



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.



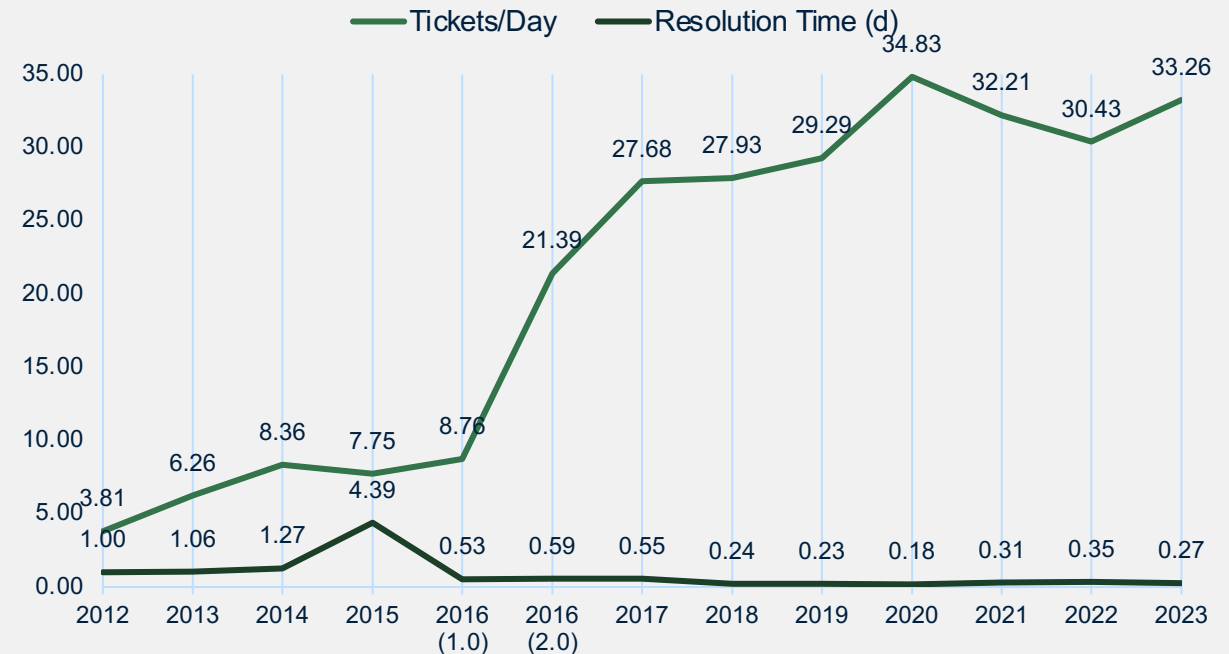
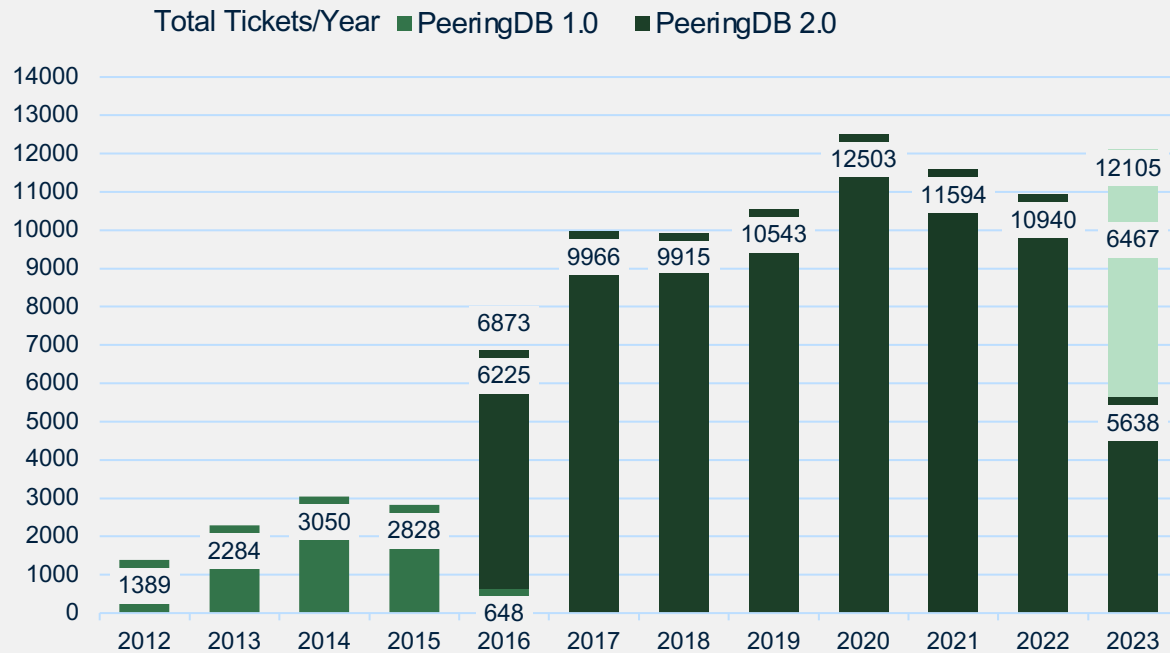
Governance and Membership

- 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
 - 462 addresses subscribed to the Governance mailing list (as of June 19, 2023)
 - Governance list is at <https://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov>
 - More information available at <https://docs.peeringdb.com/gov>

Committees

| Admin Committee | Operations Committee | Outreach Committee | Product Committee |
|---|--|--|---|
| <ul style="list-style-type: none">• Manage administration of user accounts and PeeringDB records• Answer support tickets• Cleansing and completion of PeeringDB records <p>Leads: Patrick Gilmore (Chair) Contact: admincom@lists.peeringdb.com</p> | <ul style="list-style-type: none">• Manage PeeringDB infrastructure <p>Leads: Job Snijders (Chair) and Aaron Hughes (Vice Chair) Contact: pdb-ops@lists.peeringdb.com</p> | <ul style="list-style-type: none">• Manage marketing and social media• Develop and maintain presentations, workshops and webinars• Coordinate presentations and attendance at events <p>Leads: Ben Ryall (Chair) and Bijal Sanghani (Vice Chair) Contact: outreachcom@lists.peeringdb.com</p> | <ul style="list-style-type: none">• Manage roadmap and development priorities• Ask for input from the community on desired features• Write SoWs to solicit bids to complete requested features <p>Leads: Stephen McManus (Chair) and Matt Griswold (Vice Chair) Product Manager: Leo Vegoda Contact: productcom@lists.peeringdb.com</p> |

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

We are looking for volunteers

- For Operations Committee
 - Small and highly trusted
 - Experience with containers is a plus
- **Apply to stewards@lists.peeringdb.com**

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

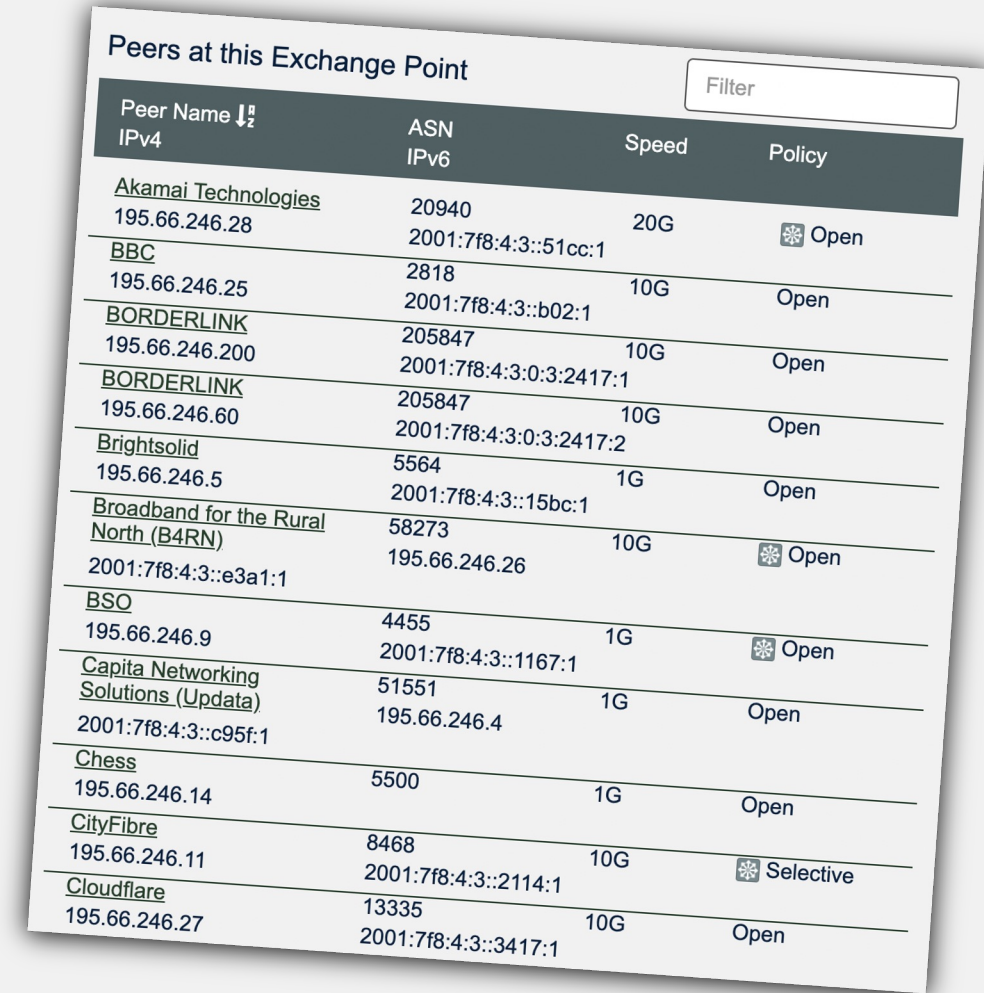
Before you start developing code look at how similar functions have been implemented. Use the same design as existing functions and develop unit tests for your code. We aim for 80% unit test coverage. You also need to run [black](#) on your code before submitting a Pull Request. We use black to ensure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





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 (Udata)</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

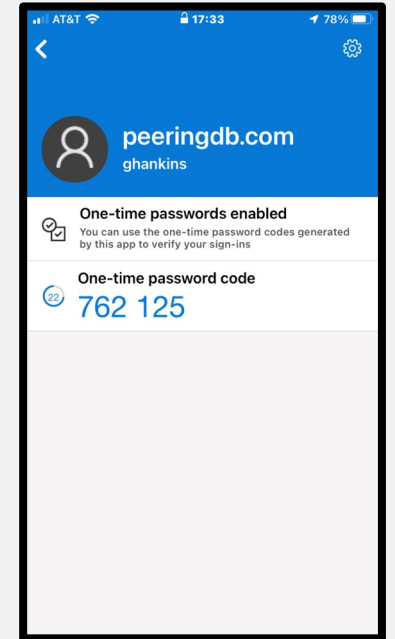
- <https://www.peeringdb.com> is enforced (2.35.0)
- Please check your scripts (e.g. -L for curl)
- Enables better delivery via CDNs
- Lots of bug fixes and small features
 - Users especially like the logo feature
 - Various counters for fac, ix and net objects
 - Updated fields allow for easy tracking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



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/>
- v2 searching available

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

☒ Does not matter
48 VDC
120 VAC
208 VAC
240 VAC
480 VAC

Network Presence

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

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

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)

French Polynesia

French Southern Territories

Gabon

Gambia

Georgia

Germany

Continental Region
(ctrl/cmd click to select multiple)

North America

Asia Pacific

Europe

South America

Africa

Australia

Organization

IP Block

Capacity

Gbps

Media Type
(ctrl/cmd click to select multiple)

Ethernet

ATM

Multiple

Service Level
(ctrl/cmd click to select multiple)

Not Disclosed

Best Effort (no SLA)

Normal Business Hours

24/7 Support

Terms
(ctrl/cmd click to select multiple)

Not Disclosed

No Commercial Terms

Bundled With Other Services

Non-recurring Fees Only

Recurring Fees

Network Presence

Search networks ...

All present

Does not matter

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

Reset

Search

JSON

CSV

| Name | Media Type | Country | City | Network... |
|------------------|------------|---------|-----------|------------|
| DE-CIX Frankfurt | 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?

Switzerland from a PeeringDB POV

| Category | Numbers |
|---|---------|
| IXP/Operators | 13/12 |
| Facilities/Operators | 82/53 |
| Networks at IXP | 705 |
| Swiss Networks at IXP | 185 |
| Networks in Facilities | 302 |
| Swiss Networks in Facilities | 160 |
| Total Networks (IXP and Facilities) | 796 |
| Total Swiss Networks (IXP and Facilities) | 217 |
| Swiss Networks in PeeringDB | 323 |
| Swiss Networks in any RIR | 1050 |
| PeeringDB/RIR | 30.8% |

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 (carrier object) and carrierfac (presence in a facility)

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 | https://www.arvig.com/ |
| 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

Name !?

Country
City

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

Networks

Name !?

ASN

[Arvig](#)

16904

Exchanges

Name !?

Country
City

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

Carriers

Name !?

[Arvig](#)

Campuses

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

The screenshot displays a web form for managing a campus in the IRIDEOS system. The form is titled 'IRIDEOS Avalon Campus' and includes a 'Facilities' section with a list of facilities: 'IRIDEOS Avalon 2', 'IRIDEOS Avalon 3', and 'IRIDEOS Avalon Campus'. The form also contains fields for 'Organization', 'Also Known As', 'Long Name', 'Company Name', 'City', 'Country Code', 'Country', 'Last Updated', and 'Notes'. The 'Country' field is set to 'Italy' and the 'City' field is set to 'Settimo Milanese (MI)'. The 'Last Updated' field shows the date '2023-02-22T09:08:43.962812Z'. The 'Notes' field contains the text 'https://irideos.it/en/avalon/'. The form is branded with the 'IRIDEOS' logo in green.

| Facilities |
|-----------------------|
| IRIDEOS Avalon 2 |
| IRIDEOS Avalon 3 |
| IRIDEOS Avalon Campus |

Organization: IRIDEOS S.p.A.
Also Known As: IRIDEOS S.p.A.
Long Name: IRIDEOS S.p.A.
Company Name: IRIDEOS S.p.A.
City: Milano
Country Code: IT
Country: Italy
Last Updated: 2023-02-22T09:08:43.962812Z
Notes: https://irideos.it/en/avalon/

What's ahead?

- Regular updates with [small features and bug fixes](#), carrier and campus object already implemented
- Improve searching, both for GUI and API
 - v2 available for GUI
- 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 |
|----------------|------------------|--------------|--------------------|
| 2.48.0 | 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 |
| 2.51.0 | 2023-09-06 | 2023-09-13 | 2023-09-20 |
| 2.52.0 | 2023-10-18 | 2023-10-25 | 2023-11-06 |



PeeringDB

Questions?

Need help? Contact support@peeringdb.com

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