

PeeringDB

Arnold Nipper arnold@peeringdb.com



Grupo de Operadores de Red Españoles



Agenda

- PeeringDB 2.0
- Membership and Governance
- Committees
- Sponsorship
- Information and Resources

What is PeeringDB?

- PeeringDB is the database of peering information on the Internet
- Contains peering location and contact information for
 - Networks
 - Exchanges
 - Facilities
- A PeeringDB record makes it easy for people to find you, and helps you to establish peering
- If you aren't registered in PeeringDB, you can register at https://www.peeringdb.com/register
- We use basic verification for new accounts and require current whois information
 - Please update your whois information
 - Please register from a company email address

PeeringDB 2.0 is Here!

- PeeringDB 2.0 launched 15 March, 2016
 - Backend database (1.0) discontinued simultaneously
 - Last legacy SQL dump for public consumption: <u>https://peeringdb.com/v1/dbexport/peeringdb.sql</u>
 - Investigating 404s for old SQL to contact users
 - Questions to support@peeringdb.com
- Challenges during the launch
 - Very minor bug fixes required, but overall a success!
 - Lots of support tickets
 - 20C (developer contractor) very responsive to community thanks!
- Current release: 2.0.14
- Release 2.1.1 will be out on 12 Apr, 2017

Vital Statistics and Growth

PeeringDB 2.0 Post-Launch (March 15, 2016 through December 31, 2016)



12,613	67%	
Verified Users	Increase	
9,079	29%	
Member Organizations	Increase	
8,194	39%	
Peering Networks	Increase	
2,302	20%	
Interconnection Facilities	Increase	
566	13%	
Internet eXchange Points	Increase	

Usage (December 2016)

Total Hits	8,587,768
Avg. Daily Hits	277,024
Unique Hits	61,173

Support Tickets

Total Support Tickets	6,715
Avg. Tickets Per Day	22
Avg. Response Time	Less than 14 Hours

Key New Infrastructure Features

- Complete rewrite in Python
 - Python: fast and clean, widely used and supported
 - HTML5: adaptive design for desktop and mobile
 - Support for a multideveloper environment
- Redesigned schema with data validation
 - All data is permissioned and editable
 - Input validation on fields: IP addresses, email addresses, etc.
 - Validation in PeeringDB record: dropdown box to select ASN at exchange
- Data versioning
 - Revision history for every data change
 - Easy to restore and roll back
 - Historical data import from CAIDA going back to 2010 (not available yet)
- RESTful API
 - Stateless
 - Incremental database syncs
 - With documentation and tools, oh my!

<u> </u>	Search	here for a net	work, IX, or facility.	
👎 Peeri	ngDB	ed Search	thorit, int, or leading.	
CATNIX				
0/11/17/				
Organization	CSUC			Peers at this Exchange
Long Name	Catalunya Neutral Interne	et Exchange		Peer Name ▼
City	Barcelona			ASN
Country	ES			Acens Technologies
Continental Region	Europe			- 16371 ADAM
Media Type	Ethernet			15699
Protocols Supported	Unicast IPv4 () Multica	ast 🔿 IPv6		Adamo Telecom Iberia S.A 35699
				Altecom (Alta Tecnologia en
Contact Information				Comunicacions, S.L.)
Company Website	http://www.catnix.net			bitNAP Datacenter
Traffic Stats Website	http://www.catnix.net/en/s	tatistics/		43578 BT Spain
Technical Email	catnix@suport.csuc.cat			12541
Technical Phone	+34 93 205 64 64			<u>CATNIX-SERVICES</u> 49638
Policy Email				Claranet
	catnix@suport.csuc.cat			8426 Cloudflare
Policy Phone	+34 93 205 64 64			13335
LANs		Filter		Colt Technology Services 8220
Name	DOT1Q	Ν	ЛТU	<u>CSUC</u>
Numo	0			13041 Easynet Global Services
IPv4	193.242.98.0/24			4589
IPv6	2001:7f8:2a::/64			EBRETIC ENGINYERIA SL 199496
Local Facilities		Filter		Filnet Serveis i Comunicacions S.L.
Facility▼	Country	(City	
bitNap Datacenter	Spain		-'Hospitalet de Lobregat	
CSUC Campus Nord	Spain	E	Barcelona	
ITconic Barcelona	Spain	E	Barcelona	

Key New User Features

- Facilities and exchanges can now update their own info
 - Networks are still required to associate their record at a facility or exchange
- Multiple records of any type can be associated with an organization
 - Simpler organization management with a single account for network, facility, exchange records
- One account can manage multiple organizations
 - Manage all of the things with a single account
- Users can manage their accounts
 - Admin account for an organization can delegate fine-grained permissions
- Contact info has permissions
 - Private/users/public permissions
 - All users must register, no more guest account
 - Public view can see all info except contact info (no login needed)
- APIs and local database sync
 - Sync PeeringDB to a local database in any engine format

Multiple Records Under a Single Organization

				Facilities are		
Website https://www.linx.net Address 1 The London Internet Exchange Ltd Address 2 5th Floor, 24 Monument Street		Facilities	Filter	Shown Here		
		Name 🕶	Country			
			City	LINX has 1		
Location	London, , EC3R 8AJ	IXCardiff	United Kingdom Cardiff	Facility		
Country Code GB		Networks	Filter	Tachty		
		Name ▼ LINX NoVA (LINX USA Inc.) LINX Route Servers London Internet Exchange (LINX)	ASN 21919 8714 5459	Networks are		
		Exchanges	Filter	Shown Here LINX has 3		
Evchange	es are Shown Here	Name 🕶	Country City			
· · · · · · · · · · · · · · · · · · ·		IXCardiff	United Kingdom	Network		
LINX has 6	5 Exchange Records	IXManchester	Cardiff United Kingdom Manchester	Records		
		IXScotland	United Kingdom			
		LINX LON1	Scotland United Kingdom			
		LINX LON2	London United Kingdom			
			London			
		LINX NoVA	United States of America			
			Northern Virginia			

One Account Managing Multiple Organizations

🔶 Peeringl	DB Search here for a network, IX, or facility.	
	Affiliate with Organization To affiliate with an Organization, please enter a valid ASN or Organization name below. ASN Organization Affiliate Existing Affiliations Your affiliation with <u>NTT Communications (Global)</u> has been approved Your affiliation with <u>NLNOG RING</u> has been approved Your affiliation with <u>Netwerkvereniging Coloclue</u> has been approved	Account "job" is Affiliated with 4 Organizations
	Your affiliation with Snijders IT has been approved	

Request Ownership of an Existing Organization

- Network records should already have an organization admin copied from PeeringDB 1.0
- Facility and exchange records will need to have an organization admin assigned

😔 PeeringDB		Search here for a network, IX, or facility.			ghankins-example		
		Advanced Search	Advanced Search Click "Request Ownership"				
Example-IX		Generates a	a Support Tic	cket for Validation a	and Approval	Request Ownership	
Organization	Example-IX Example-IX, the only ATM multicast IX on the planet!		Peers at this Excha	Filter			
Long Name			on the planet!		4		
City	Atlanta			Peer Name ▼ ASN	IPv4 IPv6	Speed Policy	
Country	US			Vour	lter		
Continental Region				nay filter by Exchange, ASN, Po	icy of speed		
Media Type							
Protocols Supported	⊖ Unicast IPv4	🕑 Multicast 🔿 IPv6					

Organization User Management



Administrative Permission Delegation

User "equinix-uk" can Manage Several Network Records, but <u>no</u> Exchanges or Facilities



Raphael Ho <raphael.ho@ap.e< th=""><th>equinix.com> rho</th><th>Create</th><th>Update</th><th>Delete</th><th></th></raphael.ho@ap.e<>	equinix.com> rho	Create	Update	Delete	
🗙 Network - Equinix Connect		V	\checkmark		
🗙 Any Exchange		\checkmark	\checkmark		
🗙 Any Facility		\checkmark	\checkmark		
Any Exchange	 \$			Add]

User "rho" can Manage the "Equinix Connect" Network Record, and Any Exchange or Facility

Network Record Contact Information Permissions

Contact Information

Role 🔻	Name Visiblity		Phone E-Mail
× NOC	Greg Hankins, Alas	stair	
	Users	0	as38016@alcatel-lucent.com
🗙 Technical	Greg Hankins, Alas	stair	
	Users	0	as38016@alcatel-lucent.com
Role	Abuse		\$
Name			
Email	name@exam	ple.com	
Phone			
Visibility	Private		٩
	Private Users Public		

Separate Visibility Preferences for Each Role

Private – Organization Only (Default) Users – Registered Users Only Public – Anyone (no Login Required)

> Roles: Abuse Policy Technical NOC Public Relations Sales

RESTful API Designed for Automation

- All operations are supported and are designed to be automated
 - Read
 - Create
 - Update
 - Delete
- Each object type has an associated tag
 - org
 - net
 - ix
 - fac
- List of objects: <u>https://peeringdb.com/apidocs/</u>
- API documentation: <u>http://docs.peeringdb.com/api_specs/</u>

Quick Examples Return Output in JSON

- List all networks: curl -X GET https://<username>:<password>@www.peeringdb.com/api/net
- Show a specific network: curl -X GET https://<username>:<password>@www.peeringdb.com/api/net/20

{"meta": {}, "data": [{"id": 20, "org_id": 10356, "org": {"id": 10356, "name": "20C", "website": "http://20c.com", "notes": "", "net_set": [20], "fac_set": [], "ix_set": [], "address1": "", "address2": "", "city": "Chicago", "country": "US", "state": "IL", "zipcode": "", "created": "2014-11-17T14:59:34Z", "updated": "2016-03-23T20:39:18Z", "status": "ok"}, "name": "20C", "aka": "", "website": "http://20c.com", "asn": 63311, " ... }

More Examples

- List all organisations in ESpagna
 - curl -X GET
 <u>https://peeringdb.com/api</u>
 /org?country=ES

server0:IXP 33)curl -s -X GET https://peeringdb.com/api/net\?org_id__in=136,9273 | jq '.data[]'

"id": 10505, "org id": 136, "aka": "Espanix", "asn": 6895, "info type": "Not Disclosed", "info prefixes4": 100000, "info unicast": true, "info multicast": false, "policy general": "Open", "policy locations": "Not Required", "policy ratio": false, "created": "2016-06-08T22:39:32Z", "updated": "2017-03-13T16:04:27Z",

"id": 1616, "org_id": 9273, "name": "CSUC", "aka": "Consorci de Serveis Universitaris de Catalunya", "website": "http://www.csuc.cat", "asn": 13041, "looking_glass": "http://www.catnix.net/looking-glass/",

More Examples

List all peers at an IXP

Peer Name ▼ IPv4 Speed ASN IPv6 Policy Acens Technologies 193.242.98.9 1G 16371 None Open ADAM 193.242.98.137 1G 16699 2001:78:2a:0:2:11:5699 Open Adamo Telecom Iberia S.A 193.242.98.143 10G 35699 2001:78:2a:0:2:12:9518 Open Altecom (Alta Tecnologia en Ormunicacions, S.L.) 2001:78:2a:0:11:1:6030 Open 16030 10G Open 16030 bitNAP Datacenter 193.242.98.160 1G 43578 2001:78:2a:0:3:14:3578 Open DitNAP Datacenter 193.242.98.160 1G 12541 2001:78:2a:0:2:10:803 Open CATNIX-SERVICES 193.242.98.119 6G 49638 None Open Claranet 193.242.98.131 1G 8220 None Open Coludflare 193.242.98.33 10G 13335 2001:78:2a:0:2:10:4589 Selective	Peers at this Exchange Poi	Filter	
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13041 None Open Easynet Global Services 213.234.0.15 1G 4589 2001:7f8:2a:0:2:1:0:4589 Selective EBRETIC ENGINYERIA SL 193.242.98.162 1G 199496 2001:7f8:2a:0:3:1:19:9496 Open Filnet Serveis i Comunicacions, 193.242.98.136 100M	8220	None	Open
Easynet Global Services 213.234.0.15 1G 4589 2001:7f8:2a:0:2:1:0:4589 Selective EBRETIC ENGINYERIA SL 193.242.98.162 1G 199496 2001:7f8:2a:0:3:1:19:9496 Open Filnet Serveis i Comunicacions, 193.242.98.136 100M	CSUC	193.242.98.38	10G
4589 2001:7f8:2a:0:2:1:0:4589 Selective EBRETIC ENGINYERIA SL 193.242.98.162 1G 199496 2001:7f8:2a:0:3:1:19:9496 Open Filnet Serveis i Comunicacions, 193.242.98.136 100M	13041	None	Open
EBRETIC ENGINYERIA SL 193.242.98.162 1G 199496 2001:7f8:2a:0.3:1:19:9496 Open Filnet Serveis i Comunicacions, 193.242.98.136 100M	Easynet Global Services	213.234.0.15	1G
199496 2001:7f8:2a:0:3:1:19:9496 Open Filnet Serveis i Comunicacions, 193.242.98.136 100M			
Filnet Serveis i Comunicacions, 193.242.98.136 100M	EBRETIC ENGINYERIA SL	193.242.98.162	1G
S.L. None Open		193.242.98.136	100M
	<u>S.L.</u>	None	Open

<pre>"id": 459, "net_id": 91, "ix id": 62,</pre>	
"name": "CATNIX",	
"ixlan id": 62,	
"notes": "",	
"speed": 1000,	
"asn": 8220,	
"ipaddr4": "193.242.98.13",	(server0:nipper 74) curl -s -X GET https://peeringdb.com/api/ix\?name=
"ipaddr6": null,	\&depth=2 jq '.data[].ixlan_set'
"is rs peer": false,	[
"created": "2010-07-29T00:00:00Z",	
"updated": "2016-03-14T21:09:422",	"id": 62,
"status": "ok"	"name": "", "descr": "",
}	"mtu": null,
-	"dotlq support": false,
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"status": "ok"	
}	
{	
"id": 3284,	
"net_id": 1111,	
"ix id": 62,	

Status Page

Status	Last 7 Days		Туре							
				04 Apr	03 Apr	02 Apr	01 Apr	31 Mar	30 Mar	29 Mar
	100.00%	Database & API	keyword	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	100.00%	HTTPS PeeringDB.com	http	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	99.453%	Offsite Backup Creation	keyword	100.00%	96.168%	100.00%	100.00%	100.00%	100.00%	100.00%
	99.185%	Outbound Email Delivery	keyword	100.00%	94.297 %	100.00%	100.00%	100.00%	100.00%	100.00%
	100.00%	PeeringDB DeskPRO	http	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	100.00%	PeeringDB.com ICMP Ping	ping	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

http://status.peeringdb.com/

Beta Development and Reporting Issues

• Beta server

- Available at https://beta.peeringdb.com/
- Runs the latest beta software version
- Full access over HTTP and the API
- Database is local to the beta server only, changes are not reflected on the production servers
- Latest changes
 - Available at https://beta.peeringdb.com/changes
 - Redirects to the list of issues on GitHub
 - Documents all of the changes in the current beta version
- Log bugs and feature requests at

https://github.com/peeringdb/peeringdb/issues on GitHub

Agenda

- PeeringDB 2.0
- Membership and Governance
- Committees
- Sponsorship
- Information and Resources

Membership and Governance

- PeeringDB organization formally formed 16 Dec, 2015
- PeeringDB 501(c)(6) filed 7 Jan, 2016 (approved 24 Feb, 2016)
- 2nd election held April 2016: 94 organizations registered, 80 voted
- 3rd election is being held 15 Apr, 2017 until 29 Apr, 2017
- 299 addresses subscribed to the Governance mailing list (as of 17 Oct 2016)
- A corporation, limited liability company, partnership or other legal business entity may be a Member of the Corporation. Membership is determined by having both an active PeeringDB.com account and an individual representative or role subscription to the PeeringDB Governance mailing list:
 - <u>http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov</u>
 - More information available at http://gov.peeringdb.com/

Board of Directors and Officers



Chris Caputo – Secretary & Treasurer (Non-Board Member)



Aaron Hughes – President (Term Expires 2018)



Patrick Gilmore – Director (Term Expires 2017)



Arnold Nipper – Director (Term Expires 2017)



Matt Griswold – Director (Term Expires 2017)



Job Snijders – Vice President (Term Expires 2018)

Committees

Admin Committee

- Manage administration of user accounts and PeeringDB records
- Answer support tickets
- Board members Job Snijders (Chair) and Arnold Nipper (Vice Chair)
- Seeking 2 community volunteers (1 year term)
- Contact: <u>support@peeringdb.com</u>

Product Committee

- Ask for input from the community on desired features
- Manage roadmap and development priorities
- Write SoWs to solicit bids to complete requested features
- Board members Aaron Hughes (Chair) and Matt Griswold (Vice Chair)
- Seeking 0 community volunteers (1 year term)
- Contact: productcom@lists.peeringdb.com

Admin Committee



PeeringDB 2.0 Support Ticket Statistics

Year	Tickets	Tickets/Day	Resolve Time (d)	Remark
2012	1389	4.09	1.00	
2013	2284	6.34	1.06	
2014	3050	8.47	1.27	
2015	2828	7.86	4.39	
2016	648	8.76	0.53	PeeringDB 1.0
2016	6225	21.84	0.59	PeeringDB 2.0
2017	2274	25.27	1.20	

- Admin Committee volunteers are based around the world in a variety of time zones
- Goal is to resolve support tickets within 24 hours

Product Committee



Karthik Arumugham



Matt Griswold – Vice Chair



Greg Hankins



Aaron Hughes – Chair



Martin J. Levy



Eric Loos



Chris Malayter



Stephen McManus



Arnold Nipper



Kay Rechthien



Walt Wollny

Become a PeeringDB Sponsor!

- Diamond Sponsorship \$25,000 / year
 - Limited to 2 sponsors
 - Very large logo on top line of Sponsors page with URL
 - Diamond Sponsor badge display on all records
 - Social media promotion
- Platinum Sponsorship \$10,000 / year
 - Large logo on second line of Sponsors page with URL
 - Platinum Sponsor badge display on all records
 - Social media promotion
- Gold Sponsorship \$5,000 / year
 - Medium logo on third line of Sponsors page
 - Gold Sponsor badge display on all records
 - Social media promotion
- Silver Sponsorship \$2,500 / year
 - Small logo on fourth line of Sponsors page
 - Silver Sponsor badge display on all records
 - Social media promotion
- Contact <u>sponsorship@peeringdb.com</u> for sponsorship info

Microsoft Diamond Sponsor Organization Microsoft Also Known As 8068 Company Website http://www.microsoft.com Primary ASN 8075 IRR Record AS-MICROSOFT

DE-CIX Frankfurt Platinum Sponsor Organization DE-CIX Management GmbH Long Name Deutscher Commercial Internet Exchange City Frankfurt Country DE Continental Region Europe







Thank you to our sponsors!



Google MARKLEY YAHOO! Platinum **Sponsors**

Gold **Sponsors**

Silver



Information and Resources

- Announce list: <u>http://lists.peeringdb.com/cgi-</u> <u>bin/mailman/listinfo/pdb-announce</u>
- Governance list: <u>http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov</u>
- Technical list: <u>http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-tech</u>
- User Discuss list: <u>http://lists.peeringdb.com/cgi-</u> <u>bin/mailman/listinfo/user-discuss</u>

- Docs, presentations, guides, tools: <u>http://docs.peeringdb.com/</u>
- Board and Officers: <u>stewards@lists.peeringdb.com</u>
- Admins: support@peeringdb.com
- Bugs and feature requests: <u>https://github.com/peeringdb/peeringdb/</u>
- Status: http://status.peeringdb.com/
- 2 @PeeringDB
- https://www.facebook.com/peeringdb/
- https://www.linkedin.com/company/peerin gdb



Questions?



Register or Request Affiliation to an Existing Organization



Adding a New Exchange to Your Organization

Manage		
Add Facility Add Netwo	Add Exchange Users Permissions	
Name		Add a new Exchange to your Organization. Note that the newly created Exchange will need to be approved by PeeringDB staff before it will appear in the search
Website	http://www.example.com	results or the API listings
City		Submit Exchange
Country	United States	
Continental Region	North America	Concratos a Support Ticket
Media Type	Ethernet 😂	Generates a Support Ticket for Validation and Approval
Unicast IPv4		ior validation and Approval
Multicast		
IPv6		
Traffic Stats Website	http://www.example.com	
Technical E-mail	name@example.com	
Technical Phone		Enter Exchange Info
Policy E-mail	name@example.com	Here, Then Click
Policy Phone		"Submit Exchange"

Editing Your Exchange Record

Organization	Example-IX	Peers at this Exchange Point Filter	
Long Name	Example-IX, the only ATM multicast IX on the planet!	Peer Name	
City	Atlanta	ASN IPv6 Policy Nothing matched your filter	
Country	United States	You may filter by Exchange, ASN, Policy or Speed	
Continental Region	North America		
Media Type	ATM Image: ATM Image: Unicast IPv4 IPv4 Multicast IPv6 ATM Associate their Record at a		
Protocols Supported			
Contact Information		Facility or Exchange	
Company Website	http://www.example.com		
Traffic Stats Website	http://www.example.com		
Technical Email	name@example.com		
Technical Phone	Enter Exchange		
Policy Email	name@example.com	Info Here, Then	
Policy Phone		Click "Save"	

Editing Your Exchange Record

Filter LANs DOT1Q MTU Peering LAN \checkmark 9000 × IPv4 127.0.0.0/8 Prefix Add IPv4 0 Name Peering LAN DOT1Q \checkmark MTU 9000 Add LAN Local Facilities Filter Facility 🔻 Nothing matched your filter You may filter by Exchange or Long Name Facility atlanta Equinix Atlanta (AT2/3) 56 Marietta St NW Telx Atlanta 56 Marietta St Level(3) Atlanta Courtland 345 Courtland St Ne

Enter LAN Info Here Name – Optional Name DOT1Q – 802.1Q Tag MTU IPv4/IPv6 Addresses

Add Facilities Here Autocomplete on Existing Facilities, Must Contact Support to Add a New Facility

Local Database Sync

- Database sync gives you a local copy of PeeringDB for customization or internal use
 - Sync as often as you like
 - Incremental sync is supported
- Improves performance and reduces load on PeeringDB servers
- Build custom indexes and interfaces
- Add custom fields
- Choice of database engines
 - Currently supported: MySQL, Postgres, SQLite
- Sync using the provided tools or build your own using the API

Django Library

- django-peeringdb is a Django library with a local PeeringDB database sync
- Defines the database schema to create a local database copy
- Easy to integrate in a common framework for locals tools and custom interfaces
- Supports multiple database engines (MySQL, Postgres, SQLite)
- Available at http://peeringdb.github.io/django-peeringdb/

Python Client

- peeringdb-py is a Python client for PeeringDB
- Gets objects and outputs in JSON or YAML format
- Provides a whois-like display of records
- Integrated local database sync
- Python library for integration with custom tools
- Available at http://peeringdb.github.io/peeringdb-py/
- Examples at https://github.com/grizz/pdb-examples