

euro-IX



IXPDB Update – SANOG 36

Bijal Sanghani

What is the IXPDB?

- It's not new, formerly known as the Euro-IX database over 15 years old
- 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
Ruhr-CIX	Ruhr area	DE	2021-01-15 10:28:37 UTC	✘	✘	✘	0
NAPAfrica MAPS Johannesburg	Johannesburg	ZA	2021-01-11 18:15:40 UTC	✘	✘	✘	0
Aqaba IX	Aqaba	JO	2021-01-11 18:12:44 UTC	✘	✘	✘	0

IXPs by Connected ASNs

Name	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
IX.br Sao Paulo, SP (SP))	São Paulo	BR	2021-01-15 6:02:19 UTC	✓	✘	✘	2153
DE-CIX FRA (DE-CIX Frankfurt)	Frankfurt am Main	DE	2021-01-15 17:10:35 UTC	✓	✘	✓	1028
AMS-IX	Amsterdam	NL	2021-01-15 17:10:35 UTC	✓	✘	✓	863
LINX LON1 (LINX LON1)		GB	2021-01-15 17:10:35 UTC	✓	✘	✓	821
EPIX (e-Poludnie Internet Exchange)		PL	2020-12-07 11:02:03 UTC	✓	✘	✘	556
NAPAfrica IX Johannesburg (NAPAfrica)		ZA	2021-01-15 17:10:34 UTC	✓	✓	✓	442
EPIX Warsaw (e-Poludnie Internet Exchange)		PL	2020-12-07 11:02:34 UTC	✓	✘	✘	436
IX.br Rio de Janeiro, RJ (RJ))	Rio de Janeiro	BR	2021-01-07 6:01:35 UTC	✓	✘	✘	429

Networks

	Africa	Asia Pacific	Europe & Middle East	Latin America & Caribbean	North America
ASNs in the Region	1211	4588	13640	4956	3028
Regionally Unique	446	1656	3360	2542	1178

IXPDB Features – Home Page Statistics

IXP Switch Hardware

Brand	% of IXPs	# of Devices
unknown	7.3	1437
Arista	3.6	183
Extreme	0.3	124
Cisco Systems	3.6	81
Juniper Networks	2.2	65
Extreme Networks	0.9	54
Huawei	1.2	37
Cisco	1.1	26
Cumulus Networks	0.8	24
Brocade	0.8	21

IXP Switch Hardware

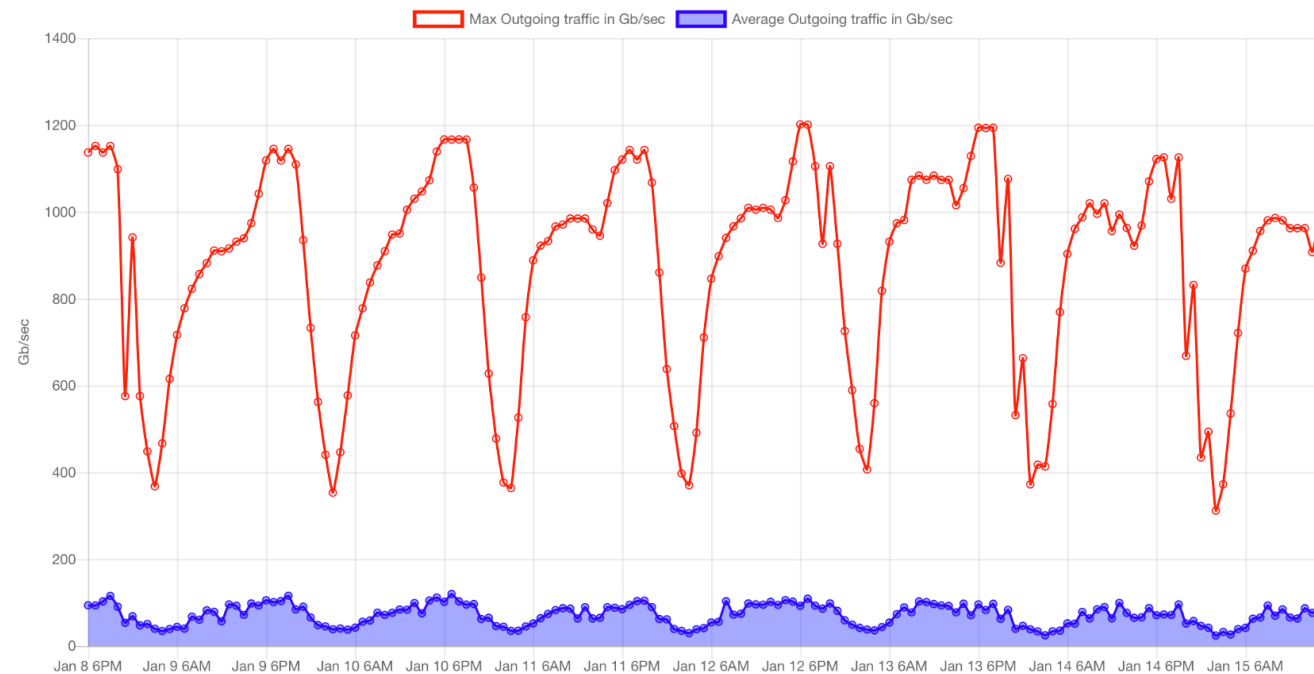
Brand	% of IXPs	# of Devices
unknown	7.3	1437
Arista	3.6	183
Extreme	0.3	124
Cisco Systems	3.6	81
Juniper Networks	2.2	65
Extreme Networks	0.9	54
Huawei	1.2	37
Cisco	1.1	26
Cumulus Networks	0.8	24
Brocade	0.8	21

IXPDB Features – Home Page Statistics

Latest IXP Connections

ASN	Network name	IXP	Connected on	Other IXP connections
133084	Jisc Services Limited	Johor Bahru Internet Exchange (Johor Bahru Internet Exchange)	2021-01-15 0:00:00 UTC	0
140918	CMKL University	Bangkok Neutral Internet Exchange (BKNIX)	2021-01-15 0:00:00 UTC	0
201401	NewVM	SpeedIX Internet Exchange (SpeedIX)		
212477	RoyaleHosting B.V.	SpeedIX Internet Exchange (SpeedIX)		

Aggregate IXP Traffic



IXPDB Features – IXP Directory & Compare

IX-F ID, name, city or count Only with API Only with Traffic

AFIX
 APIX
 Euro-IX
 LAC-IX
 North America

SEARCH

COMPARE	IX-F ID	Name ¹ / ₂	City	Country	Last updated	API	Traffic	MANRS	# of ASNs
+	323	ACT-IX (IX Australia (Canberra ACT))	Canberra	AU	2021-01-12 4:01:56 UTC	✓	✗	✗	9
+	586	AKL-IX (New Zealand Internet Exchange, Auckland)	Auckland	NZ	2020-12-11 4:02:24 UTC	✓	✗	✗	89
+	356	AMS-IX Hong Kong	Hong Kong	CN	2021-01-15 11:01:14 UTC	✓	✗	✗	59
+	619	AMS-IX Mumbai	Mumbai	IN	2021-01-15 11:00:10 UTC	✓	✗	✗	46
+	587	Bangkok Neutral Internet Exchange (BKNIX)		TH	2021-01-15 17:10:34 UTC	✓	✓	✓	39
+	904	BatamIX Batam (Batam Internet Exchange - Batam)	Batam	ID	2020-12-22 17:00:27 UTC	✓	✗	✗	0
+	845	BatamIX Jakarta (Batam Internet Exchange)		ID	2021-01-15 17:10:33 UTC	✓	✗	✓	30
+	852	CHC-IX (New Zealand Internet Exchange, Christchurch)	Christchurch	NZ	2020-12-11 4:02:27 UTC	✓	✗	✗	11
+	860	DE-CIX Chennai (DE-CIX Interwire Internet Services Pvt Ltd)	Chennai	IN	2021-01-14 7:02:12 UTC	✓	✓	✗	10
+	688	DE-CIX Delhi (DE-CIX Interwire Internet Services Pvt Ltd)	Delhi	IN	2021-01-14 7:02:12 UTC	✓	✓	✗	7
+	689	DE-CIX Kolkata (DE-CIX Interwire Internet Services Pvt Ltd)	Kolkata	IN	2021-01-14 7:02:13 UTC	✓	✗	✗	1
+	634	DE-CIX Mumbai (DE-CIX Interwire Internet Services Pvt Ltd)	Mumbai	IN	2021-01-14 7:02:05 UTC	✓	✓	✗	297

IXPDB Features – IXP Directory & Compare

	DE-CIX Mumbai (DE-CIX Interwire Internet Services Pvt Ltd)	EIX Mumbai (Extreme Internet Exchange India)
	-	-
Number of locations	0	9
MANRS	✘	✘
Type	-	-
Joining requirements	AS Number	
Application form		
Monitoring tools	IXP manager,	
Topology		
Reseller program	✘	✘
Private peering	✓	✘
24x7 services	✓	✘
24x7 access	✓	✘
Multi-protocol Labels, MPLS	✘	✘
Jumbo frames	✓	✘
Maximum Transmission Unit, MTU	9192	-
Speed 10M	-	-
Speed 100M	-	-
Speed 1G	-	-
Speed 10G	-	-
Speed 40G	-	-
Speed 100G	-	-
Number of ASNs	297	173

Common ASNs

#91
 Ani Network
 Cloudflare, Inc
 Netflix
 Netmagic Solutions
 Rural Broadband Pvt. Ltd
 Shree Omkar Infocom
 China Unicom (Australia) Operations Pty Ltd
 Microscan Computers Pvt. Ltd.
 Asianet Satellite Communications Ltd
 Max-Tech Media
 Opticom Networks Private Limited
 DWAN SUPPORTS P LTD

IsolNet Network Solution

Unique ASNs

#206
 Aamra Technologies Limited
 Acushnet Communication Pvt. Ltd
 AirFiber Networks
 Airgenie Communications Pvt. Ltd.
 Airtel Services
 Airwaves Internet Pvt Ltd
 Allnet Broadband Network Pvt Ltd
 Alwar Online
 Amity University
 Anet communication India Pvt. Ltd
 ANEXIA Internetdienstleistungs GmbH
 Apex Netcom India
 Apple Inc.
 Arichwal IT Services Pvt. Ltd.
 Arjun Broadband Private Limited
 ASPT Networks Pvt Ltd
 Bajpai Telecom
 Bakliwal Telecom
 Balaji Teleworks Development Pvt. Ltd
 Bharat Digital Network Pvt Ltd
 Bhawani Cable and Broadband Services
 Bits & Bytes ISP Pvt. Ltd
 Bittel Telecom
 BSNL
 CATLA IT&ENGINEERING CO PVT LTD
 Cato Networks (UK) Ltd
 CHAROTAR TELELINK PVT LTD
 Coastal Broadband And Online Services Pvt Ltd
 Communication & Communicate Nepal Pvt. Ltd.
 Crystal Broadband And Computer
 D NEX TECHNOLOGY

#82
 Access Smart Solutions India
 Adarsh Infosolutions
 Airtel Internet Solutions
 Alegra Communication
 Allied It Infrastructure And Services
 ALLNET BROADBAND NETWORK
 Ashok Secure Broadband Network
 Bell Teleservices India Pvt Ltd
 BG-EXTREME Route Servers
 Blue Lotus Support Services
 Capture Network Systems AS45661
 Cityline Networks
 Classicnet Broadband Network
 Cloudnet Communications Pvt Ltd
 CredenceIS Computing
 Cybernet Introtech
 Dbl Network Private Limited
 Dreamlink Technologies
 Endurance International Group
 Excitel
 Extreme Broadband Services
 Extreme Infocom
 Ezinet Broadband Services
 Five network Broadband Solution
 Galaxynet Connections
 Gigabox Private Limited
 Gigaline Teleservices
 Gtel Communications
 HongKong Seaga Technology Limited
 iCan Solutions Pvt. Ltd.
 ICC Netspeed (Intermedia Cable Communication Pvt. Ltd.)

IXPDB Features – IXP Profiles

IXP	Networks	Points of presence	ASNs	Traffic ▾
-----	----------	--------------------	------	-----------

ASN ↓ ₉	Network name	Type	IP addresses	MAC addresses	MANRS	Entry in PeeringDB	# of IXP connection
42	Packet Clearing House	Educational/Research			✘	✔	102
3856	Packet Clearing House	Educational/Research			✘	✔	102
4007	Subisu	Cable/DSL/ISP			✔	✔	1
4613	Mercantile Communications				✘	✘	1
8674	Netnod Internet Exchange i Sverige Ab	Non-Profit			✔	✔	30
17501	WorldLink	Cable/DSL/ISP			✘	✔	1
18395	Infocom Pvt. Ltd.				✘	✘	1
23647	Communication & Communicate	NSP			✘	✘	1

IXPDB Features – ASN Directory & Compare

COMPARE	ASN	Network name	Type	IP addresses	MAC addresses	MANRS	# of IXP connection 19 Show if the ASN
+	6939	Hurricane Electric	NSP	103.119.232.63 103.136.102.28 103.247.139.6	00:24:38:7e:71:00 cc:4e:24:9d:1f:b1 60:0e:0f:03:ca:12	✗	140
+	15169	Google Inc	Content	103.119.232.78 103.247.139.12 103.247.139.57	20:4e:71:62:4f:c6 00:1d:b5:c4:c7:c7 0e:b3:50:a0:77:cb	✓	118
-	13335	Cloudflare	Content	103.119.232.93 103.129.62.23 103.126.104.10	3c:94:d5:cc:a7:c9 d0:07:ca:90:19:23 20:7e:5a:9c:2e:00	✓	117
-	20940	Akamai International B.V.	Content	103.119.232.70 103.247.139.17 103.247.139.72	f4:a7:39:11:e0:c2 f4:a7:39:11:81:c8 08:06:4b:69:0a:c2	✓	114
+	8075	Microsoft	Content	103.119.232.50 103.119.232.95 103.126.102.24	54:e0:32:74:f7:ca 00:24:dc:47:cf:cb 04:b5:0e:04:b9:cc	✓	107
+	42	Packet Clearing House	Educational/Research	103.119.232.57 103.129.62.20 103.26.68.05	78:ba:f9:63:5b:26 b0:26:80:1c:f2:8b 74:a0:26:7b:ca:03	✗	102
+	3856	Packet Clearing House	Educational/Research	103.119.232.58 103.129.62.21 103.26.68.165	00:0c:29:d5:7b:d0 00:0c:29:18:e6:a4 00:0c:29:c7:9b:04	✗	102
+	32934	Edge Network Services Limited	Content	103.119.232.72 103.26.68.168 103.26.68.255	64:87:88:66:3f:c7 64:87:88:64:9f:c7 44:aa:50:a2:07:45	✓	74
+	16509	Amazon Peering	Enterprise	103.247.139.61 103.26.68.65 103.26.71.17	8a:e0:f3:4f:f8:22 ec:38:73:ad:74:39 2e:04:d5:ca:bfe2	✓	73
+	10310	Yahoo	Content	103.119.232.69 103.247.139.58 103.119.232.25	f4:cc:55:83:71:c5 08:b2:58:f6:e4:86 00:0c:29:c7:9b:04	✗	65

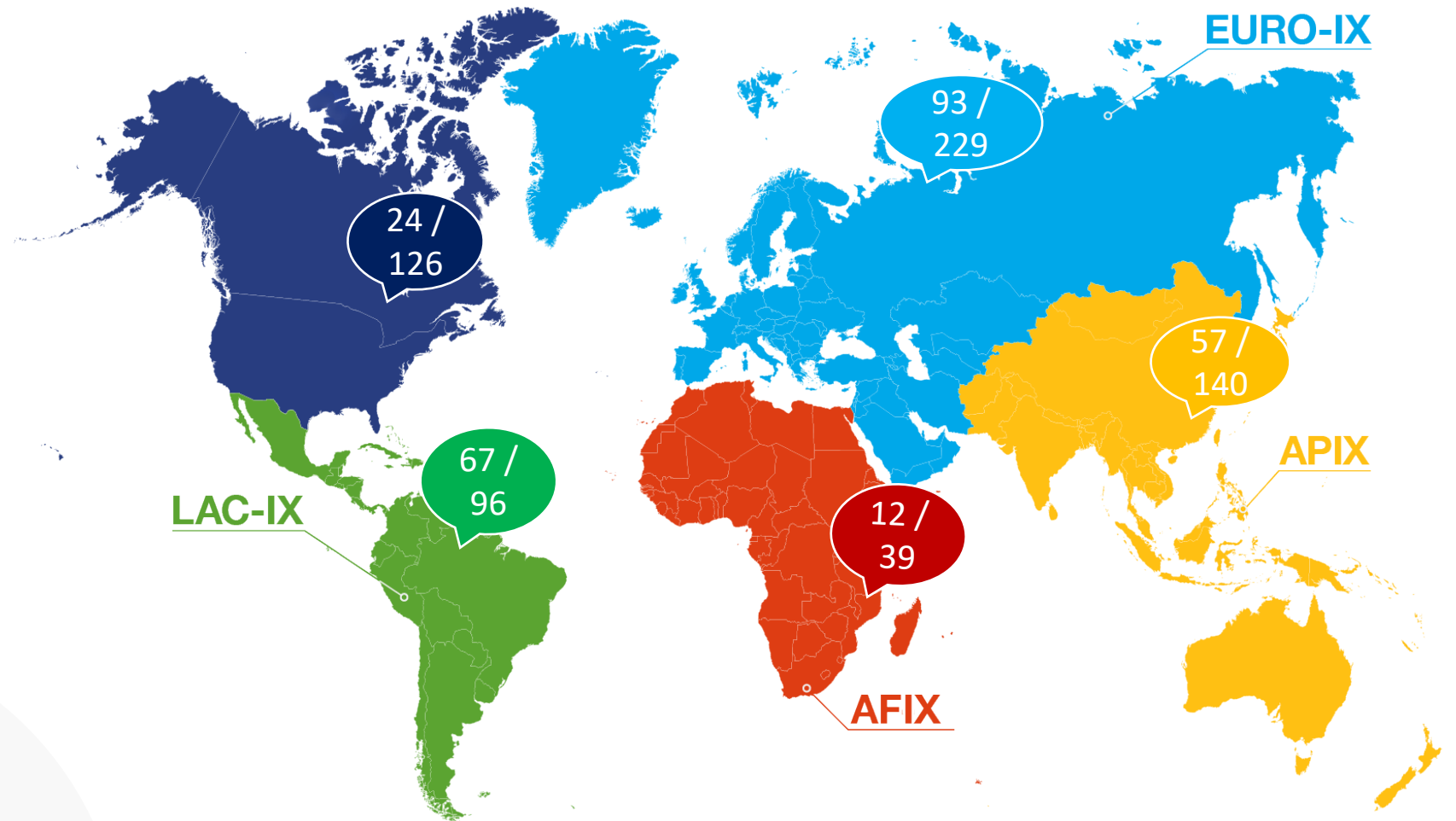
IXPDB Features – ASN Directory & Compare

	Akamai International B.V.	Cloudflare
MANRS	✓	✓
ASN	20940	13335
Type	Content	Content
Number of IXPs	114	117
Common IXPs		#75 LINX LON1 (LINX LON1) AMS-IX VIX (Vienna Internet Exchange) IX.br Fortaleza, CE (CE)
Unique IXPs		#42 48 IX (48 IX) BALT-IX (Baltic Internet Exchange) BIX (Budapest Internet Exchange) CHC-IX (New Zealand Internet Exchange, Christchurch) CIX (Croatian Internet eXchange) CIXP (CERN Internet Exchange Point) DE-CIX DUS (DE-CIX Dusseldorf) DE-CIX HAM (DE-CIX Hamburg) DE-CIX LIS (DE-CIX Lisbon) DE-CIX MRS (DE-CIX Marseille) DE-CIX MUC (DE-CIX Munich) Durban Internet Exchange Point (INX) ECIX-BER EdgelX Adelaide (EdgelX) EdgelX Brisbane (EdgelX) EdgelX Melbourne (EdgelX) EdgelX Perth (EdgelX) EdgelX Sydney (EdgelX)

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 – 257 IXP API in Today!



Sponsored by:

Euro-IX Video – The Internet Revealed

5 minute video that explains the role of IXPs – we're looking for translations -

<https://www.youtube.com/watch?v=U1U1U1U1U1U1>





—
Thank You!

euro-IX