PeeringDB Operations & Product Update

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What is PeeringDB?

PeeringDB is a freely available, user-maintained, **database** of **networks and carrier**, and the go-to location for interconnection data. It facilitates the global interconnection of networks at **IXPs**, **data centers**, and **other interconnection facilities**. It is the first stop in making interconnection decisions.

Global System Statistics
1078 Exchanges
27079 Networks
5051 Facilities
22 Campuses
57 Carriers
48223 Connections to Exchanges
43361 Connections to Facilities
5847 Automated Networks
46594 Registered Users
25251 Organizations

Governance and Membership

- PeeringDB is a United States 501(c)(6) volunteer organization that is 100% funded by sponsorships

- Healthy organization, building financial reserves and executing the long term strategic plan

- Membership rules

  - 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

  - 375 addresses subscribed to the Governance mailing list (as of March 24, 2023)

  - **Next AGM is on April 13, 2023**

  - Governance list is at http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov

  - More information available at http://gov.peeringdb.com/

Committees

Admin Committee	Operations Committee	Outreach Committee	Product Committee
• Manage administration of user accounts and PeeringDB records • Answer support tickets • Cleansing and completion of PeeringDB records	• Manage PeeringDB infrastructure	• Manage marketing and social media • Develop and maintain presentations, workshops and webinars • Coordinate presentations and attendance at events	• Manage roadmap and development priorities • Ask for input from the community on desired features • Write SoWs to solicit bids to complete requested features
Leads: Patrick Gilmore (Chair) Contact: admincom@ lists.peeringdb.com	Leads: Job Snijders (Chair) and Aaron Hughes (Vice Chair) Contact: pdb-ops@ lists.peeringdb.com	Leads: Ben Ryall (Chair) and Bijal Sanghani (Vice Chair) Contact: outreachcom@ lists.peeringdb.com	Leads: Stephen McManus (Chair) and Matt Griswold (Vice Chair) Product Manager: Leo Vegoda Contact: productcom@ lists.peeringdb.com

We are looking for volunteers

- For Admin Committee
  - who speak languages other than English

- For Outreach Committee
  - Folks with marketing experience are highly welcome

- For Operations Committee
  - Small and highly trusted
  - Experience with containers is a plus

- **Apply to stewards@lists.peeringdb.com**

Support Ticket Statistics
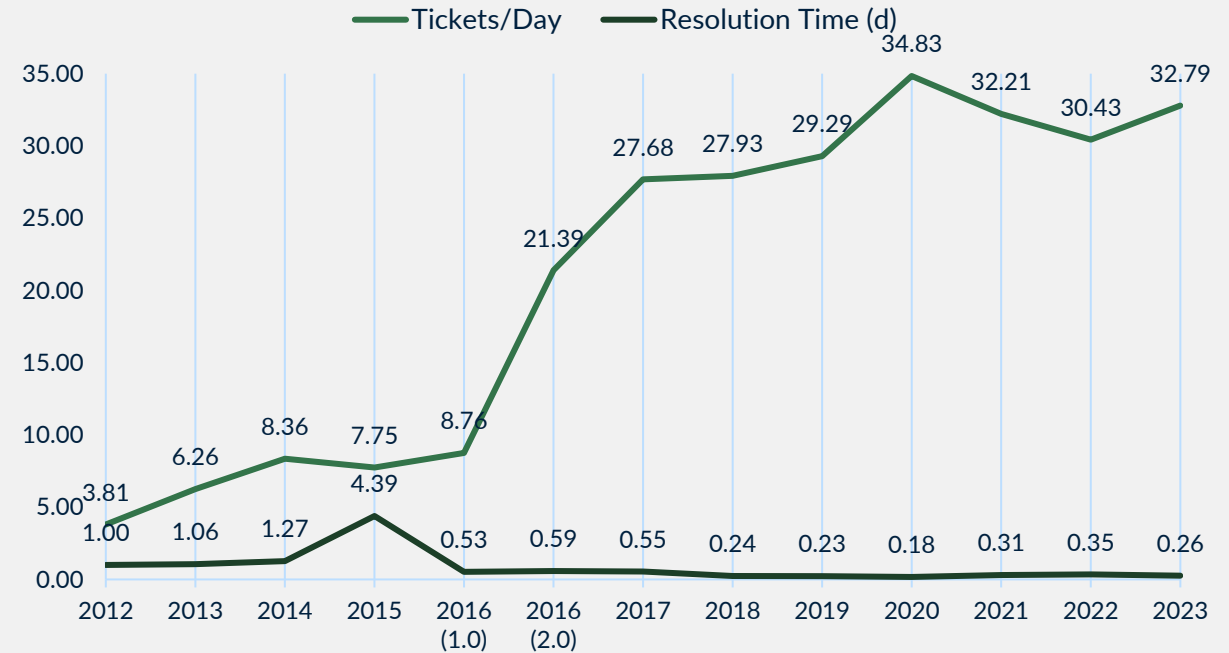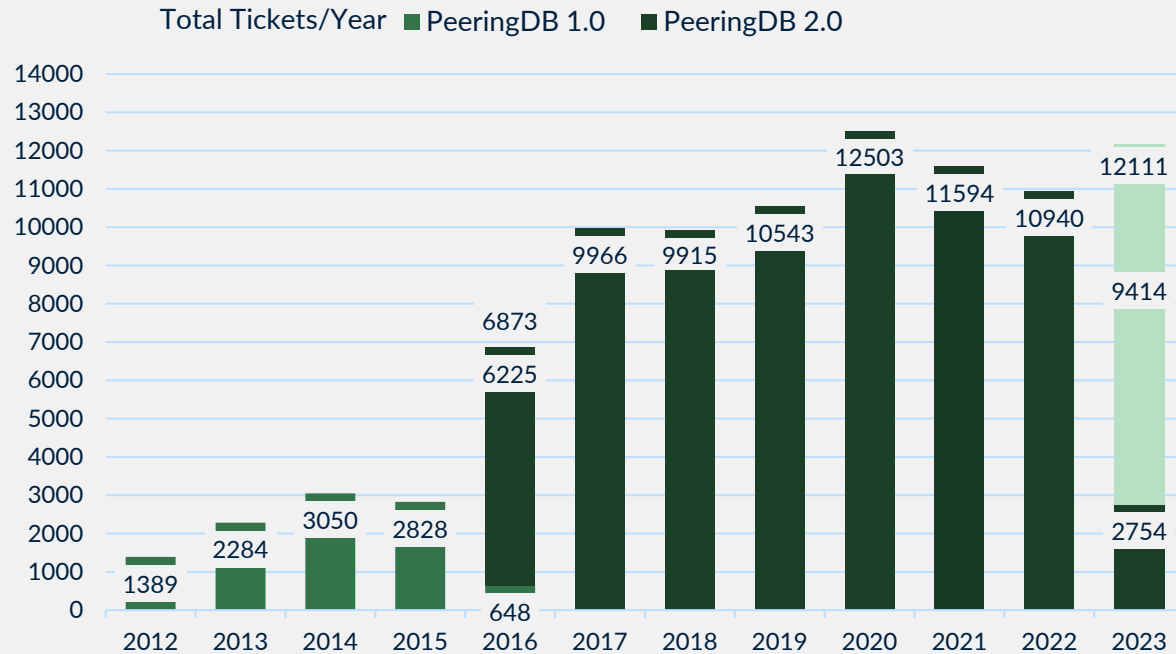
- Admin Committee volunteers are based around the world in a variety of time zones with diverse language skills
- Goal is to resolve support tickets within 24 hours

Recent Volunteer Contributions

- Focus on volunteer contributions

- Security changes from Amazon

- UX changes from Google

- Various other changes from individuals

HOWTO: Get Started with Developing for PeeringDB

Technology

We use Python with Django and MySQL. Django manages interaction with the database. We publish all our code on GitHub.

We have documented how to set up our development environment.

What to develop

PeeringDB users can request features and report bugs by creating issues on GitHub. Review open issues to either find a project you'd like to work on, or to see if there's an existing issue for the feature you want.

If you want to develop a feature that has not been discussed on GitHub, you should either create an issue or contact us to discuss what you need. You can send a message to productcom@lists.peeringdb.com or contact any of the members of the Product Committee.

If you want to develop code for an issue that has achieved consensus on GitHub, we suggest starting with issues labeled as Good first issue. These are simple issues that will help you get a feel for PeeringDB.
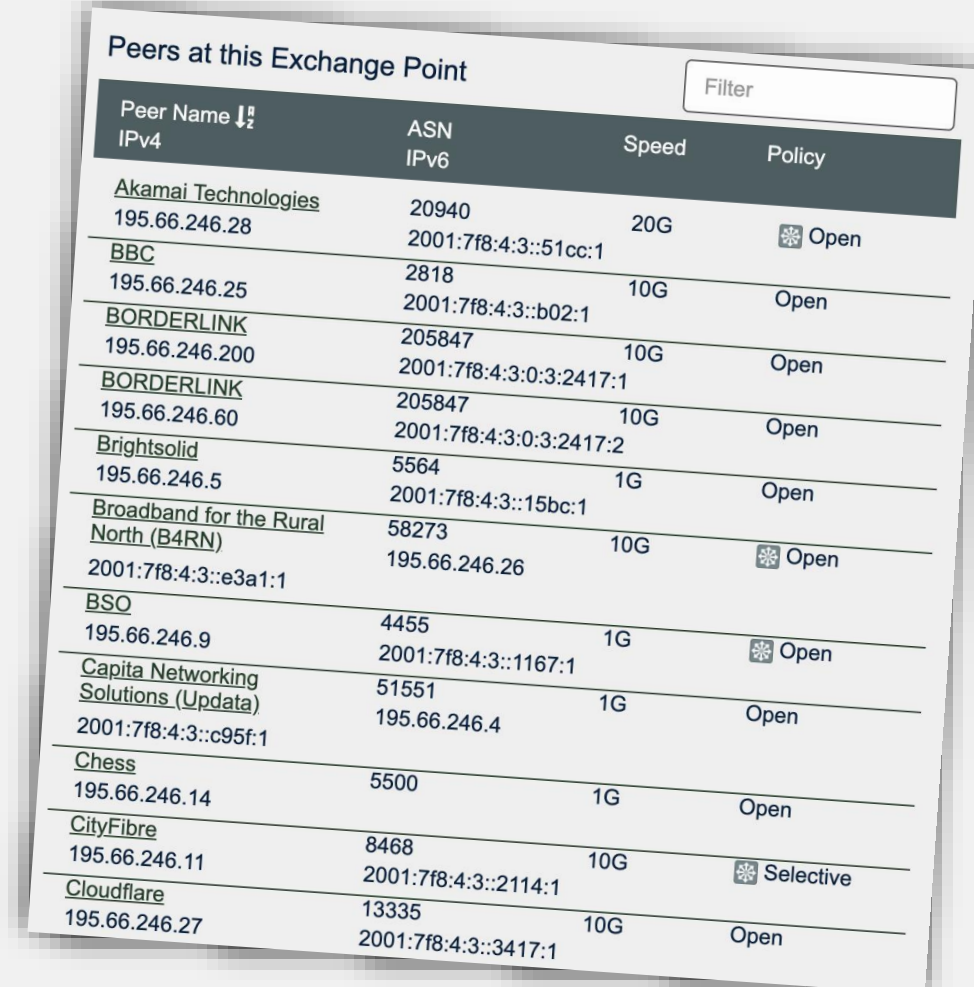
Style

Before you start developing code look at how similar functions have been implemented. Use the same design as existing functions and develop unit tests for your code. We aim for 80% unit test coverage. You also need to run black on your code before submitting a Pull Request. We use black to ensure that all of our code has the same formatting. Reusing designs, developing unit tests, and using consistent formatting makes it easier for us to maintain the code over time.

We keep the feature parity between the web interface and the API. A feature added to one needs to be added to the other.

The implementation details documented in issues should be detailed enough to use as documentation for the web interface. Documentation is also needed for the API. The minimum we need for API documentation is an example of how to format the request and a pointer to the document section to update.

Recent Product Improvements

- Better support tools

- Better IX-F Export handling

- Networks peering with Route Servers now more visible

- Organizational policy features allow to require your users to:
  - Enable MFA
  - Use a specific email domain
  - Periodically revalidate their accounts

- And users can associate multiple addresses with an account

General Updates

- https://www.peeringdb.com is enforced (2.35.0)
- Please check your scripts (e.g. –L for curl)
- Enables better delivery via CDNs
- Lots of bug fixes and small features
  - Users especially like the logo feature
  - Various counters for fac, ix and net objects
  - Updated fields allow for easy tracking of changes
    - netixlan_updated
    - netfac_updated
    - poc_updated

Authentication Changes

- API keys (2.26.0)
  - 256-bit random number, base-62 encoded
  - On org level (additional tabs)
    - Needs an email associated with it (ideally role-account)
    - Can be created by any Admin
    - Same granular (CRUD) permissions as users
  - On user level
  - HOWTO: https://docs.peeringdb.com/howto/api_keys/
- Substantially rate-limit unauthenticated API queries (2.34.0)
  - Wild running scripts
  - Bad code
  - See tech-list for details
  - HOWTO: https://docs.peeringdb.com/howto/work_within_peeringdbs_query_limits/

Account Security

- Two-factor authentication (2FA) (2.21.0)
  - Using time-based one-time password (TOTP) - no SMS, no email
  - Setup via User Profile
  - Highly recommended
  - Provision for backup codes and recovery tokens
- Fast IDentity Online (FIDO) Universal 2nd Factor (U2F) 2FA support (2.33.0)
  - Allowing users to enable 2FA without relying on a TOTP app
- HOWTO: https://docs.peeringdb.com/howto/authenticate/
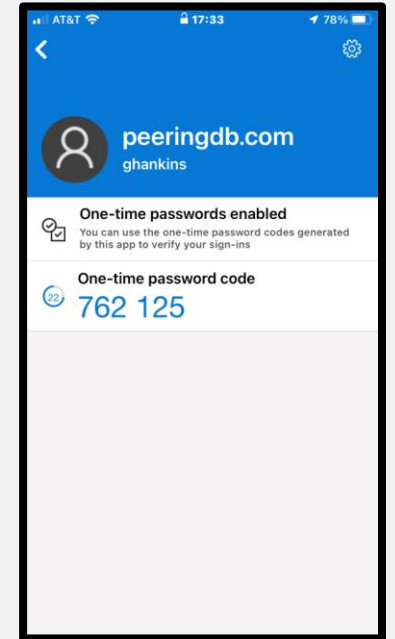
Self-Selection Fields – Exchanges (2.27.0)

- Service Level
  - Best Effort (no SLA)
  - Normal Business Hours
  - 24/7 Support
  - Not Disclosed (default)
- Terms
  - No Commercial Terms
  - Bundled with other Services
  - NRC only
  - Recurring Fees
  - Not Disclosed (default)

SIX Seattle

Peers	Connections	Open Peers	Total Speed	% with IPv6
355	409	244	16.0T	89

Organization	Seattle Internet Exchange
Also Known As	
Long Name	Seattle Internet Exchange (MTU 1500)
City	Seattle
Country	US
Continental Region	North America
Media Type	Ethernet
Service Level	24/7 Support
Terms	Non-recurring Fees Only
Last Updated	2021-05-27T00:08:55Z
Notes ❓	SIX port fees: • 100G: $7.5k NRC, no MRC • 10G: $1.5k NRC, no MRC • 1G: $100 NRC, no MRC Translate »

Peers at this E

Peer Name ↓⇣ IPv4
❄ AARNet 2001:504:16::1d!
Accel Net 206.81.81.240
❄ Access Communications operative
❄ Acronis US
Adobe Systems 206.81.81.13
Adobe Systems 206.81.81.14
Advanced Communications Technology

Self-Selection Fields – Facilities (2.30.0)

- Property
  - Lessee
  - Owner
  - Not Disclosed (default)
- Diverse Serving Substations
  - Yes
  - No
  - Not Disclosed (default)
- Available Voltage Services
  - 48 VDC
  - 120 VAC
  - 208 VAC
  - 240 VAC
  - 480 VAC

NPA-NXX	
Last Updated	2022-04-20T20:03:43Z
Notes ❓	
	AUBix
Technical Email	support@aubix.net
Technical Phone ❓	
Sales Email	sales@aubix.net
Sales Phone ❓	
Property ❓	Owner
Diverse Serving Substations ❓	Yes
Available Voltage Services ❓	208 VAC
Health Check	

Searching

- Improvement from NANOG 83 Hackathon (2.33.0)
- Searching for numbers return the most relevant results
- Searching for a short ASN returns just that ASN
- Searching for two segments of an IP address return related ix and netixlan objects
- HOWTO: https://docs.peeringdb.com/howto/search/

Searching – Facilities

- The address is mapped to coordinates
  - Search a radius from any location
  - Filter searches on criteria
  - Export as JSON or CSV
- Additional information
  - Property Ownership
  - Redundancy
  - Power Provided

Searching – Exchanges

- Filter searches on criteria
- Export as JSON or CSV
- Additional information
  - Service Level
  - Terms
  - Network Presence

Documentation Updates

- Started series of HOWTOs
  - https://docs.peeringdb.com/howtos/

- Regular blogs on new features
  - https://docs.peeringdb.com/blogs/

- Announced on social media

Create entries
- Get Started with PeeringDB as a Exchange Operator
- Get Started with PeeringDB as a Facility Operator
- Get Started with PeeringDB as a Network Operator

Manage entries
- Manage Organizational Policy
- Manage User Permissions

Search
- Get Started with Search in PeeringDB
- Work Within PeeringDB's Query Limits

Authentication and security
- Authenticate to PeeringDB
- Get Started with API Keys
- Report a Security Issue

Other
- Get Started with Developing for PeeringDB
- Setup a PeeringDB Development Environment
- What is AS112?

CEE from a PeeringDB POV

	IXP / Operator	Facility / Operator	Networks at IXes	National Networks at IXes	Networks in Facilities	National Networks in Facilities	Networks total (IX and Fac)	National Networks total (IX and Fac)	National Networks in PeeringDB	National Networks in RIR	PDB/RIR
Albania	1/1	4/4	16	10	8	6	17	11	34	108	31,5 %
Bosnia and Herzegovina	1/1	1/1	7	5	2	2	7	5	10	52	19,2 %
Bulgaria	7/7	23/12	196	69	141	55	254	81	124	763	16,3 %
Croatia	2/2	11/5	39	24	35	16	49	24	33	167	19,8 %
Czech Republic	5/4	31/24	241	120	156	105	279	135	184	684	26,9 %
Estonia	4/4	8/7	89	23	39	13	110	28	47	190	24,7 %
Hungary	1/1	7/7	81	41	75	36	101	44	62	303	20,5 %
Kosovo	0/0	0/0	0	0	0	0	0	0	0	0	n/a
Latvia	6/6	6/5	90	18	37	19	103	22	39	304	12,8 %

CEE from a PeeringDB POV

	IXP / Operator	Facility / Operator	Networks at IXes	National Networks at IXes	Networks in Facilities	National Networks in Facilities	Networks total (IX and Fac)	National Networks total (IX and Fac)	National Networks in PeeringDB	National Networks in RIR	PDB/RIR
Lithuania	5/5	8/6	60	33	31	19	69	36	60	200	30,0 %
Montenegro	1/1	0/0	2	1	0	0	2	1	3	25	12,0 %
North Macedonia	1/1	5/3	8	5	4	3	9	5	9	61	14,8 %
Poland	16/14	70/40	723	597	536	424	795	619	761	2539	30,0 %
Romania	9/9	40/31	168	83	138	63	212	95	142	1160	12,2 %
Serbia	1/1	9/9	33	12	19	6	45	13	25	199	12,6 %
Slovakia	4/3	5/5	69	37	52	21	88	39	50	220	22,7 %
Slovenia	1/1	9/6	20	15	15	7	25	16	28	292	9,6 %

What's ahead?

- Regular updates with small features and bug fixes
- Improve searching
  - Both for GUI and API
- Finalize tasks from Data Ownership Task Force
  - Automatically remove stale connections to an IX
- Automate Approving Carriers. Networks, IXPs, and Facilities according to the latest Guidelines and Criteria
- Published release schedule on the Release Notes page

Release number	Internal testing	Beta release	Production release
2.45.0	2023-03-07	2023-03-14	2023-03-21
2.46.0	2023-04-05	2023-04-12	2023-04-19
2.47.0	2023-05-10	2023-05-17	2023-05-24
2.48.0	2023-06-14	2023-06-21	2023-06-28

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Questions?

Need help? Contact support@peeringdb.com

Got a feature idea? Contact productcom@lists.peeringdb.com