



# IXPDB Update – HKNOG 10.0

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# Euro-IX

- Membership Association for IXPs formed in 2001
- Run by a Secretariat – 2 full time staff
- Euro-IX Board provides strategic direction
- Intent to develop, strengthen and improve the IXP community

# Euro-IX Association of IXPs – 71 Members



# Euro-IX Patrons

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# What is the IXPDB?

- A database where the **IXP** is the key data provider and focus
- Membership feedback showed IXPs wanted a place to publish an accurate and complete data set
- In 2016 the IX-F Members (AFIX, APIX, Euro-IX and LAC-IX) agreed to build a global IXP database
- We wanted to use automation to ensure top quality data and the IX-F JSON Schema was published.

# IXPDB Features – Home Page Statistics

## Newest IXPs in the Database

Name	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
SONIX (Stockholm Open Network Internet Exchange)		SE	2021-09-07 8:02:22 UTC	✓	✗	✗	4
JumboIX Lima	Lima	PE	2021-07-29 6:13:44 UTC	✗	✗	✗	0
San Diego-IX (Ninja-IX)	San Diego	US	2021-07-28 15:43:37 UTC	✗	✗	✗	0
Huntsville-IX (Ninja-IX)	Huntsville	US	2021-07-28 15:41:15 UTC	✗	✗	✗	0
Infrastructure #1 (Free IX)		CH	2021-08-31 10:04:43 UTC	✓	✓	✗	11

## Networks

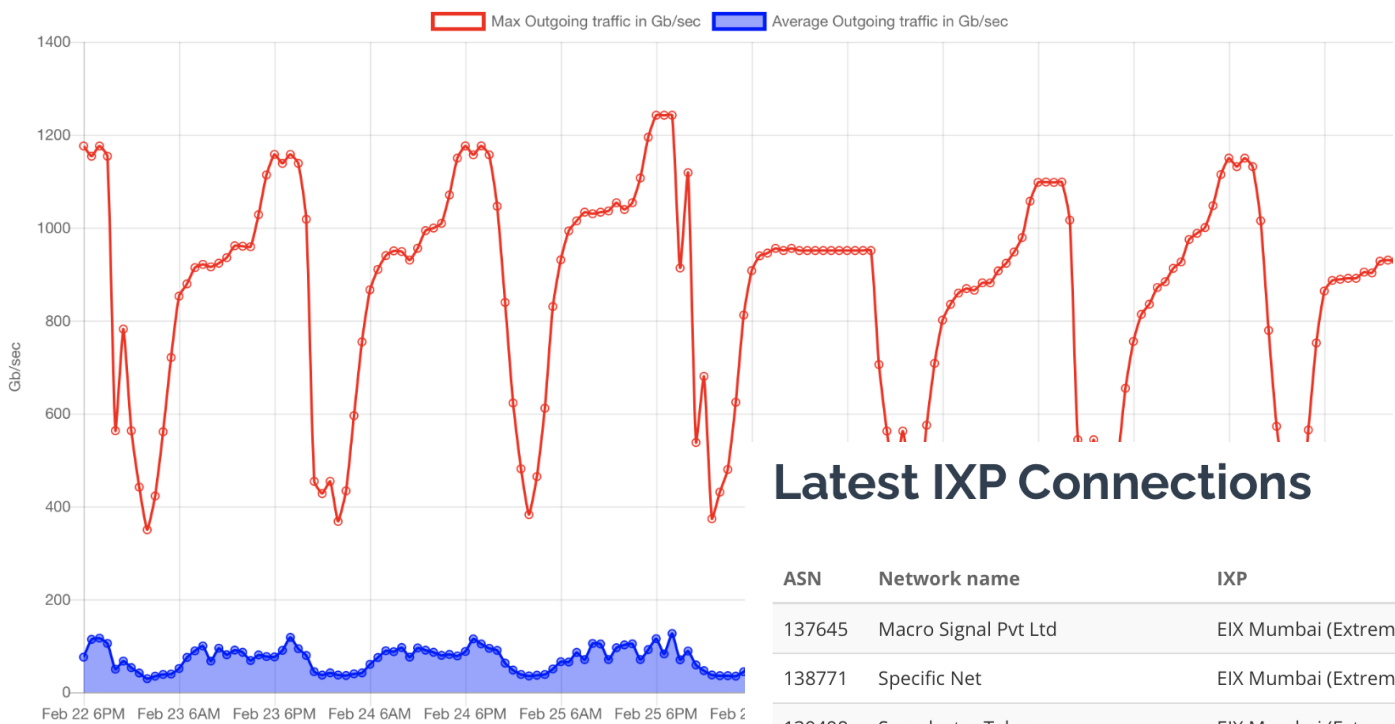
	Africa	Asia Pacific	Europe & Middle East	Latin America & Caribbean	North America
ASNs in the Region	1379	4208	14626	5666	3266
Regionally Unique	476	1279	3645	2766	1257

## IXPs by Connected ASNs

Name	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
IX.br Sao Paulo, SP (SP))	São Paulo	BR	2021-09-02 6:01:49 UTC	✓	✗	✗	2412
DE-CIX FRA (DE-CIX Frankfurt)	Frankfurt am Main	DE	2021-09-08 16:09:10 UTC	✓	✗	✓	1075
AMS-IX	Amsterdam	NL	2021-09-08 16:09:10 UTC	✓	✗	✓	871
LINX LON1 (LINX LON1)		GB	2021-09-08 16:09:11 UTC	✓	✗	✓	827
EPIX (e-Poludnie Internet Exchange)		PL	2021-08-03 16:01:48 UTC	✓	✗	✗	561
IX.br Fortaleza, CE (CE))	Fortaleza	BR	2021-08-28 6:01:55 UTC	✓	✗	✗	474
NAPAfrica IX Johannesburg (NAPAfrica)		ZA	2021-09-08 16:09:09 UTC	✓	✓	✓	474
IX.br Rio de Janeiro, RJ (RJ))	Rio de Janeiro	BR	2021-08-28 6:02:04 UTC	✓	✗	✗	470
EPIX Warsaw (e-Poludnie Internet Exchange)		PL	2021-08-03 16:02:22 UTC	✓	✗	✗	463
NL-ix	The Hague	NL	2021-09-08 16:09:10 UTC	✓	✗	✓	453

# IXPDB Features – Growth Statistics

## Aggregate IXP Traffic



## Latest IXP Connections

ASN	Network name	IXP	Connected on	Other IXP connections
137645	Macro Signal Pvt Ltd	EIX Mumbai (Extreme Internet Exchange India)	2021-09-08 0:00:00 UTC	0
138771	Specific Net	EIX Mumbai (Extreme Internet Exchange India)	2021-09-08 0:00:00 UTC	0
139498	Speedostar Telco	EIX Mumbai (Extreme Internet Exchange India)	2021-09-08 0:00:00 UTC	0
141845	Alien DNS	EIX Mumbai (Extreme Internet Exchange India)	2021-09-08 0:00:00 UTC	0
142508	Netfirst Communications Pvt Ltd	DE-CIX Mumbai (DE-CIX Interwire Internet Services Pvt Ltd)	2021-09-08 0:00:00 UTC	0

# IXPDB Features – IXP Directory & Compare

☐ Only with API

☐ Only with Traffic


☐ AFIX  
☐ APIX  
☐ Euro-IX  
☐ LAC-IX  
☐ North America

SEARCH

COMPARE	IX-F ID	Name ↓	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
+	356	AMS-IX Hong Kong	Hong Kong	CN	2021-09-09 10:01:36 UTC	✓	✗	✗	62
+	590	BBIX - Hong Kong	Hong Kong	HK	2019-06-17 15:26:28 UTC	✗	✗	✗	0
+	180	Equinix Hong Kong (Equinix Hong Kong Exchange)	Hong Kong	HK	2021-09-09 20:09:30 UTC	✗	✗	✓	25
+	110	HKIX (Hong Kong Internet Exchange)	Hong Kong	HK	2021-09-09 20:09:29 UTC	✗	✗	✓	103
+	331	iAIX (iAdvantage Internet Exchange)	Hong Kong	HK	2019-06-18 12:01:05 UTC	✗	✗	✗	11
+	877	SkyIX HK (SkyIX Hong Kong)		HK	2020-07-28 8:07:57 UTC	✓	✗	✗	3

Total IXPs: 6

EXPORT TO CSV

 **PeeringDB**

## Exchanges (7)

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# IXPDB Features – IXP Directory & Compare

	AMS-IX Hong Kong	IX-SIN (Singapore IX)
	–	–
Number of locations	1	1
MANRS	✗	✗
Type	Non-profit	–
Joining requirements	Legal entity	
	ASN	
	BGP	
Application form		
Monitoring tools	24x7 done by AMS-IX	
Topology	<a href="https://ams-ix.hk/technical/platform-description">https://ams-ix.hk/technical/platform-description</a>	
Reseller program	✓	✗
Private peering	✓	✗
24x7 services	✓	✗
24x7 access	✓	✗
Multi-protocol Labels, MPLS	✓	✗
Jumbo frames	✗	✗
Maximum Transmission Unit, MTU	–	–
Speed 10M	–	–
Speed 100M	–	–
Speed 1G	–	–
Speed 10G	–	–

	AMS-IX Hong Kong	IX-SIN (Singapore IX)
	–	–
Speed 100G	–	–
Number of ASNs	62	41
Common ASNs		#15 Cloudflare Hurricane Electric Edgecast Limelight Networks Yahoo G-Core Labs S.A. Advanced Wireless Network Co. Amazon Peering Google Inc Microsoft Acquire BPO RISE Akamai International B.V. Fastrack Technology Vocus
Unique ASNs	#47 iXsforall, inc. Vodafone Carrier Services Amarutu Technology Ltd. Antbox Networks Limited Belgacom International Carrier Services BIT EXCHANGE SYSTEMS LIMITED Celcom Networks Sdn Bhd Chief Telecom Inc. China Unicom (Australia) Operations Pty Ltd CityLink Co., LTD CMC Telecom Infrastructure Corporation Computerline Converge ICT Solution Inc DATA LINE LLC Deutsche Telekom AG	#26 1CLOUDSTAR AARNet Apple Inc. Aussie Broadband Biznet Networks Singapore Pte Ltd Blue Apache CrossPoint Forcepoint Host Universal iland Intercloud KordaMentha MEGAPORT MyRepublic Netskope Inc

# IXPDB Features – ASN Directory & Compare

ASNS

Home / IXPDB

ASN, participant name, city

SEARCH

COMPARE	ASN	Network name	Type	IP addresses	MAC addresses	MANRS	# of IXP connection
+	6939	Hurricane Electric	NSP	103.119.232.63 103.136.102.28	60:9c:9f:83:ce:12 00:0c:db:de:68:33	✗	145
+	13335	Cloudflare	Content	103.119.232.93 103.129.62.23	30:7c:5e:ec:3e:00 58:00:bb:fa:9e:31	✓	119
-	20940	Akamai Technologies	Content	103.119.232.70 103.228.174.100	88:a6:4b:68:0a:c2	✓	118
+	15169	Google LLC	Content	103.119.232.78 103.228.174.11			
+	42	Packet Clearing House AS42	Educational/Research	103.119.232.57 103.129.62.20			
+	3856	Packet Clearing House	Educational/Research	103.119.232.58 103.129.62.21			
+	8075	Microsoft	Content	103.119.232.50 103.119.232.95			
+	32934	Facebook Inc	Content	103.119.232.72 103.228.174.157			
+	16509	Amazon.com	Enterprise	103.228.172.170 103.228.172.190			
+	10310	Yahoo India Pvt. Ltd	Content	103.119.232.69 103.247.139.58			

ASNS COMPARISON

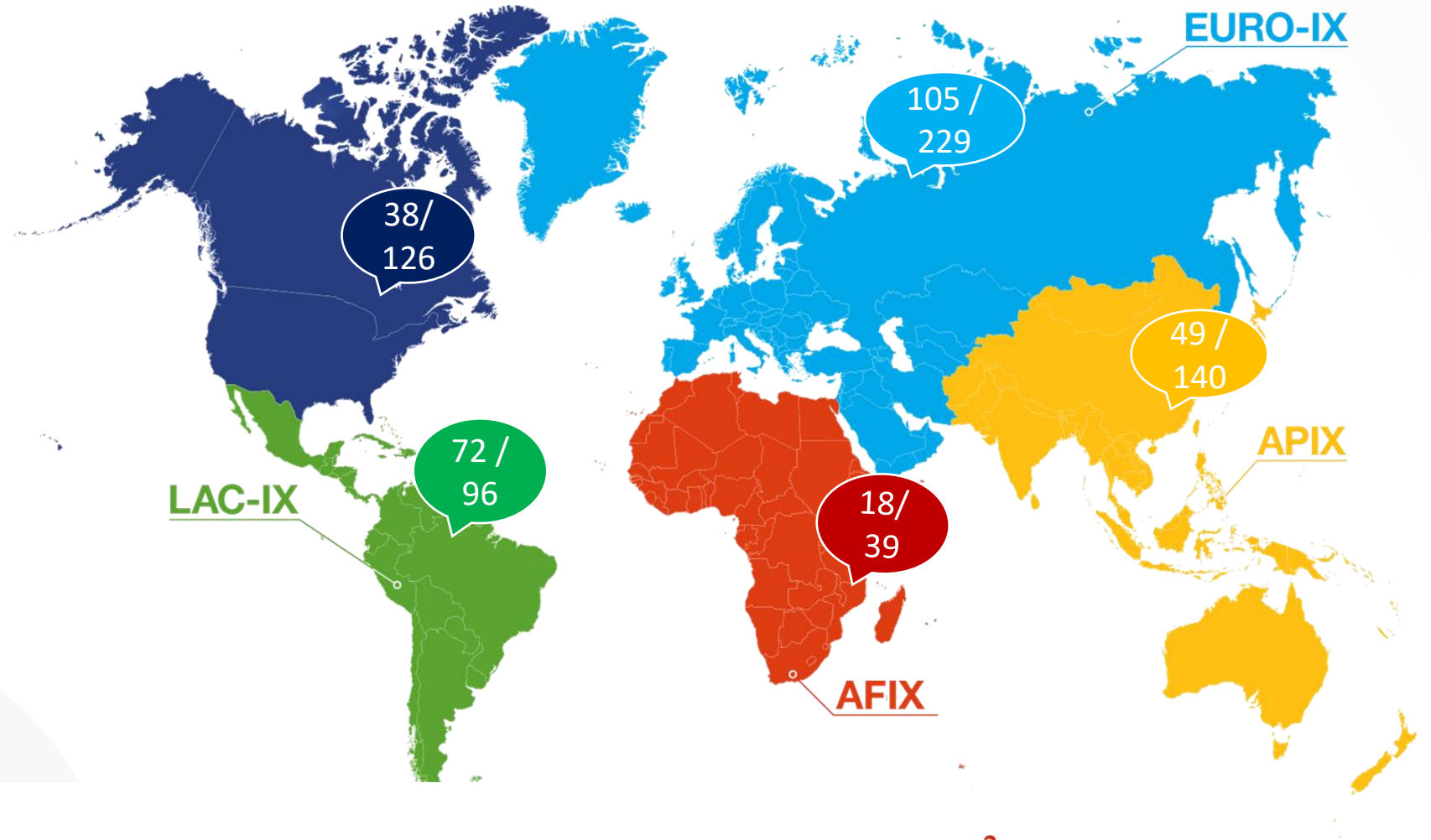
Home / IXPDB

	Akamai International B.V.	Netflix
	-	-
MANRS	✓	✓
ASN	20940	2906
Type	Content	Content
Number of IXPs	118	52
Common IXPs	#42 LINX LON1 (LINX LON) AMS-IX	
Unique IXPs	#76 AAIX (Alpes Adria Internet Exchange) AMS-IX Caribbean AMS-IX Hong Kong AMS-IX USA Bay Area AMS-IX USA Chicago Bangkok Neutral Internet Exchange (BKNIX) BBIX - Tokyo (BroadBand Internet eXchange - Tokyo) Big APE (The big apple peering Exchange)	#10 CRIX (Costa Rica Internet Exchange) (Costa Rica Internet Exchange) DE-CIX ORD (DE-CIX Chicago) ECIX-BER EdgelIX Sydney (EdgelIX) FICIX - Helsinki (Finnish Communication and Internet Exchange - Helsinki) IX-Denver (Interconnection Exchange Denver)

# IXPDB – What's New & What's Coming

- NEW: Version 1 of the IX-F JSON Schema publish - <https://github.com/euro-ix/json-schemas/blob/master/versions/ixp-member-list-1.0.schema.json>
- NEW: API Documentation - <https://api.ixpdb.net/docs/>
- NEW: Search for IXPs with traffic data
- Encourage IXPs to adapt the schema – IXP Manager creates API
- We're building more tools / visualisations for further interconnection analysis

# IXPDB – 287 IXP API's!



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## What is IXPDB?

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IXPDB is an accurate, authoritative, comprehensive, public source of structured data related to IXPs and network interconnection. Its contents are fully automated and imported from exchanges via an API.

Because the data is supplied by exchanges and not networks it is complete, timely, and accurate.

## Size

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In mid-2021, about 1-in-4 IXPs shared data using IXPDB. The IXP Manager software can automatically export data to IXPDB and the schema is open, so IXPs using other tools can implement it independently.

We plan to double the proportion of IXPs sharing data with IXPDB by the middle of 2023.

## Features

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IXPDB has complete, timely, and accurate data from participating exchanges so we can provide tools to help networks plan their network expansion. For instance, the exchange comparison tool shows which unique networks can be reached at different exchanges.

IXPDB shows which router and switch vendors are used by IXPs and networks. This helps users know who to contact when they need expertise from other operators.

## Now & Future

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IXPDB helps users understand changes in IXP markets around the world:

- How dense are they?
- Who participates?
- How many unique networks does an exchange have?



IXPDB will move to a new platform in 2021, so users can:

- Dynamically filter and analyse data
- Blend in data from third-party open data datasets
- Visualise data in graphs and maps

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Thank You!

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