



**PeeringDB**

# PeeringDB Operations & Product Update

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# What is PeeringDB?

**PeeringDB** is a freely available, user-maintained, **database of networks and carriers**, 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.



# 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
  - 374 addresses subscribed to the Governance mailing list (as of March 06, 2023)
  - Governance list is at <http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov>
  - More information available at <http://gov.peeringdb.com/>
  - 3 new board members (**Livio Morina from Airbeam**)

# Committees

## Admin Committee

- Manage administration of user accounts and PeeringDB records
- Answer support tickets
- Cleansing and completion of PeeringDB records

Leads: Patrick Gilmore (Chair)  
Contact: [admincom@lists.peeringdb.com](mailto:admincom@lists.peeringdb.com)

## Operations Committee

- Manage PeeringDB infrastructure

Leads: Job Snijders (Chair) and Aaron Hughes (Vice Chair)  
Contact: [pdb-ops@lists.peeringdb.com](mailto:pdb-ops@lists.peeringdb.com)

## Outreach Committee

- Manage marketing and social media
- Develop and maintain presentations, workshops and webinars
- Coordinate presentations and attendance at events

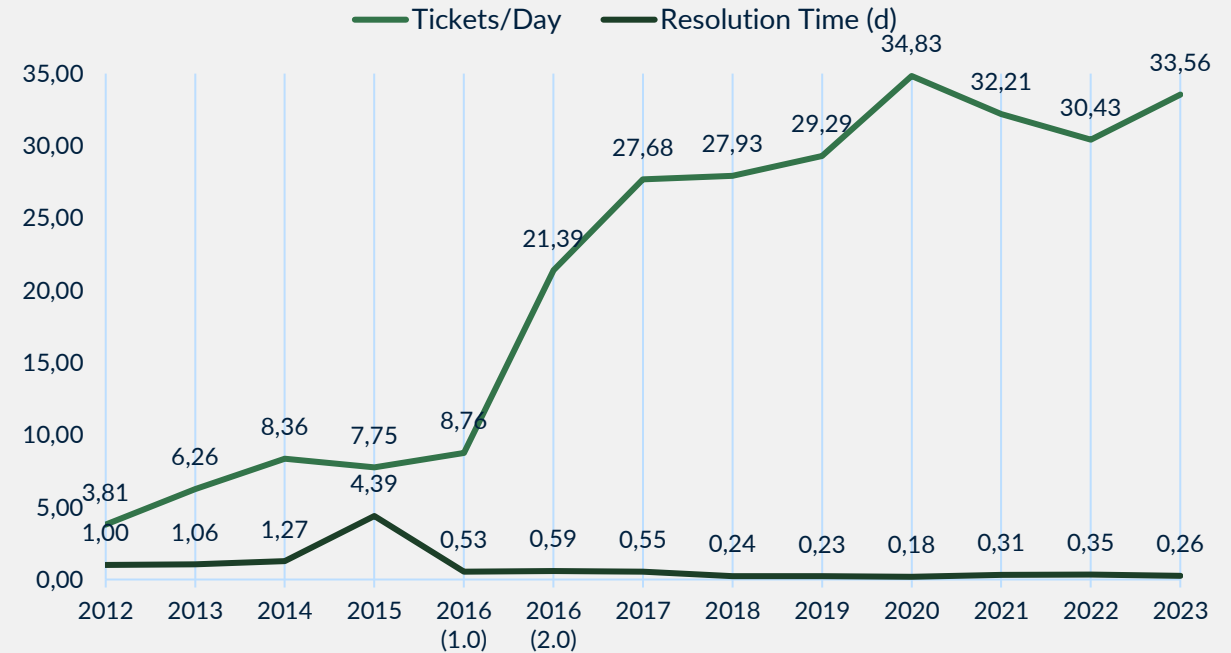
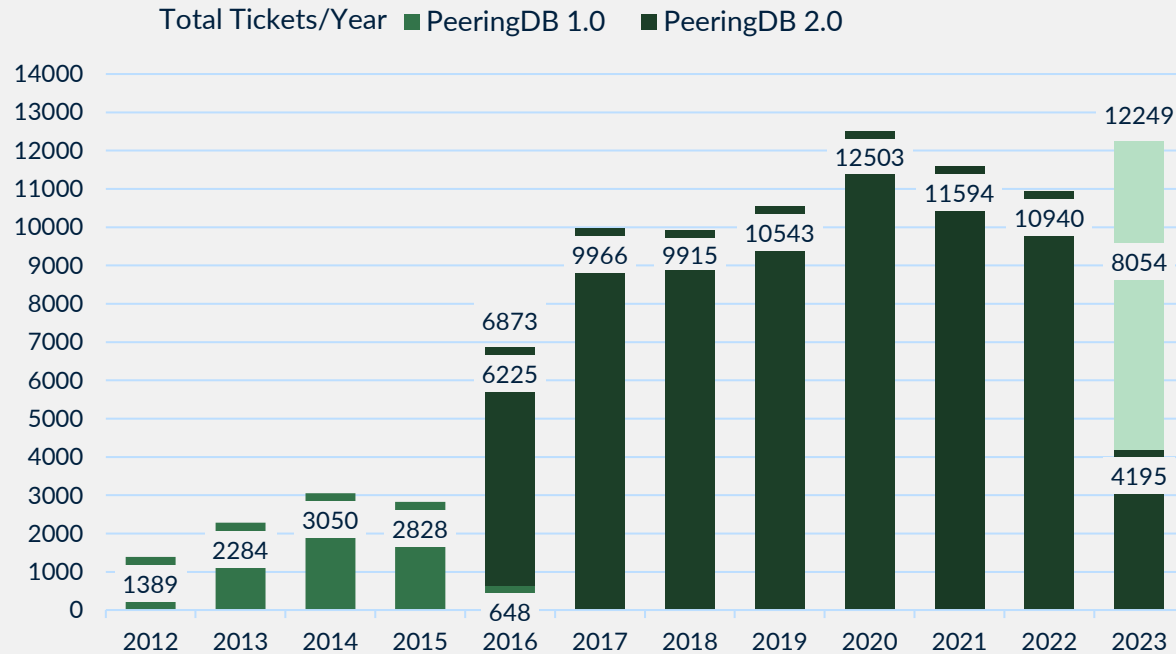
Leads: Ben Ryall (Chair) and Bijal Sanghani (Vice Chair)  
Contact: [outreachcom@lists.peeringdb.com](mailto:outreachcom@lists.peeringdb.com)

## Product Committee

- Manage roadmap and development priorities
- Ask for input from the community on desired features
- Write SoWs to solicit bids to complete requested features

Leads: Stephen McManus (Chair) and Matt Griswold (Vice Chair)  
Product Manager: Leo Vegoda  
Contact: [productcom@lists.peeringdb.com](mailto:productcom@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](mailto: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

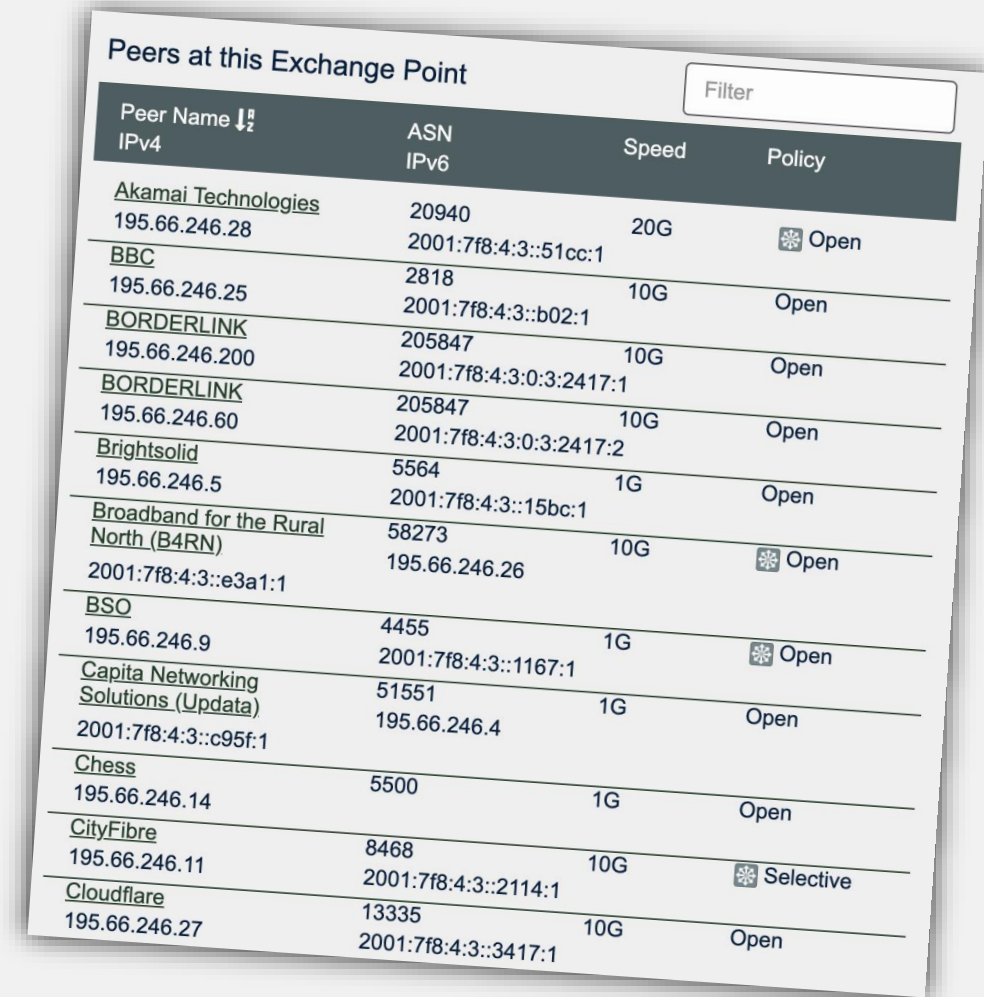
Before you start developing code look at how similar functions have been implemented. Use the same design as existing functions and develop unit tests for your code. We aim for 80% unit test coverage. You also need to run black on your code before submitting a Pull Request. We use black to ensure that 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



Peers at this Exchange Point

Filter

Peer Name ↓ IPv4	ASN IPv6	Speed	Policy
<u>Akamai Technologies</u> 195.66.246.28	20940 2001:7f8:4:3::51cc:1	20G	❄️ Open
<u>BBC</u> 195.66.246.25	2818 2001:7f8:4:3::b02:1	10G	Open
<u>BORDERLINK</u> 195.66.246.200	205847 2001:7f8:4:3:0:3:2417:1	10G	Open
<u>BORDERLINK</u> 195.66.246.60	205847 2001:7f8:4:3:0:3:2417:2	10G	Open
<u>Brightsolid</u> 195.66.246.5	5564 2001:7f8:4:3::15bc:1	1G	Open
<u>Broadband for the Rural North (B4RN)</u> 2001:7f8:4:3::e3a1:1	58273 195.66.246.26	10G	❄️ Open
<u>BSO</u> 195.66.246.9	4455 2001:7f8:4:3::1167:1	1G	❄️ Open
<u>Capita Networking Solutions (Updata)</u> 2001:7f8:4:3::c95f:1	51551 195.66.246.4	1G	Open
<u>Chess</u> 195.66.246.14	5500	1G	Open
<u>CityFibre</u> 195.66.246.11	8468 2001:7f8:4:3::2114:1	10G	❄️ Selective
<u>Cloudflare</u> 195.66.246.27	13335 2001:7f8:4:3::3417:1	10G	Open

# General Updates

- <https://www.peeringdb.com> is enforced (2.35.0)
- 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

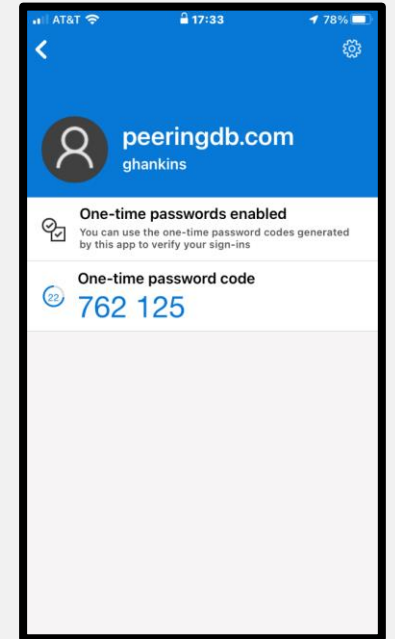


# Authentication Changes

- 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/](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/](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 **355**    Connections **409**    Open Peers **244**    Total Speed **16.0T**    % with IPv6 **89**

Organization	<a href="#">Seattle Internet Exchange</a>
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: <ul style="list-style-type: none"><li>• 100G: \$7.5k NRC, no MRC</li><li>• 10G: \$1.5k NRC, no MRC</li><li>• 1G: \$100 NRC, no MRC</li></ul> <a href="#">Translate »</a>

## 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

INFA-XXXX	
Last Updated	2022-04-20T20:03:43Z
Notes 	
	
Technical Email	<a href="mailto:support@aubix.net">support@aubix.net</a>
Technical Phone 	
Sales Email	<a href="mailto:sales@aubix.net">sales@aubix.net</a>
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

www.peeringdb.com/advanced\_search

Exchanges Networks **Facilities** Organizations

Name

Address

City/ State/ Postal

Country (ctrl/cmd click to select multiple)  
Antarctica  
Antigua and Barbuda  
Argentina  
Armenia  
Aruba  
Australia

Continental Region (ctrl/cmd click to select multiple)  
North America  
Asia Pacific  
Europe  
South America  
Africa  
Australia

Within Distance  km

Management

CLLI

NPA-NXX

Property

Diverse Serving Substations

Available Voltage Services  
48 VDC  
120 VAC  
208 VAC  
240 VAC  
480 VAC

Network Presence

My organization presence (ctrl/cmd click to select multiple)

Name ↓ Management	CLLI NPA-NXX	City Country	State Postal Code	Networks
AAPT Brisbane AAPT (TNZA)	-	Brisbane AU	QL 4000	1
Christie Systems DC1 Christie Systems Services	-	Brisbane AU	Queensland 4000	1
NEXTDC B1 NEXTDC	-	Brisbane AU	QL -	78
Over the Wire - 24 Little Edward Over The Wire Pty Ltd	-	Spring Hill AU	QLD 4200	0
PIPE Networks Brisbane PIPE Networks	-	BRISBANE AU	QL 4000	13
Rail Centre 1 QR - Rail Centre 1	-	Brisbane AU	QL 4000	0

# Searching – Exchanges

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

Exchanges Networks Facilities Organizations

Name

City

Country (ctrl/cmd click to select multiple)

Continental Region (ctrl/cmd click to select multiple)

Organization

IP Block

Capacity

Media Type (ctrl/cmd click to select multiple)

Service Level (ctrl/cmd click to select multiple)

Terms (ctrl/cmd click to select multiple)

Network Presence

My organization presence (ctrl/cmd click to select multiple)

Name	Media Type	Country	City	Network...
DE-CIX Frankfurt <span>Platinum Sponsor</span>	Ethernet	DE	Frankfurt	967

# 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
- See also our [2022 Product Report](#)

## 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?](#)



# 2022 User Survey

- Our 2022 user survey was done in October
- Available in 6 UN languages, Portuguese & Ukrainian
- Blog is here (<https://t1p.de/8bnvn>)

Thank you for completing PeeringDB's 2022 User Survey. This survey will improve our understanding of what is important to you and how well you feel we are doing in each area.

The survey takes less than 5 minutes to complete. Only one question is mandatory. Please only provide satisfaction ratings for feature categories you use.

The survey is anonymous. If you want, you can provide information about your location and sector at the end.

**Overall, how satisfied are you with PeeringDB?**

Very satisfied

Somewhat satisfied

Somewhat dissatisfied

Very dissatisfied

# Italia from a PeeringDB POV

Category	Numbers
IXP/Operators	17/13
Facilities/Operators	96/71
Networks at IXP	516
Italian Networks at IXP	366
Networks in Facilities	439
Italian Networks in Facilities	310
Total Networks (IXP and Facilities)	602
Total Italian Networks (IXP and Facilities)	397
Italian Networks in PeeringDB	513
Italian Networks in any RIR	1281
PeeringDB/RIR	40.0%

# New Object “Carrier”

- New pillar of data besides *net|work*, *fac|ility* and *ix*
- A “Carrier” provides high capacity L1/L2 links between facilities.
- API: carrier and carrierfac

# New Object “Carrier”

- Add a carrier object via your organization “Manage” section
- Add a presence via the carrier object
- Introduced in 2.43.0
- See also the [blog](#) about the carrier object

Arvig Enterprises Inc.

Also Known As	
Long Name	
Website	<a href="https://www.arvig.com/">https://www.arvig.com/</a>
Address 1	150 2nd Street SW
Address 2	
Floor	
Suite	
Location	Perham, MN, 56573
Country Code	US
Geocode	<i>Geocode data for this entity could not be obtained at this point. This is done automatically upon address field changes.</i>
Last Updated	2019-07-08T18:35:40Z
Notes ?	
Logo ?	

Edit

Facilities

Filter

Name ↓

Country  
City

No filter matches.  
You may filter by **Name**, **Country** or **City**.

Networks

Filter

Name ↓

ASN

Arvig

16904

Exchanges

Filter

Name ↓

Country  
City

No filter matches.  
You may filter by **Name**, **Country** or **City**.

Carriers

Filter

Name ↓

Arvig

Campuses

Filter

Name ↓

No filter matches.  
You may filter by **Name**.

# New Object “Campus”

- The campus object allows to structure two or more facilities
  - Not well defined in terms of size
  - All facilities should be interconnectable with “cheap” interconnections
  - All facilities must belong to the same owner
- API: campus
- A campus is only shown with at least two members
- Add a campus object via your organization “Manage” section



# What's ahead?

- Regular updates with [small features and bug fixes](#), **carrier and campus object already implemented**
- Improve searching, both for GUI and API
- Finalize tasks from [Data Ownership Task Force](#)
  - Automatically remove stale connections to an IX
- Automate Networks, IXPs, Facilities, and Carriers according to the latest [Guidelines and Criteria](#)
- Published release schedule on the Release Notes page

Release number	Internal testing	Beta release	Production release
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
2.49.0	2023-07-05	2023-07-12	2023-07-19
2.50.0	2023-08-09	2023-08-16	2023-08-23

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STACLAR



QIX



RIPE NCC  
RIPE NETWORK COORDINATION CENTRE



TERACO<sup>™</sup>  
AFRICA'S DATA CENTRE



zenlayer



**PeeringDB**

# Questions?

Need help? Contact [support@peeringdb.com](mailto:support@peeringdb.com)

Got a feature idea? Contact [productcom@lists.peeringdb.com](mailto:productcom@lists.peeringdb.com)