



# PeeringDB 2.0

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# Agenda

- **PeeringDB 2.0**
- Membership / Governance
- Committees
- April 2016 Elections
- Sponsorship
- Contact Information

# What is PeeringDB?

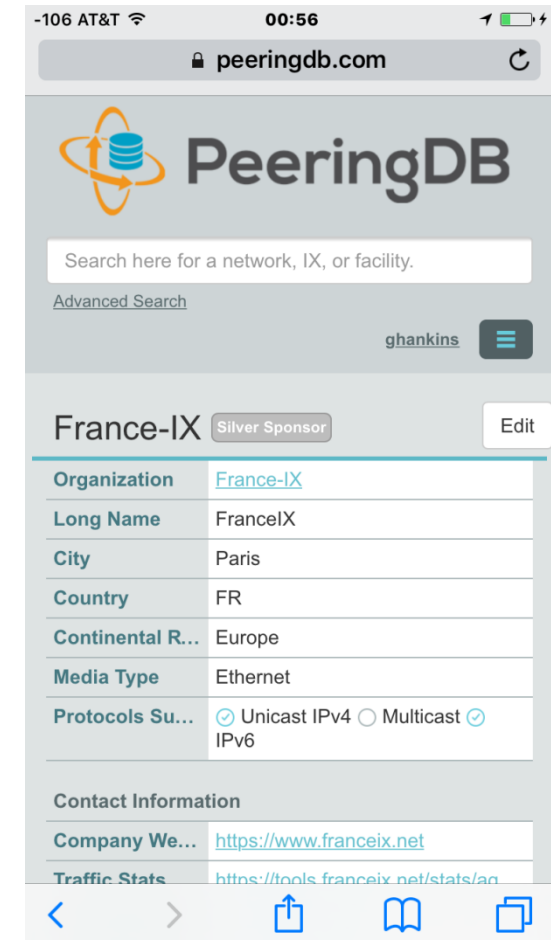
- PeeringDB is the database of peering information on the Internet
- Contains peering location and contact information for
  - Networks
  - Exchanges
  - Facilities
- A PeeringDB record makes it easy for people to find you, and helps you to establish peering
- If you aren't registered in PeeringDB, you 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

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

# 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!



# 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

LINX Silver Sponsor

|              |   |
|--------------|---|
| Website      | <a href="https://www.linx.net">https://www.linx.net</a> |
| Address 1    | The London Internet Exchange Ltd                        |
| Address 2    | 5th Floor, 24 Monument Street                           |
| Location     | London, , EC3R 8AJ                                      |
| Country Code | GB  |

## Facilities

Filter

| Name ▼                    | Country<br>City           |
|---------------------------|---------------------------|
| <a href="#">IXCardiff</a> | United Kingdom<br>Cardiff |

## Networks

Filter

| Name ▼  | ASN  |
|---|------|
| <a href="#">LINX Route Servers</a>              | 8714 |
| <a href="#">London Internet Exchange (LINX)</a> | 5459 |

## Exchanges

Filter

| Name ▼                           | Country<br>City                    |
|----------------------------------|------------------------------------|
| <a href="#">IXCardiff</a>        | United Kingdom<br>Cardiff          |
| <a href="#">IXManchester</a>     | United Kingdom<br>Manchester       |
| <a href="#">IXScotland</a>       | United Kingdom<br>Scotland         |
| <a href="#">LINX Extreme LAN</a> | United Kingdom<br>London           |
| <a href="#">LINX Juniper LAN</a> | United Kingdom<br>London           |
| <a href="#">LINX NoVA</a>        | United States<br>Northern Virginia |

Exchanges are Shown Here  
LINX has 6 Exchange Records

Facilities are Shown Here  
LINX has 1 Facility

Networks are Shown Here  
LINX has 2 Network Records

# One Account Managing Multiple Organizations

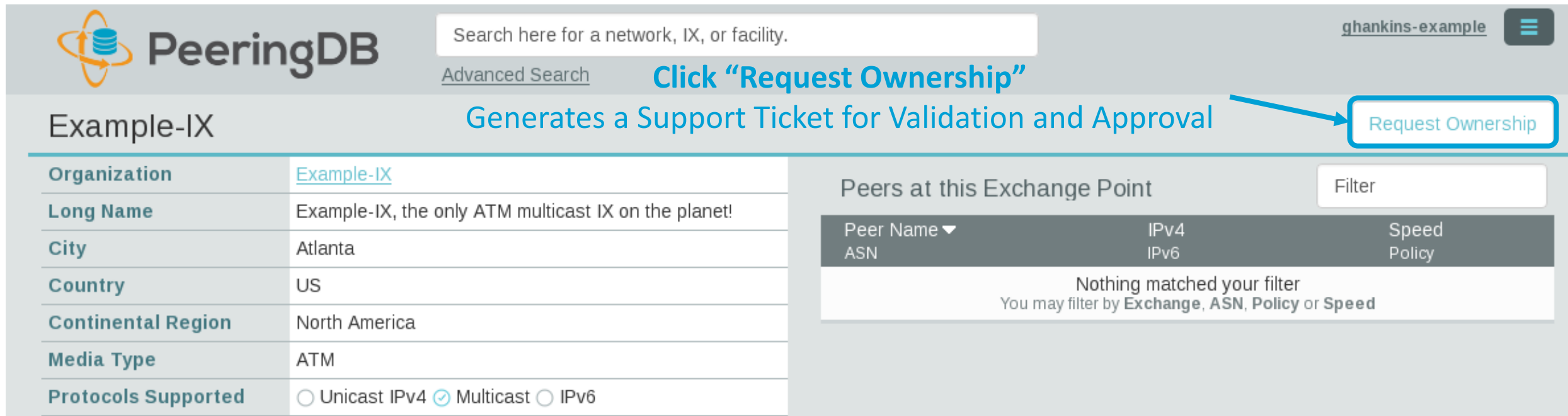
The screenshot shows the PeeringDB website interface. At the top left is the PeeringDB logo. To its right is a search bar with the placeholder text "Search here for a network, IX, or facility." and a link to "Advanced Search". In the top right corner, the word "job" is circled in blue, with a blue arrow pointing from it to the right. Below the search bar is a form titled "Affiliate with Organization". The form contains two input fields: "ASN" and "Organization", followed by an "Affiliate" button. Below the form is a section titled "Existing Affiliations" which lists four approved affiliations: "NTT Communications (Global)", "NLNOG RING", "Netwerkvereniging Coloclue", and "Snijders IT". A blue arrow points from the "job" label to the first affiliation entry.

**Account "job" is  
Affiliated with 4  
Organizations**



# 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



The screenshot shows the PeeringDB interface for an organization named 'Example-IX'. The page includes a search bar, a navigation menu, and a table of organization details. A blue arrow points to a 'Request Ownership' button, which is highlighted with a blue box. Below the button, there is a section for 'Peers at this Exchange Point' with a filter input and a message indicating that no peers matched the filter.

PeeringDB Search here for a network, IX, or facility. ghankins-example

Advanced Search [Click "Request Ownership"](#)

Generates a Support Ticket for Validation and Approval [Request Ownership](#)

|                     |  |
|---------------------|--|
| Organization        | <a href="#">Example-IX</a>   |
| Long Name           | Example-IX, the only ATM multicast IX on the planet!   |
| City                | Atlanta  |
| Country             | US   |
| Continental Region  | North America  |
| Media Type          | ATM  |
| Protocols Supported | <input type="radio"/> Unicast IPv4 <input checked="" type="radio"/> Multicast <input type="radio"/> IPv6 |

Peers at this Exchange Point Filter

| Peer Name ▼<br>ASN  | IPv4<br>IPv6 | Speed<br>Policy |
|---|--------------|-----------------|
| Nothing matched your filter<br>You may filter by <b>Exchange</b> , <b>ASN</b> , <b>Policy</b> or <b>Speed</b> |              |                 |

# Register or Request Affiliation to an Existing Organization

**2. Confirm Email Address**  
(Click Here if not Confirmed)

**3. Enter ASN or Organization Here**  
Autocomplete on Existing ASNs and Organizations in PeeringDB

**1. Go to Your Profile**

**4. Click "Affiliate"**  
Existing: Organization Admin Needs to Approve  
New: Generates a Support Ticket for Validation and Approval

**You have confirmed your email address!**

**Affiliate with organization**

To affiliate with an existing organization, please enter the ASN or organization name below.

To register a new network organization, please enter the ASN and organization name below.

To register a new facility or exchange organization, please enter the organization name below (ASN is optional).

ASN

Organization

**Affiliate**

Existing affiliations

Your affiliation with [Nokia IP/Optical Networks Labs](#) has been approved.

ghankins

[Nokia IP/Optical Networks Labs](#)

[Profile](#)

[Logout](#)

# Organization User Management

**Manage**

[Add Facility](#) [Add Network](#) [Add Exchange](#) **Users** **Permissions**

**Approve or Deny Pending Requests**

**Delegate Permissions for Members**  
Admins Have Access to Everything

**Users requesting affiliation**

| Name | Email     | Date |
|------|-----------|------|
| User | Confirmed |      |

Currently no users requesting affiliation with Nokia IP/Optical Networks Labs

**Users in Organization**

| Name                     | Email                           | Group                    |                |
|--------------------------|---------------------------------|--------------------------|----------------|
| User                     |                                 |                          |                |
| Greg Hankins<br>ghankins | greg.hankins@alcatel-lucent.com | admin<br>member<br>admin | Remove<br>Save |

**Change User Access Levels**  
Admin – Administrator  
Member – Delegate Permissions

**Remove Users From the Organization**  
Does not Remove the User Account From PeeringDB

# Administrative Permission Delegation

User “equinix-uk” can Manage Several Network Records, but no Exchanges or Facilities

| User  | Selected Records  | Create                              | Update                              | Delete                              | Action |
|---|---|-------------------------------------|-------------------------------------|-------------------------------------|--------|
| Paul Cairney <paul.cairney@eu.equinix.com> equinix-uk | Network - Equinix Netherlands<br>Network - Equinix UK<br>Network - Equinix Germany<br>Network - Equinix France<br>Network - Equinix Switzerland | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Add    |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |        |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |        |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |        |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |        |
|   | Any Exchange  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |        |
| Raphael Ho <raphael.ho@ap.equinix.com> rho            | Network - Equinix Connect<br>Any Exchange<br>Any Facility   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Add    |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |        |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |        |
|   |   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |        |
|   |   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |        |
|   | Any Exchange  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |        |

**Create – New Entries in Record**  
**Update – Change Existing Entries in Record**  
**Delete – Delete Entries in Record**

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

# Network Record Contact Information Permissions

Contact Information

| Role  | Name                   | Phone                      |
|---|------------------------|----------------------------|
| <input checked="" type="checkbox"/> NOC       | Greg Hankins, Alastair |                            |
|   | Users                  | as38016@alcatel-lucent.com |
| <input checked="" type="checkbox"/> Technical | Greg Hankins, Alastair |                            |
|   | Users                  | as38016@alcatel-lucent.com |

Role: Abuse

Name:

Email: name@example.com

Phone:

Visibility:

- 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: <https://peeringdb.com/apidocs/>
- API documentation: [http://docs.peeringdb.com/api\\_specs/](http://docs.peeringdb.com/api_specs/)

# 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, "... }]
```

# 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
  - Redis: <https://github.com/netflix/peeringdb-py>
- 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 output 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>

# Agenda

- PeeringDB 2.0
- **Membership / Governance**
- **Committees**
- **April 2016 Elections**
- **Sponsorship**
- **Contact Information**

# Membership / Governance

- PeeringDB organization formally formed 16 Dec, 2015
- PeeringDB 501(c)(6) filed 7 Jan, 2016 (approved 24 Feb, 2016)
- 5 Board meetings have been held
- 86 members registered and voted in the first election
- 288 addresses subscribed to the Governance mailing list (as of 6 Apr 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:
  - <http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb--gov>
  - More information available at <http://gov.peeringdb.com/>

# Committees

- Admin Committee
  - Will write charter
  - Will seek individuals from the community to serve on Admin Committee
  - Will define roles, responsibilities and assist with schedule for Admin Committee
  - Seeking 0 community volunteers (1 year term)
  - Board members Job Snijders and Patrick Gilmore (Snijders as Chair)
  - Interested in volunteering? Contact [admincom@lists.peeringdb.com](mailto:admincom@lists.peeringdb.com)
- Product Development Committee
  - Will write charter
  - Will seek input from the community on desired features
  - Will write SoW's to solicit bids to complete requested features
  - Will manage priorities for selected development vendor(s)
  - Seeking 4 community volunteers (1 year term)
  - Board members Aaron Hughes and Matt Griswold (Hughes as Chair)
  - Interested in volunteering? Contact [productcom@lists.peeringdb.com](mailto:productcom@lists.peeringdb.com)

# Admin Committee

Big thanks to our awesome team of admins!



Kate Gerry



Patrick Gilmore (Vice Chair)



Matt Griswold



Greg Hankins



Florian Hibler



Eric Lindsjö



Arnold Nipper



Eduardo Ascenço Reis



Job Snijders (Chair)



Walt Wollny

# Product Development Committee

- A Product Development Committee is needed
  - Direct feature requests
  - Maintain the product roadmap
- Interested in volunteering? Contact [productcom@lists.peeringdb.com](mailto:productcom@lists.peeringdb.com)
- Feature requests can be sent to [support@peeringdb.com](mailto:support@peeringdb.com) for tracking

# Become a PeeringDB Sponsor!

- **Diamond Sponsorship - \$25,000 / year**
  - Limited to 2 sponsors
  - Very large logo on top line of Sponsors page
  - Diamond Sponsor badge display on all records
- **Platinum Sponsorship - \$10,000 / year**
  - Large logo on second line of Sponsors page
  - Platinum Sponsor badge display on all records
- **Gold Sponsorship - \$5,000 / year**
  - Medium logo on third line of Sponsors page
  - Gold Sponsor badge display on all records
- **Silver Sponsorship - \$2,500 / year**
  - Small logo on fourth line of Sponsors page
  - Silver Sponsor badge display on all records
- Contact [sponsorship@peeringdb.com](mailto:sponsorship@peeringdb.com) for sponsorship info



Proud Sponsor of  
**PeeringDB**

|                            |   |
|----------------------------|---|
| DE-CIX Frankfurt           | Platinum Sponsor  |
| <b>Organization</b>        | <a href="#">DE-CIX Management GmbH</a>  |
| <b>Long Name</b>           | Deutscher Commercial Internet Exchange  |
| <b>City</b>                | Frankfurt   |
| <b>Country</b>             | DE  |
| <b>Continental Region</b>  | Europe  |
| <b>Media Type</b>          | Ethernet  |
| <b>Protocols Supported</b> | <input checked="" type="checkbox"/> Unicast IPv4 <input checked="" type="checkbox"/> Multicast <input checked="" type="checkbox"/> IPv6 |



# Thank you to our sponsors!

Platinum  
Sponsor



Silver  
Sponsors



# Board Elections (April 2016)

- 2016 election for the PeeringDB Board of Directors has concluded
- Board of Directors
  - Seat 1 (term expires 2017): Arnold Nipper
  - Seat 2 (term expires 2018): Aaron Hughes
  - Seat 3 (term expires 2017): Patrick W. Gilmore
  - Seat 4 (term expires 2018): Job Snijders
  - Seat 5 (term expires 2017): Matt Griswold
- 94 organizations were registered to vote, 80 ballots cast

# Mailing Lists and Social Media

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



[@PeeringDB](https://twitter.com/PeeringDB)



<https://www.facebook.com/peeringdb/>

# Have questions?

- PeeringDB Officers & Board ([stewards@lists.peeringdb.com](mailto:stewards@lists.peeringdb.com))
  - Aaron Hughes – President, Director
  - Patrick Gilmore – Vice President, Director
  - Chris Caputo – Secretary & Treasurer (non-board member)
  - Matt Griswold – Director
  - Arnold Nipper – Director
  - Job Snijders – Director
- PeeringDB Admins ([support@peeringdb.com](mailto:support@peeringdb.com))

# Thanks to Richard Turkbergen

The PeeringDB Board hereby expresses its enormous appreciation to Richard A. Turkbergen (née Steenbergen) for his creation and donation of PeeringDB to the organization.





Questions?

# Adding a New Exchange to Your Organization

Manage

[Add Facility](#) [Add Network](#) **Add Exchange** [Users](#) [Permissions](#)

Name

Website

City

Country

Continental Region

Media Type

Unicast IPv4

Multicast

IPv6

Traffic Stats Website

Technical E-mail

Technical Phone

Policy E-mail

Policy Phone

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 results or the API listings

**Generates a Support Ticket for Validation and Approval**

**Enter Exchange Info Here, Then Click "Submit Exchange"**

# Editing Your Exchange Record

Example-IX Cancel Save

|                       |   |
|-----------------------|---|
| Organization          | Example-IX  |
| Long Name             | Example-IX, the only ATM multicast IX on the planet!  |
| City                  | Atlanta   |
| Country               | United States   |
| Continental Region    | North America   |
| Media Type            | ATM   |
| Protocols Supported   | <input type="checkbox"/> Unicast IPv4 <input checked="" type="checkbox"/> Multicast <input type="checkbox"/> IPv6 |
| Contact Information   |   |
| Company Website       | http://www.example.com  |
| Traffic Stats Website | http://www.example.com  |
| Technical Email       | name@example.com  |
| Technical Phone       |   |
| Policy Email          | name@example.com  |
| Policy Phone          |   |

Peers at this Exchange Point Filter

| Peer Name ▼   | IPv4 | Speed  |
|---|------|--------|
| ASN   | IPv6 | Policy |
| Nothing matched your filter<br>You may filter by Exchange, ASN, Policy or Speed |      |        |

**Enter Exchange Info Here, Then Click "Save"**

**Networks are Still Required to Associate their Record at a Facility or Exchange**



# Editing Your Exchange Record

LANs Filter

| Name                                 | DOT1Q                               | MTU                                |
|--------------------------------------|-------------------------------------|------------------------------------|
| <input type="checkbox"/> Peering LAN | <input checked="" type="checkbox"/> | 9000                               |
| <input type="checkbox"/> IPv4        | 127.0.0.0/8                         |                                    |
| <input type="text" value="IPv4"/>    | <input type="text" value="Prefix"/> | <input type="button" value="Add"/> |

Local Facilities Filter

| Facility   | Country | City |
|--|---------|------|
| Nothing matched your filter<br>You may filter by Exchange or Long Name |         |      |
| <input type="text" value="atlanta"/>                                   |         |      |
| Equinix Atlanta (AT2/3)<br>56 Marietta St NW                           |         |      |
| Telx Atlanta<br>56 Marietta St   |         |      |
| Level(3) Atlanta Courtland<br>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