IXPDB & Tools

Connect WG, RIPE78

Bijal Sanghani & Jesse Sowell

What we've been working on – IXP Directory

IX-F ID, name, city or country

Only with API

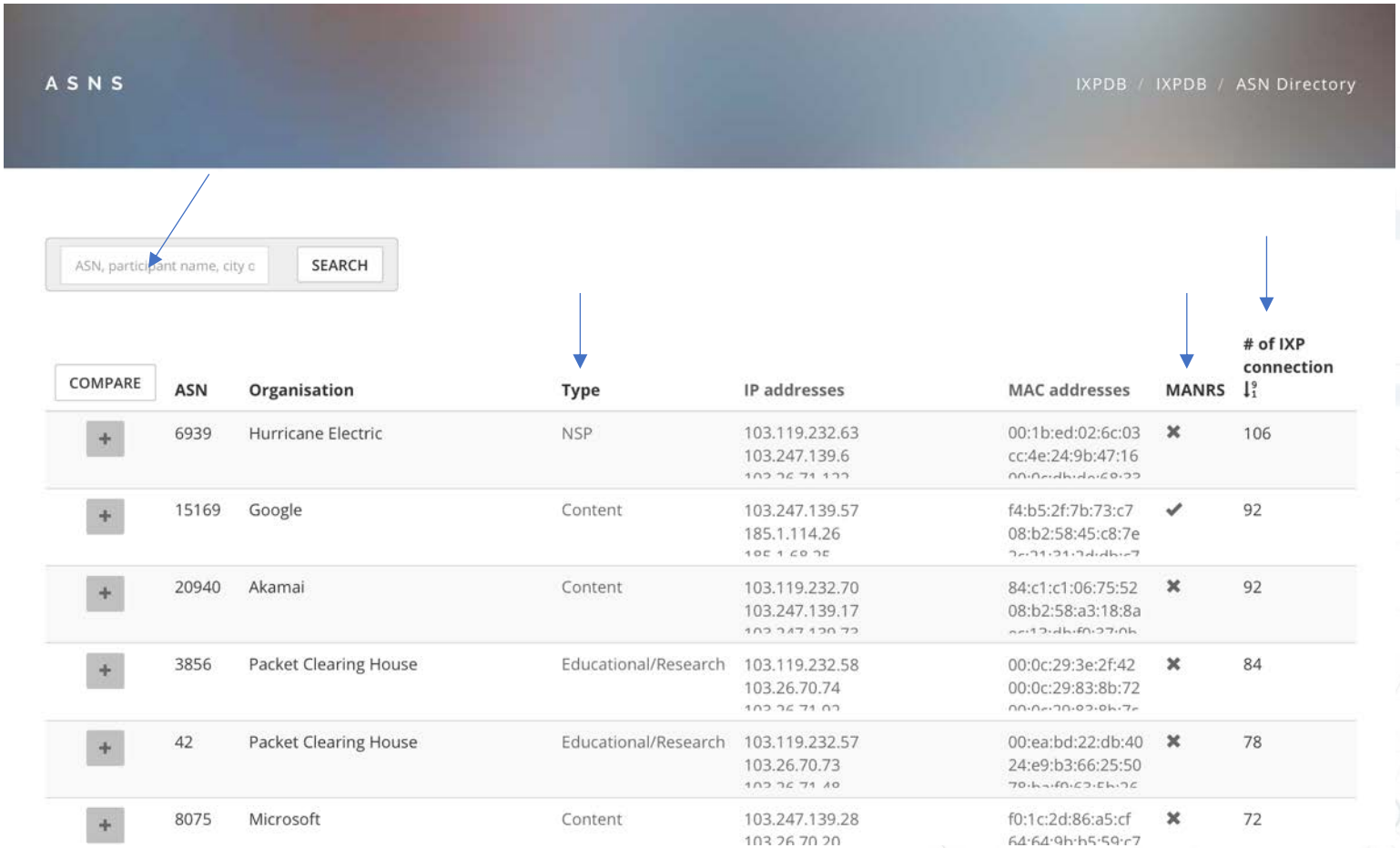
AFIX
APIX
Euro-IX
LAC-IX
North America

SEARCH

COMPARE	IX-F ID	Name	City	Country	Last updated	API	MANRS	# of ASNs
+	9	DE-CIX FRA (DE-CIX Frankfurt)	Frankfurt am Main	DE	April 5, 2019, 3:07 p.m.	✔	✔	861
+	2	AMS-IX	Amsterdam	NL	April 5, 2019, 3:07 p.m.	✔	✔	837
+	1	LINX LON1	London	GB	April 5, 2019, 4 p.m.	✔	✔	775
+	548	EPIX (e-Poludnie Internet Exchange)		PL	March 13, 2019, 10:12 p.m.	✔	✖	506
+	13	msk-ix (MSK-IX public peering VLAN)	Moscow	RU	April 5, 2019, 3:07 p.m.	✔	✔	455
+	39	Equinix Paris (Equinix Internet Exchange - Paris)	Paris	FR	April 5, 2019, 3:07 p.m.	✖	✔	366

What we've been working on – ASN Directory

https://ixpdb.euro-ix.net/en/ixpdb/asns/

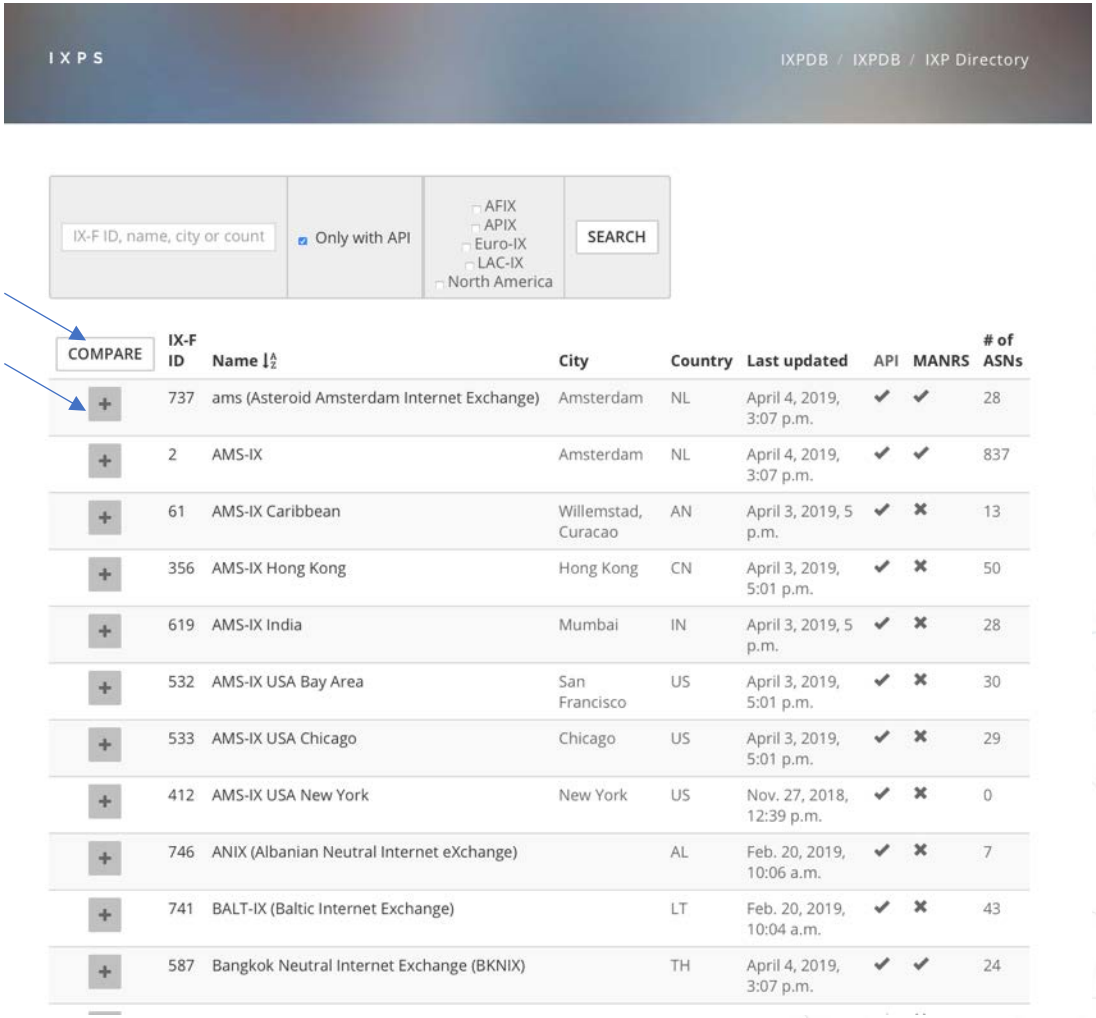


What we've been working on – IXP Member List

IXP | Networks | Points of presence | ASNs | Traffic

ASN	Organisation	Type	IP addresses	MAC addresses	MANRS	Entry in PeeringDB	# of IXP connection
112	RIPE NCC	Non-Profit			✗	✗	24
137	GARR	Educational/Research			✗	✓	5
174	Cogent Communications	NSP			✓	✗	9
1267	Wind International Services S. p. A.	NSP			✗	✓	8
1299	Telia Carrier UK Limited	NSP			✓	✗	4
2906	Netflix Streaming Services International B.V.	Content			✗	✓	36
3257	GTT Communications, Inc.	NSP			✗	✗	15
3269	TIM	Not Disclosed			✗	✗	4
3302	Infracom	NSP			✗	✓	5
3549	CenturyLink Communications UK Limited	NSP			✓	✗	12
4809	China Telecom 2	NSP			✗	✗	4
5394	Unidata	Cable/DSL/ISP			✗	✓	4
5396	MC-link	Cable/DSL/ISP			✗	✓	2
5397	CINECA	Enterprise			✗	✓	1
5602	KPNQwest Italia	Cable/DSL/ISP			✗	✗	3
6762	Telecom Italia	NSP			✗	✗	11
6939	Hurricane Electric	NSP			✗	✓	106
8220	COLT Telecom Ltd.	NSP			✗	✓	21
8234	RAI				✗	✗	2
8265	Fastnet	NSP			✓	✓	2

What we've been working on – Compare IXPs



COMPARE	IX-F ID	Name	City	Country	Last updated	API	MANRS	# of ASNs
+	737	ams (Asteroid Amsterdam Internet Exchange)	Amsterdam	NL	April 4, 2019, 3:07 p.m.	✔	✔	28
+	2	AMS-IX	Amsterdam	NL	April 4, 2019, 3:07 p.m.	✔	✔	837
+	61	AMS-IX Caribbean	Willemstad, Curacao	AN	April 3, 2019, 5 p.m.	✔	✖	13
+	356	AMS-IX Hong Kong	Hong Kong	CN	April 3, 2019, 5:01 p.m.	✔	✖	50
+	619	AMS-IX India	Mumbai	IN	April 3, 2019, 5 p.m.	✔	✖	28
+	532	AMS-IX USA Bay Area	San Francisco	US	April 3, 2019, 5:01 p.m.	✔	✖	30
+	533	AMS-IX USA Chicago	Chicago	US	April 3, 2019, 5:01 p.m.	✔	✖	29
+	412	AMS-IX USA New York	New York	US	Nov. 27, 2018, 12:39 p.m.	✔	✖	0
+	746	ANIX (Albanian Neutral Internet eXchange)		AL	Feb. 20, 2019, 10:06 a.m.	✔	✖	7
+	741	BALT-IX (Baltic Internet Exchange)		LT	Feb. 20, 2019, 10:04 a.m.	✔	✖	43
+	587	Bangkok Neutral Internet Exchange (BKNIX)		TH	April 4, 2019, 3:07 p.m.	✔	✔	24

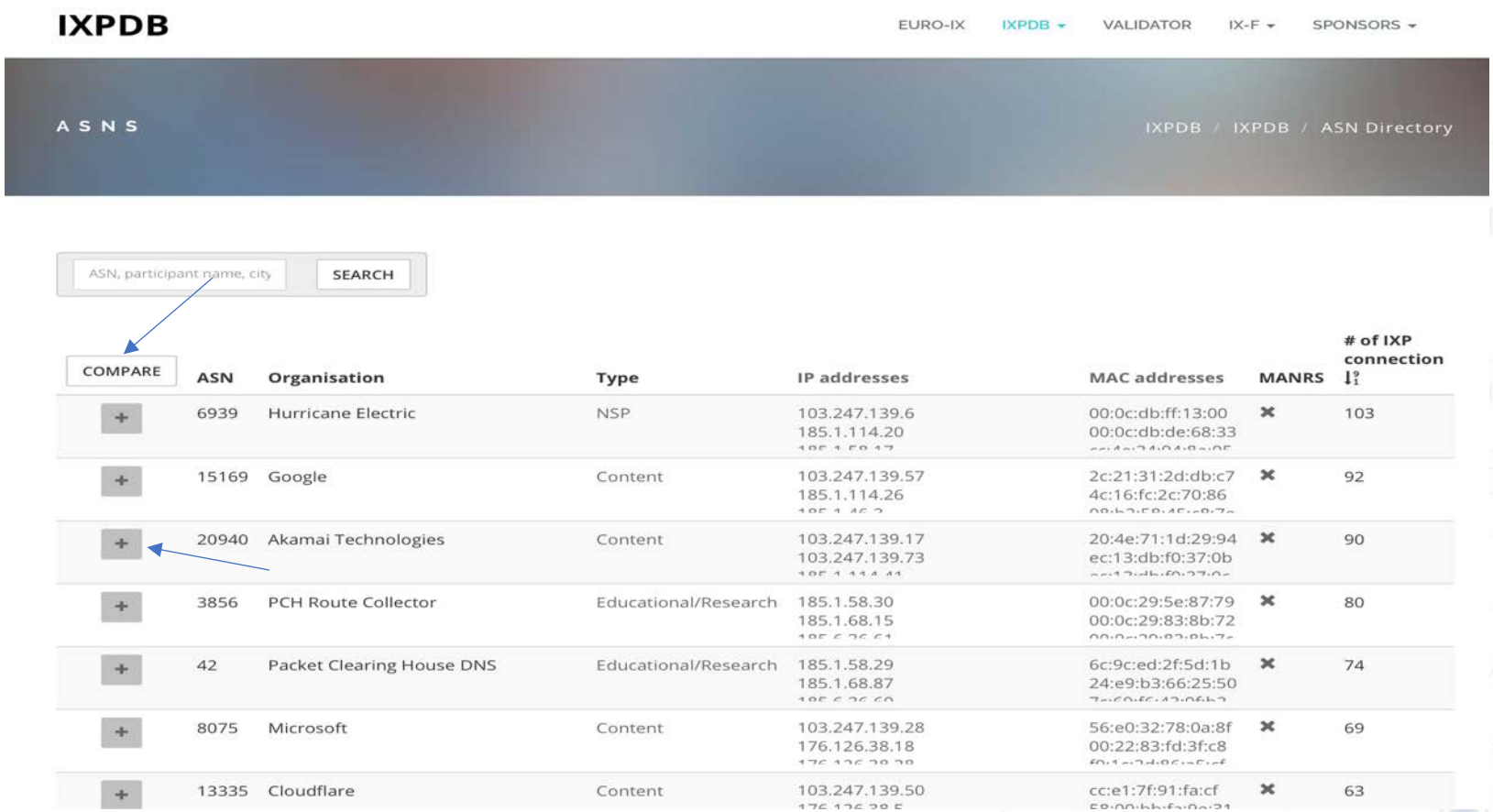
What we've been working on – Compare IXPs

	MIX (Milan Internet Exchange)	NAMEX (NAMEX Roma IXP)	TOP-IX (Torino Piemonte Exchange Point)	VSIX (VSIX Nap del Nord Est)
Number of locations	1	1	1	1
MANRS	✔	✔	✔	✖
Type	Non-profit	Non-profit	Non-profit	Non-profit
Joining requirements	ISP "Ministero delle Comunicazioni" (only for Italian ISPs) Registered at RIPE or an equivalent registry Autonomous System number Advertising its own networks inside its own Autonomous System Own connectivity to Internet	1 - Owning an AS number and public networks 2 - Having an independent Internet access	Autonomous System Legal entity	Autonomous System
Application form	http://www.mix-it.net/Documenti/PDF/eng/MIX-101e.3.1.pdf	https://www.namex.it/become-a-member/	http://www.top-ix.org/en/internet-exchange/il-servizio/richiesta-attivazione-servizi/	http://www.vsix.it/images/pdf/ita/Adesione/Moduli/ModuloAdesione.pdf
Monitoring tools	MRTG/RDD sFlow IPTA	Nagios, MRTG, Smokeping, Developed tools	MRTG/RRDTool	cacti,nagios
Topology		https://www.namex.it/peering-platform/	http://www.top-ix.org/en/internet-exchange/mappa-dei-nodi/	
Reseller program	✔	✔	✔	✔
Private peering	✔	✔	✔	✔
24x7 services	✔	✔	✔	✔
24x7 access	✔	✔	✔	✔

What we've been working on – Compare IXPs

	MIX (Milan Internet Exchange)	NAMEX (NAMEX Roma IXP)	TOP-IX (Torino Piemonte Exchange Point)	VSIX (VSIX Nap del Nord Est)
Multi-protocol Labels, MPLS	✖	✖	✖	✖
Jumbo frames	✖	✔	✔	✔
Maximum Transmission Unit, MTU	1500	2500	9000	9000
Speed 10M	–	–	–	–
Speed 100M	–	35 EUR	–	100 EURO
Speed 1G	300 EUR	220 EUR	–	400 EURO
Speed 10G	700 EUR	700 EUR	–	800 EURO
Speed 40G	–	–	–	–
Speed 100G	4000 EUR	3900 EUR	–	–
Number of ASNs	265	98	121	49
Common ASNs			#6 GARR Wind International Services S. p. A. Fastweb Net Global srl Voix Lepida SpA	
Unique ASNs	#173 2bite A2A Smart City Adal Network Afilias Limited Aircomm Airnetwork Amazon Argosid Network s.r.l. AT&T Global Network Services (UK) BV - Branch Atomo Networks s.r.l.	#39 ACI Informatica Agesci Alida Alternatyva Campaniacom CenturyLink Communications UK Limited China Telecom 2 CINECA Common Net Digi Italy	#57 ADELI AFETI AFNIC ALLIANCE RESEAUX Auxilium S.r.l Avenir Telematique Basicnet S.p.A. Belgacom International	#8 comune di padova hynet infocamere overnetwork snapsystem tecnoservizi telerete unicatlc

What we've been working on – Compare ASNs



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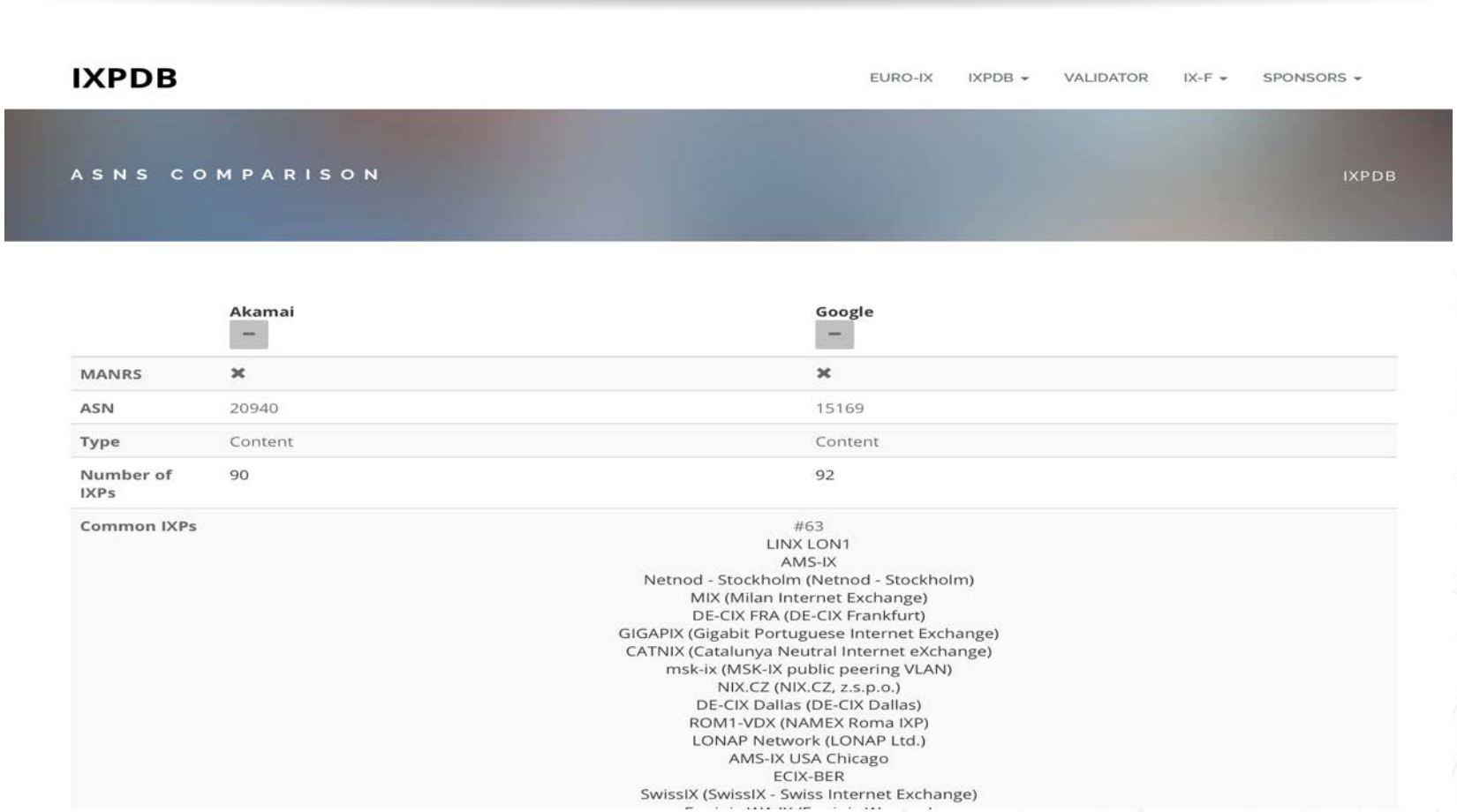

IXPDB

EURO-IX IXPDB VALIDATOR IX-F SPONSORS

ASNS COMPARISON

IXPDB

	Akamai	Google
MANRS	✖	✖
ASN	20940	15169
Type	Content	Content
Number of IXPs	90	92
Common IXPs	#63 LINX LON1 AMS-IX Netnod - Stockholm (Netnod - Stockholm) MIX (Milan Internet Exchange) DE-CIX FRA (DE-CIX Frankfurt) GIGAPIX (Gigabit Portuguese Internet Exchange) CATNIX (Catalunya Neutral Internet eXchange) msk-ix (MSK-IX public peering VLAN) NIX.CZ (NIX.CZ, z.s.p.o.) DE-CIX Dallas (DE-CIX Dallas) ROM1-VDX (NAMEX Roma IXP) LONAP Network (LONAP Ltd.) AMS-IX USA Chicago ECIX-BER SwissIX (SwissIX - Swiss Internet Exchange)	

What we've been working on - Compare ASNs

	PAIX Atlanta (Palo Alto Internet Exchange Atlanta) Equinix Palo Alto (Equinix Palo Alto)	
Unique IXPs	#27 AAIX (Alpes Adria Internet Exchange) AMS-IX Caribbean Bangkok Neutral Internet Exchange (BKNIX) BBIX - Tokyo (BroadBand Internet eXchange - Tokyo) BostonIX (Markley Boston Internet Exchange) CRIX (NIC Costa Rica - Academia Nacional de Ciencias) DE-CIX Istanbul (DE-CIX Istanbul) Digital Realty - Phoenix (Digital Realty Phoenix) DIX - Lyngby (Danish Internet eXchange point) Equinix Dallas (Equinix Dallas) Equinix Los Angeles (Equinix Los Angeles) Equinix New York (Equinix New York) Equinix Zurich (Equinix Internet Exchange - Zurich) INEX Cork (Internet Neutral Exchange Association Limited by Guarantee) IXLeeds (Leeds Internet Exchange) Kampala 1 (Uganda Internet eXchange Point) KleyReX (Kleyer Rebstocker eXchange) LINX Manchester LINX Scotland MICE (Midwest Internet Cooperative Exchange) NAPAfrica IX Cape Town (NAPAfrica) Netnod - COMIX (Netnod - COMIX) NL-ix (Neutral Internet Exchange) PAIX Dallas (Palo Alto Internet Exchange Dallas) PAIX Seattle (Palo Alto Internet Exchange Seattle) QiX (Quebec Internet eXchange) VIX (Vienna Internet Exchange)	#29 ams (Asteroid Amsterdam Internet Exchange) AMS-IX India BALT-IX (Baltic Internet Exchange) BiX (Budapest Internet eXchange) BIX (Budapest Internet Exchange) CINX - Cape Town (Cape Town Internet Exchange) DE-CIX HAM (DE-CIX Hamburg) DE-CIX Marseille (DE-CIX Marseille) DE-CIX PMO (DE-CIX Palermo) Digital Realty - New York (Digital Realty New York) EPIX (e-Poludnie Internet Exchange) EPIX Warsaw (e-Poludnie Internet Exchange) GN-IX (Groningen Internet Exchange) iAIX (iAdvantage Internet Exchange) INEX LAN2 (Internet Neutral Exchange Association Limited by Guarantee) IX-Denver (Interconnection Exchange Denver) IXPN (Internet Exchange Point of Nigeria) JPNAP - Tokyo I (Japan Network Access Point - Tokyo I) LAIIX (Los Angeles International IX) LINX LON2 NWAX (Northwest Access Exchange) Pacific Wave (Pacific Wave) PIPE Networks Sydney (PIPE Networks Sydney) Rio de Janeiro (RJ) (IX.br - Rio de Janeiro (RJ)) SFMIX (San Francisco Metropolitan Internet Exchange) SOLIX - Stockholm (SOLIX) SOX - Singapore (Singapore Open eXchange) TOP-IX (Torino Piemonte Exchange Point) TPIX - Taipei (Taipei Internet Exchange)

What's next

- New JSON spec to be published
  - Further Route Server & Switch data
- Authentication – IXPs can choose what data they want public and private (IXPs/Members only)
- API work with Route Servers – prefix / ASNs
- Analysis tools, mappings, searches by city / country
- Work with IXPs to implement a solution – how to guides / tutorials / IXP Manager / Asteroid / Support from other IXPs
- You too can help, speak to your IXPs
- 95 exports today!

Other Information

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

If you think this is good work like we do, support us!

secretariat@euro-ix.net

IXPDB Sponsors

Feedback from the audience

https://www.sli.do

Event code – M402

Thank You

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