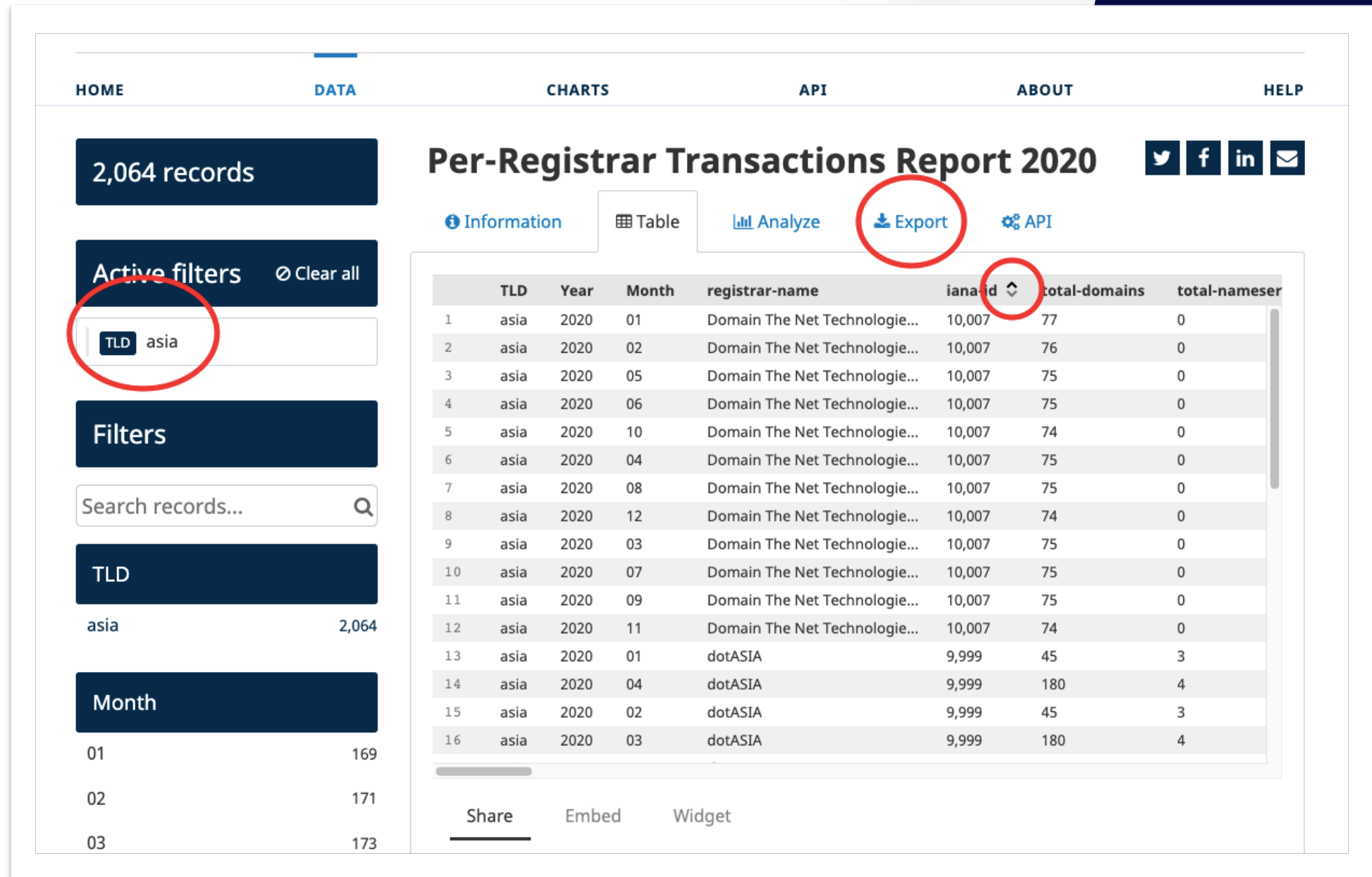
☐ LAC-IX

☐ North America

COMPARE	IX-F ID	Name	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
<input type="checkbox"/>	899	48 IX (48 IX)		US	2021-09-23 8:13:21 UTC	✓	✗	✗	4
<input type="checkbox"/>	900	4IXP (4B42 Internet Exchange Point)	Zurich	CH	2020-12-04 17:47:07 UTC	✗	✗	✗	0
<input type="checkbox"/>	123	6NGIX (IPv6 Next Generation Internet eXchange)	Seoul	KR	2019-06-17 0:17:51 UTC	✗	✗	✗	0
<input type="checkbox"/>	699	A.IX (Advanced Internet eXchange)	Beirut	LB	2019-06-19 0:48:19 UTC	✗	✗	✗	0
<input type="checkbox"/>	276	AAIX (Alpes Adria Internet Exchange)	Klagenfurt	AT	2019-06-19 0:55:28 UTC	✗	✗	✗	10
<input type="checkbox"/>	893	ABQIX (New Mexico Internet Exchange DBA ABQIX)		US	2021-07-09 10:23:55 UTC	✗	✗	✗	0

	BiX (Budapest Internet eXchange)	NIX.CZ (NIX.CZ, z.s.p.o.)	VIX (Vienna Internet Exchange)
	—	—	—
Number of ASNs	49	192	149
Common ASNs	#4 British Telecommunications plc (2) Hurricane Electric Microsoft turktelekomint.com		
Unique ASNs	#39 3C Telecom ACE Telecom AH NET Zrt. Antenna Hungária Combridge Deninet Kft. DIGI DoclerNet Hosting DrávaNet Drávanet Enetnet Exnetnet EZIT Giganet GTT Communications, Inc. Hungarnet Ines Group Inform Media Infotechna Ltd. IntelliHome Interoute Invitech Solutions Zrt ISZT LeaseWeb Network BV MMV Informatika NETregator	#161 2 connect a.s. a-net Liberec s.r.o. ACTIVE 24, s.r.o. Alf servis, s.r.o. ALKOM Security, a.s. AmigoNet s.r.o. ANEXIA Internetdienstleistungs GmbH ANTIK Telecom Austole s.r.o. AUTOCONT a.s. AUTOCONT a.s. Automation & Business s.r.o. AVAST Software s.r.o. AVONET online, s.r.o. BEYOND PL (DE) BNET Business s.r.o. BONET Systems, s.r.o. C2NET s.r.o. Casablanca INT a.s. CC INTERNET s.r.o. CD-Telematika, a.s. Česká republika - Český telekomunikační úřad Česká republika - Ministerstvo obrany Česká spořitelna, a.s. Český úřad zeměměřický a katastrální CESNET, z.s.p.o.	#116 ACOnet Akton ANEXIA Internetdienstleistungs GmbH APA ASFINAG Asympto Networks Kft AtNOC Clemens Zauner e. U. Automatic AZISTA GmbH BIOS Bundesministerium für Arbeit, Soziales, Gesundheit und Konsumentenschutz Cablevision Citycom Telekommunikation GmbH CloudNow GmbH COLT Telecom Ltd. COSYS DATA GmbH DENIC eG DEUTSCHE TELEKOM GLOBAL BUSINESS SOLUTIONS UK LTD DNS-OARC-112 DXC Technology EDIS GmbH Empirion Telekommunikations Services GmbH Energie AG Österreich Telekom GmbH Ertl & Gross OG

Example Future



Status



New site

We are configuring the new site, which will enable:

- Download of datasets in structured formats
- Dynamic filters
- Visualisations



Building data pipelines

Collect and organise the data

(Data validation)

Regular updates



Planning next steps

Finalise traffic API and build traffic trends datasets

Develop pricing API

Identify useful 3rd party data

Other Information

- Mailing list for users - <https://lists.euro-ix.net/mailman/listinfo/ixpdb>
- GitHub JSON Member List Schema - <https://github.com/euro-ix/json-schemas>
- API - <https://api.ixpdb.net>
- Website - <https://ixpdb.euro-ix.net/en/>
- IXPDB admin team - ixpdb-admin@euro-ix.net

IXPDB Sponsors

PLATINUM SPONSORS



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Peering Toolbox

New Service for the Community

euro-IX



peering
:toolbox
peeringtoolbox.euro-ix.net

What is the Peering Toolbox?



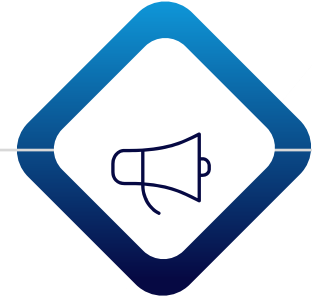
By the Community

- Community focused Euro-IX project
- Organisations involved include LINX, NAPAFrica, DE-CIX, Kentik, HEAnet



Aims

- Provide a learning structure and best practice information for new entrants into the interconnection community



Aims

- The toolbox will act as a reference/guide that IXPs and networks can point others to for best practice information and learn how meet the IXP and peers requirements

Peering Toolbox

- There's already a lot of good work done by the community
 - We want to pull it together and make it available in one place
 - Act as a reference point for best practice information.
- The Peering Toolbox can reference your documents

Peering Academy – coming soon!

- We're going to create a learning structure that's easy for new entrants to follow and discover what they need to learn to make the best decisions for their network.
- The learning will be broken down into small pieces to make it easy, e.g. beginner, intermediate and expert to learn the community best practices
- Get in touch, so we can link your materials or to join the team - peeringtoolbox@lists.euro-ix.net

Questions ?



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