PeeringDB

PeeringDB Introduction

Ben Ryall

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What is PeeringDB?

Mission statement: “PeeringDB, a nonprofit member-based organization, facilitates the exchange of user maintained interconnection related information, primarily for Peering Coordinators and Internet Exchange, Facility, and Network Operators.”

Why should you have a PeeringDB Record?

- As a network operator, a PeeringDB record makes it easy for other networks to find you, and helps you to establish peering / interconnection

- Provides a friendly GUI and powerful tools for automation and authentication

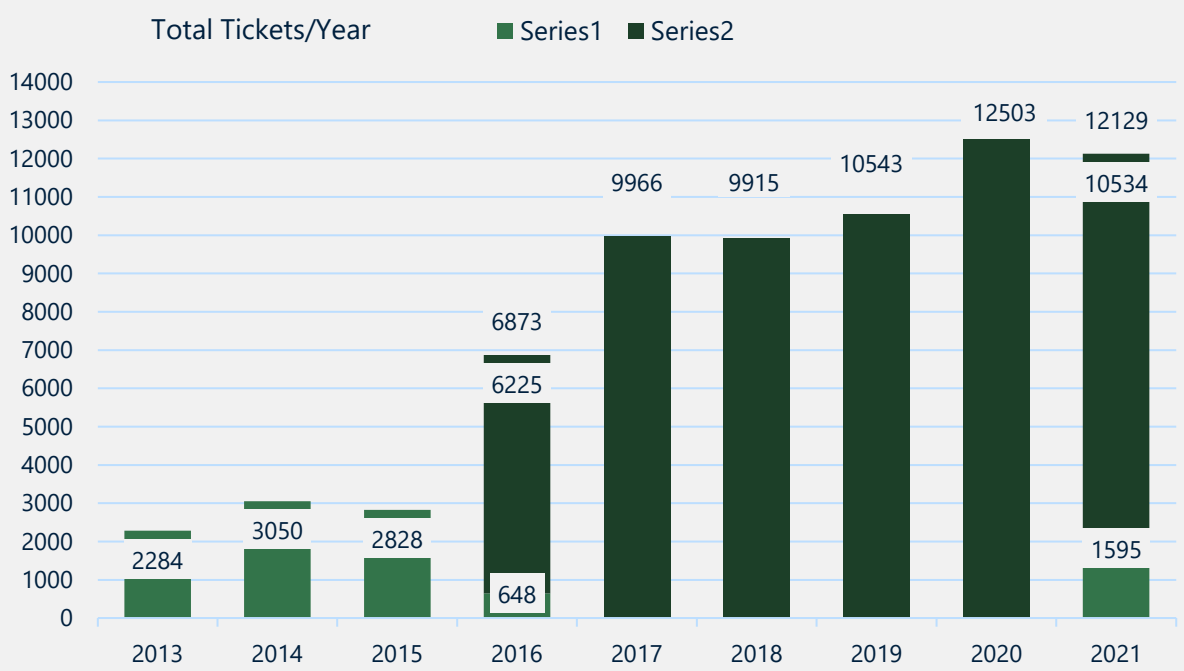
Governance and Membership

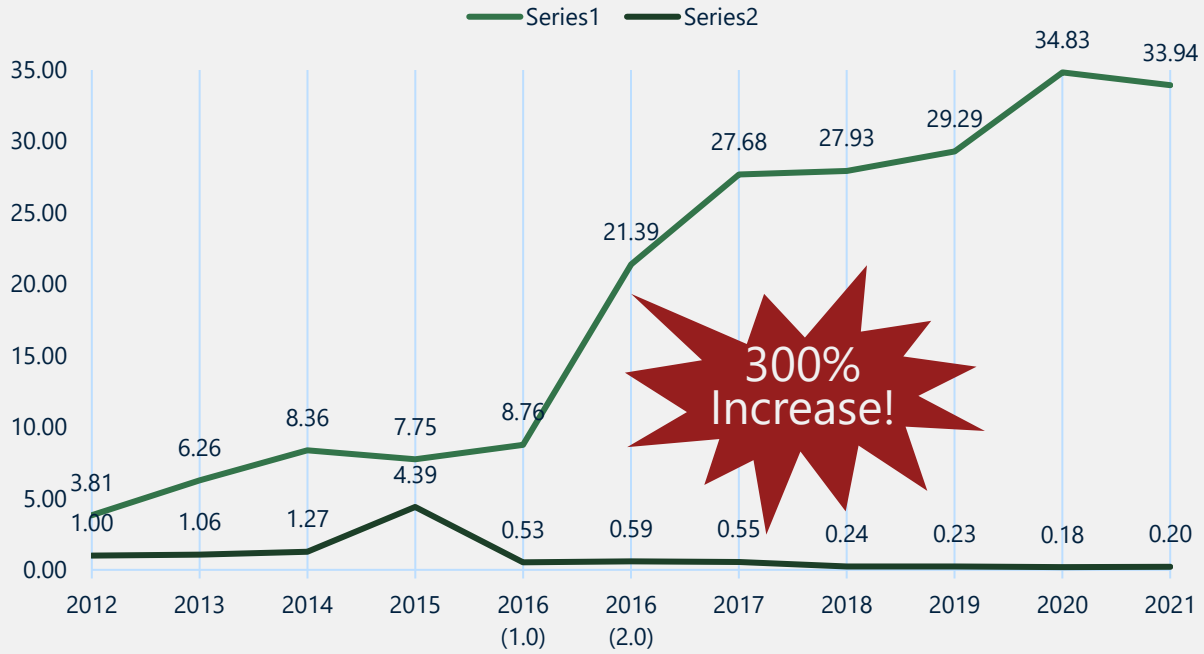
- PeeringDB is a United States 501(c)(6) volunteer organization that is 100% funded by sponsorships
- Healthy organization, building financial reserves and executing the long term strategic plan
- Membership rules
  - A corporation, limited liability company, partnership or other legal business entity 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
  - 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: Arnold Nipper (Chair) and Darwin Da Costa (Vice 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

Support Ticket Statistics

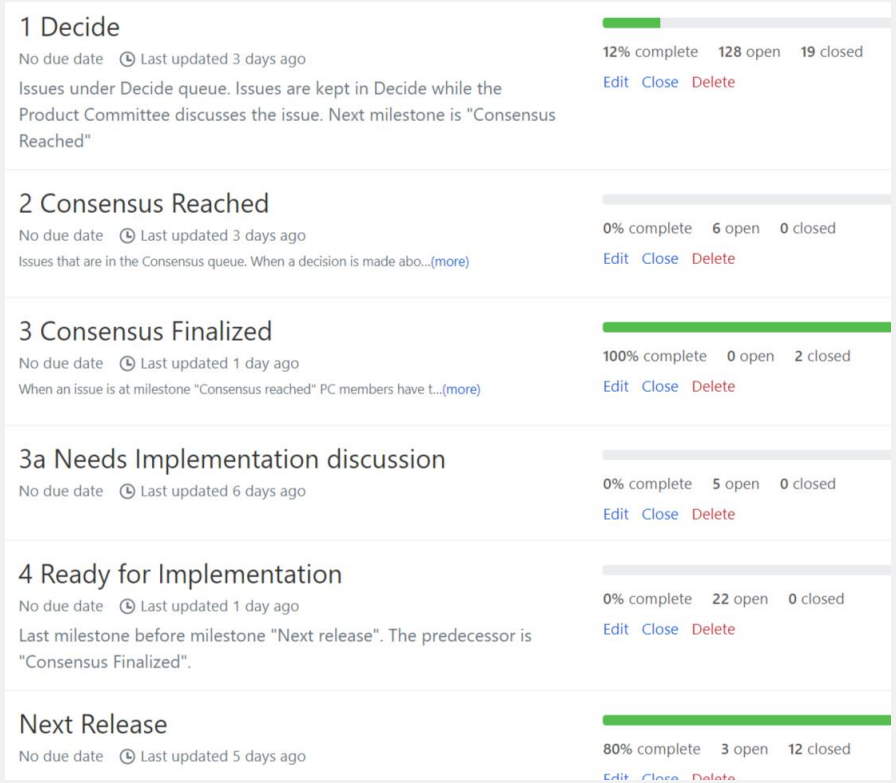




- Admin Committee volunteers are based around the world in a variety of time zones with diverse language skills
- Goal is to resolve support tickets within 24 hours

Product Development Workflow

- All issues tracked using GitHub at https://github.com/peeringdb/peeringdb/issues
  - Anyone can open a feature requests or file a bug report
  - Open and transparent process for product development
  - Workflow is at http://docs.peeringdb.com/workflow/
- Product Committee issue process
  - Evaluate and prioritize the requests
  - Request a quote for development costs
  - Request budget from the board
  - Manage implementation and scheduling
- Your input is needed on features!



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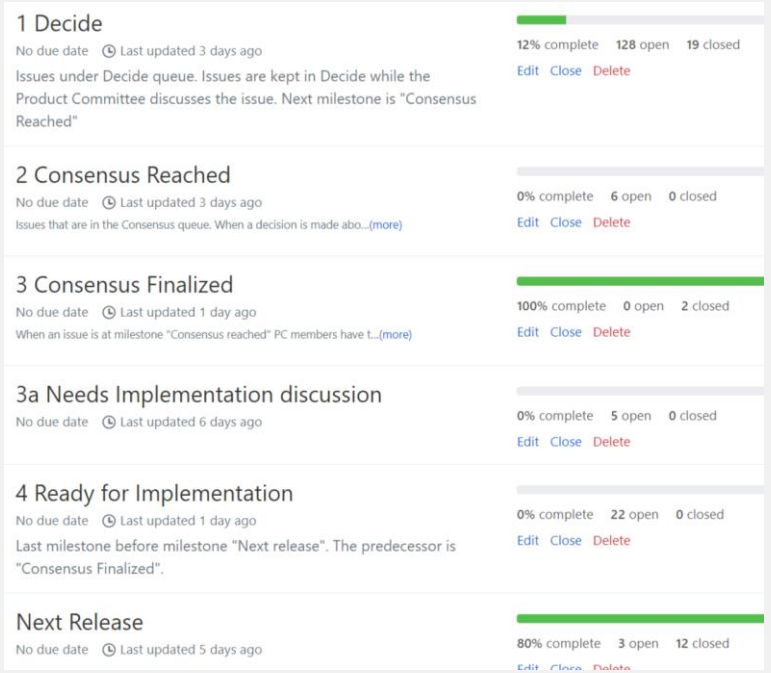
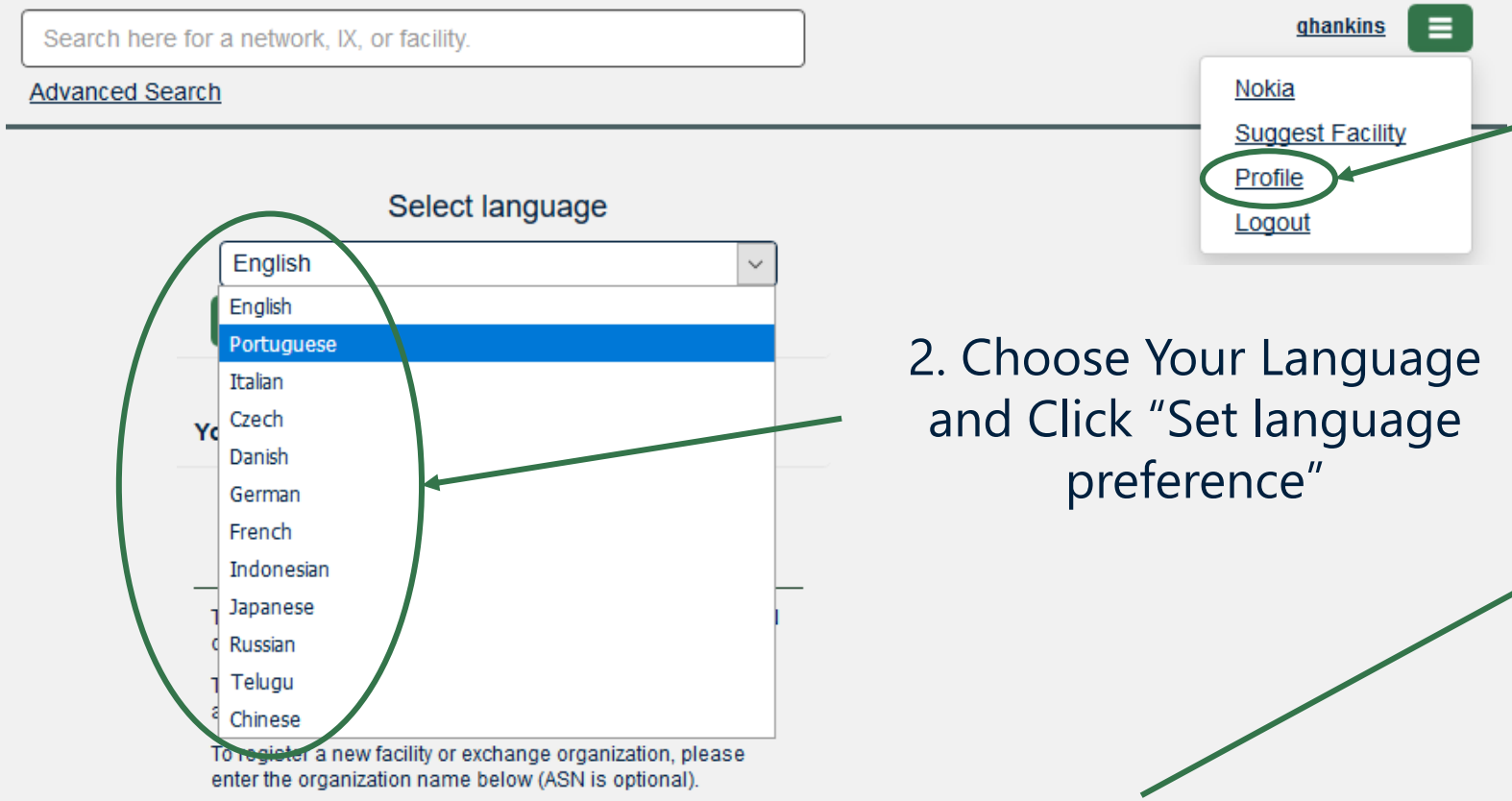


Your input is needed on features!

Release Process

- Announced at least one week in advance with all changes to give the community notice
  - Beta site is already running the development version for testing
  - Announced on PDB Announce list, Twitter, Facebook
- Released on Wednesdays at 0400Z and avoids
  - Mondays and Fridays
  - International holidays
  - Large conferences and events (APRICOT, EPF, GPF, NANOG, RIPE, etc.)
- List of current changes (release notes) for each version are on GitHub at https://github.com/peeringdb/peeringdb/milestones

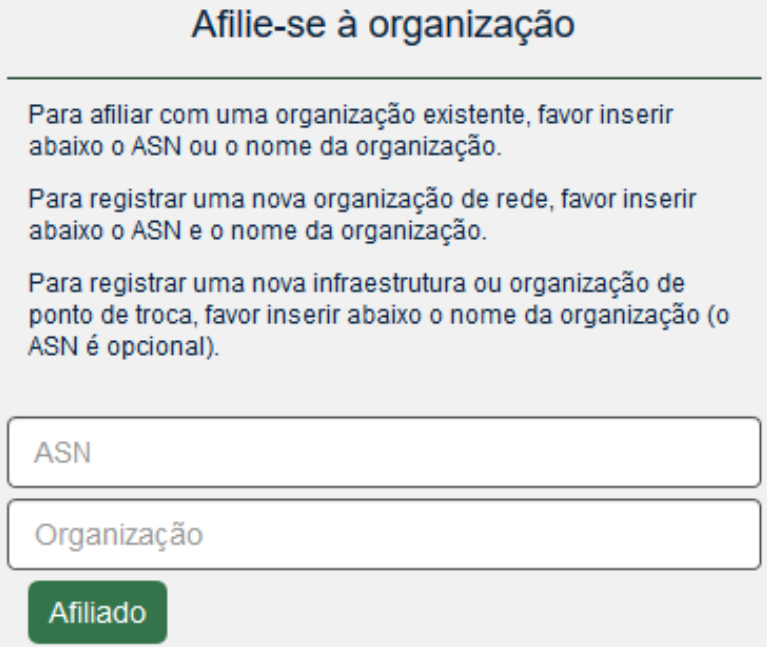
Internationalization Support



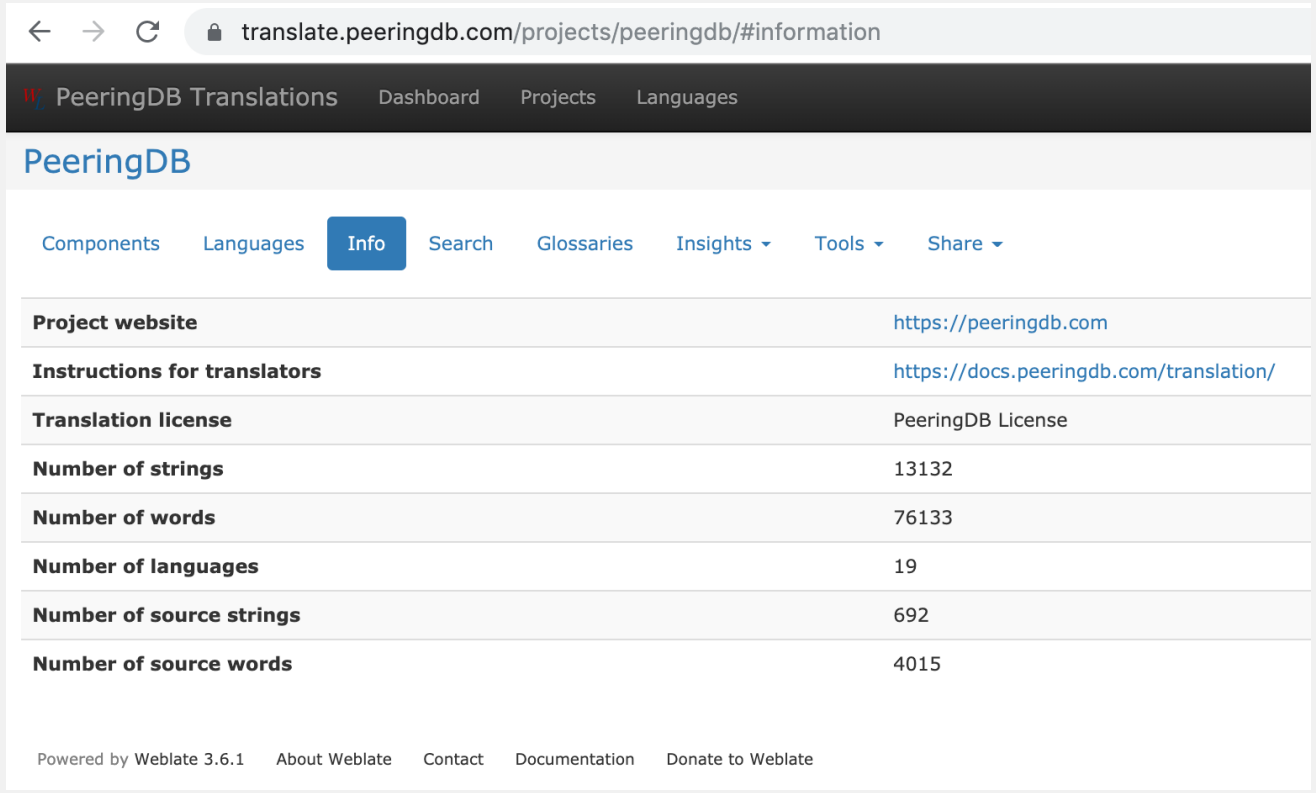
1. Go to Your Profile

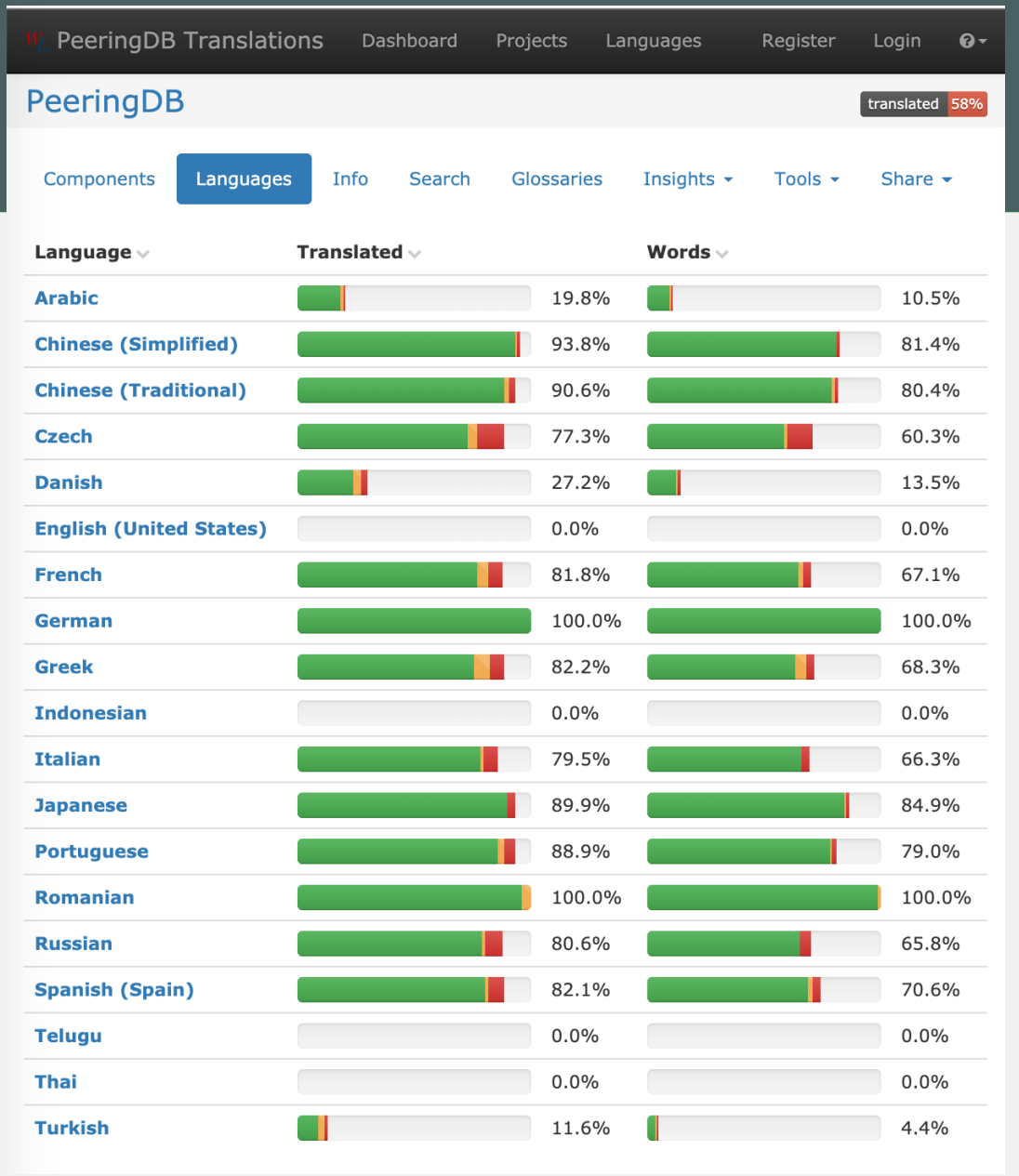
2. Choose Your Language and Click “Set language preference”

3. Text Now Appears in the Selected Language!



Current Translations





How to Contribute to Translations

1. Open a new issue named “Please generate locale files” on the GitHub issue page: https://github.com/peeringdb/peeringdb/issues
2. Your language / locale will be added to https://translate.peeringdb.com
3. Add yourself for selected languages / locales
   - Login to https://translate.peeringdb.com with your PeeringDB credentials
   - Edit your profile https://translate.peeringdb.com/accounts/profile/ and add languages your want to help translating
4. PeeringDB team continuously uploads the files to the beta website
   - You can check your translation on the beta website: https://beta.peeringdb.com/

For more info visit: https://docs.peeringdb.com/translation/

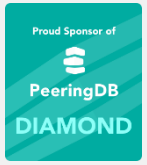
Mailing list: https://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-translate

Beta Development

- 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
- Anyone can log bugs and feature requests in GitHub at https://github.com/peeringdb/peeringdb/issues

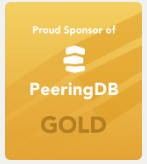
Become a PeeringDB Sponsor!

- 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

Teraco Data Environments Gold Sponsor

Organization	Teraco Data Environments Pty Ltd
Also Known As	NAPAfrica
Long Name	
Company Website	http://www.teraco.co.za
ASN	37599
IRR as-set/route-set	AS-TERACO

Facebook Inc Gold Sponsor

Organization	Facebook
Also Known As	Facebook, Instagram, WhatsApp
Long Name	
Company Website	https://www.facebook.com/
ASN	32934
IRR as-set/route-set	AS-FACEBOOK

Proud Sponsor of PeeringDB Gold

Contact sponsorship@peeringdb.com for sponsorship info!

Thank you to our sponsors!

Diamond Sponsor

amazon

Microsoft

Platinum Sponsors

BCIX

DE-CIX

KDDI TELEHOUSE

NTT

YAHOO!

Gold Sponsors

Akamai FASTER FORWARD

edgeuno.com

FACEBOOK

Internet Society

IX AUSTRALIA powered by Internet Association of Australia

maxihost

Seaborn

Stealth COMMUNICATIONS

TERACO AFRICA'S DATA CENTRE

Silver Sponsors

anexia

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BBIX

cologix

DATA4

DIGITAL REALTY

France-IX Convergence hub

gtt

interxion

INTERLAN INTERNET EXCHANGE

jpix

lacnic

linx

LL-IX

Netrality Data Centers

NETNOD

NEWBY VENTURES

NIX.CZ

NLIX neutral internet exchange

NYIIX

LAIIX

QIX

RIPE NCC RIPE NETWORK COORDINATION CENTRE

STACLAR

SysEleven

zenlayer

Information and Resources

- Announce list: http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-announce
- Governance list: http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov
- Technical list: http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-tech
- User Discuss list: http://lists.peeringdb.com/cgi-bin/mailman/listinfo/user-discuss
- Docs, presentations, guides, tools: http://docs.peeringdb.com/

- Board and Officers: stewards@lists.peeringdb.com
- Admins: support@peeringdb.com
- Presentation requests: outreachcom@lists.peeringdb.com
- Uptime status: http://status.peeringdb.com/

Bugs and feature requests: https://github.com/peeringdb/peeringdb/

- Social media:

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

https://www.linkedin.com/company/peeringdb

@PeeringDB

https://www.youtube.com/channel/UCOrYWUg-dbL9UTFV_Lry6Wg

PeeringDB

Questions?

PeeringDB

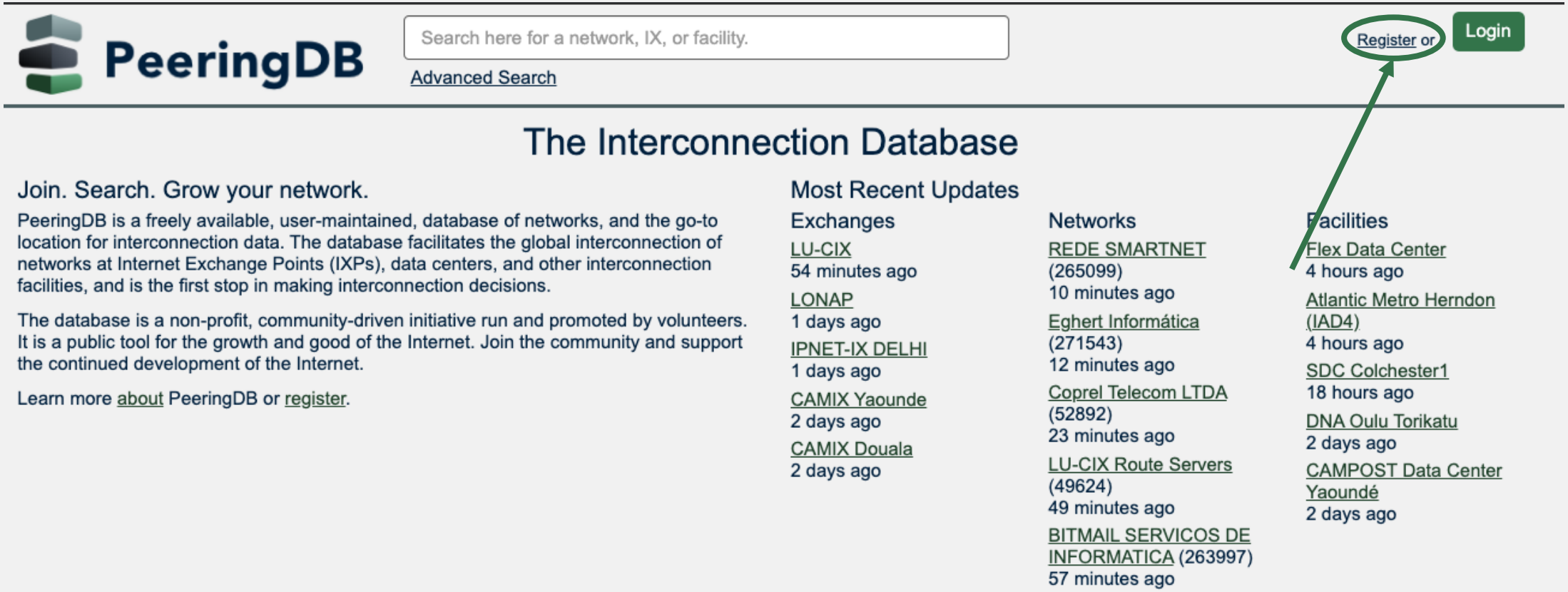
How To:

Get started as a Network Operator

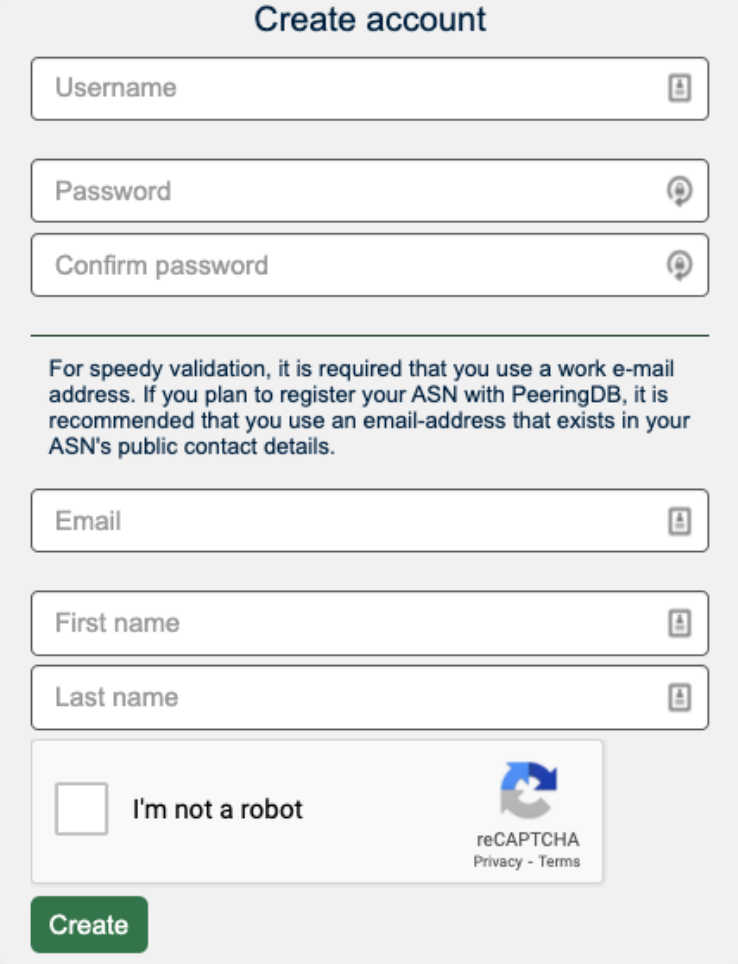
Playground

Please always use the tutorial DB at
https://tutorial.peeringdb.com

Registering



Registering

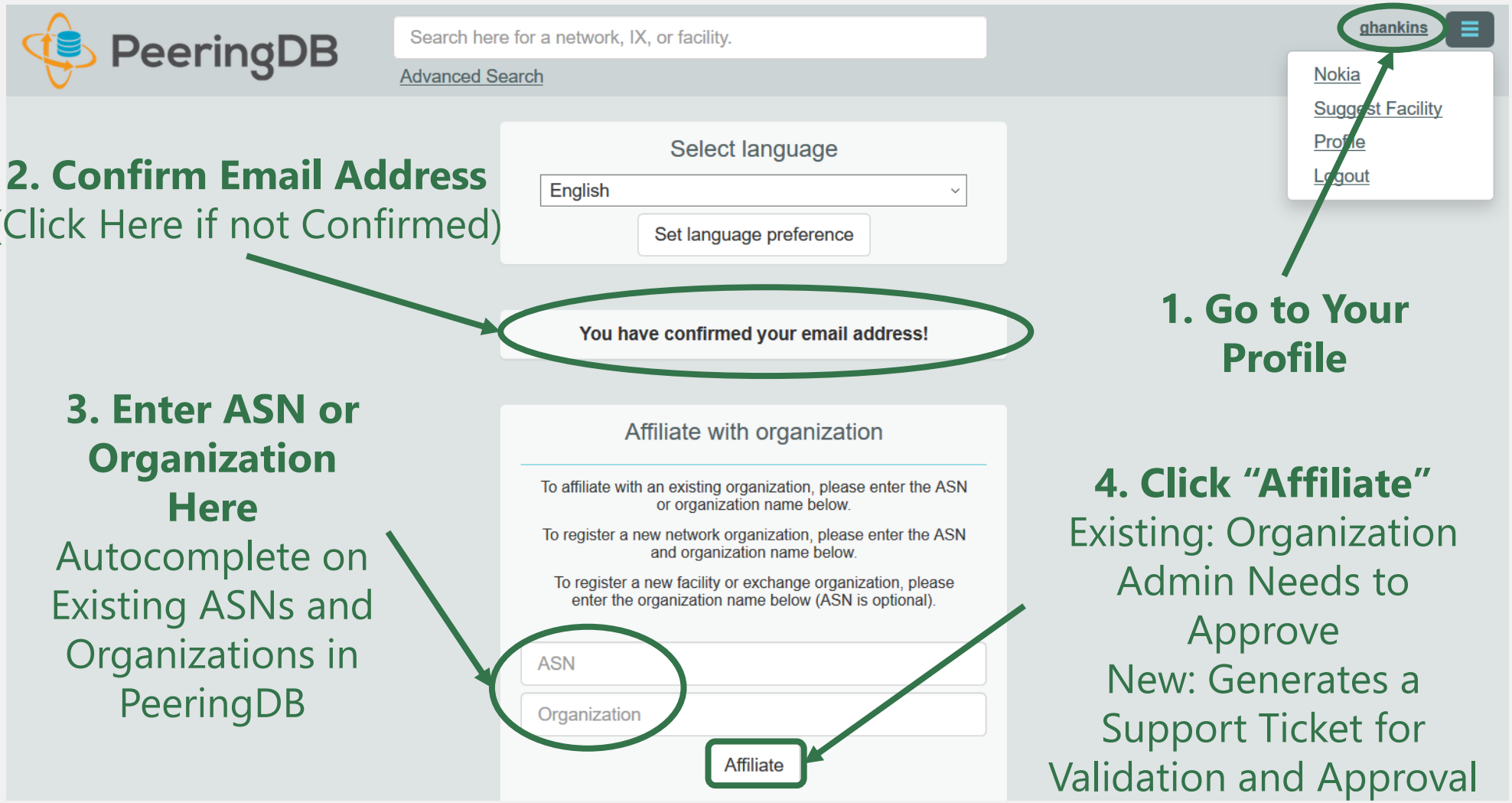


- Choose a username
  - Password must be at least 10 characters long

Use a real work e-mail address

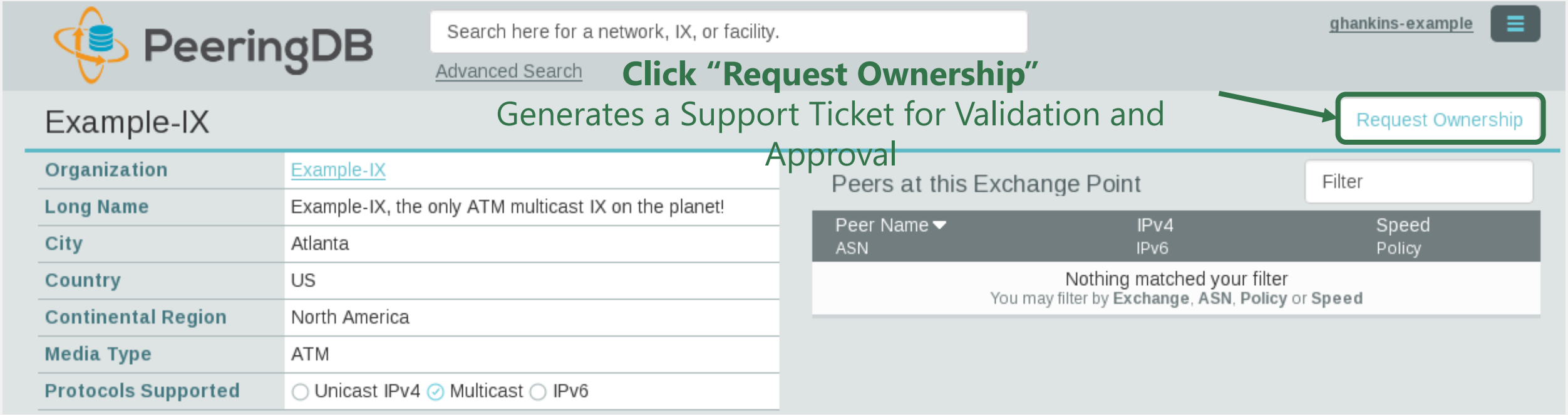
- Ideally the one you registered the ASN with
- Put in your first and last name
- You will receive a confirmation email
- Click on the link in the email

Register or Request Affiliation to an Existing Organization

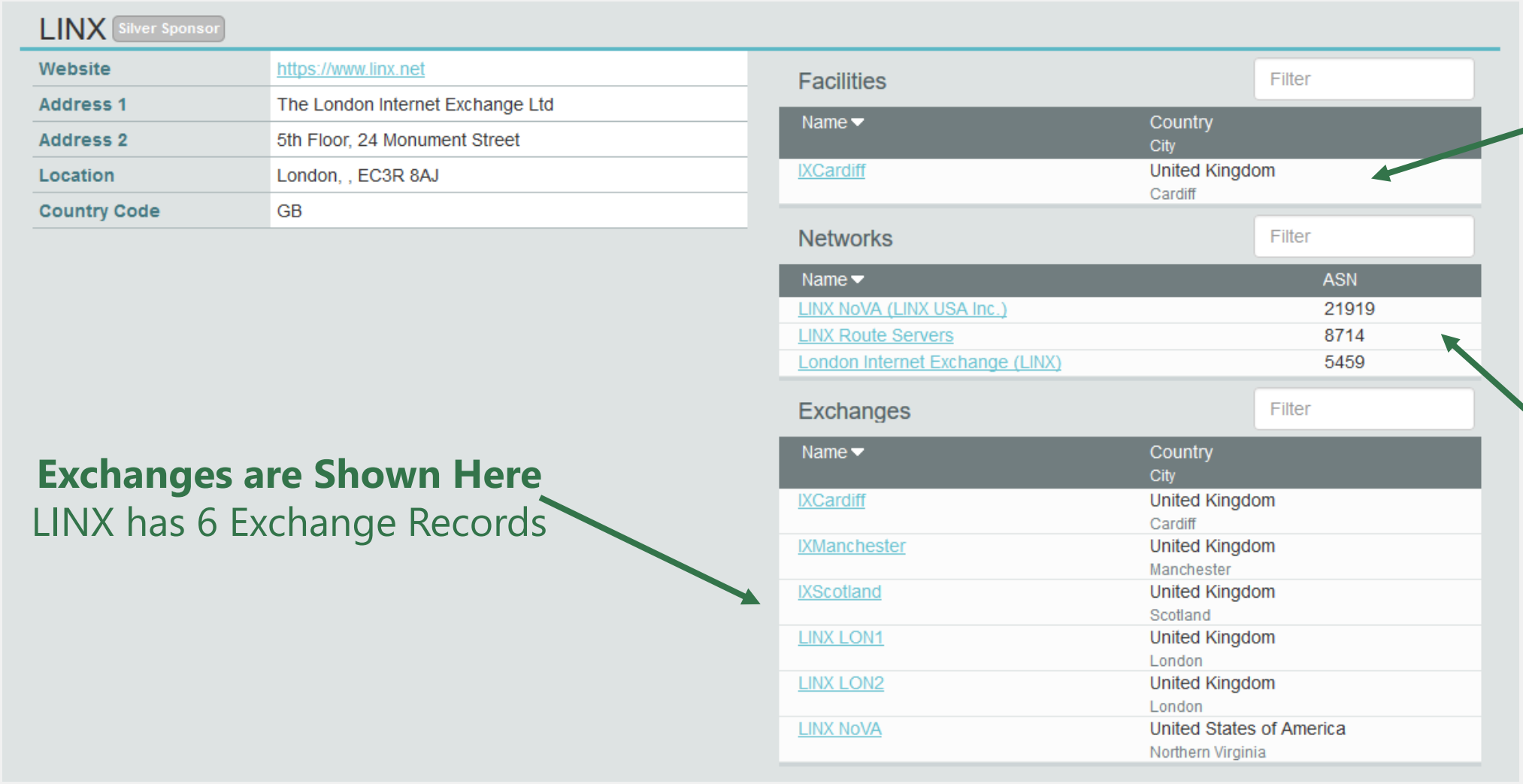


Request Ownership of an Existing Organization

- 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



Multiple Records Under a Single Organization



LINX Silver Sponsor

Website	https://www.linx.net
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 / City
IXCardiff	United Kingdom / Cardiff

Networks

Filter

Name	ASN
LINX NoVA (LINX USA Inc.)	21919
LINX Route Servers	8714
London Internet Exchange (LINX)	5459

Exchanges

Filter

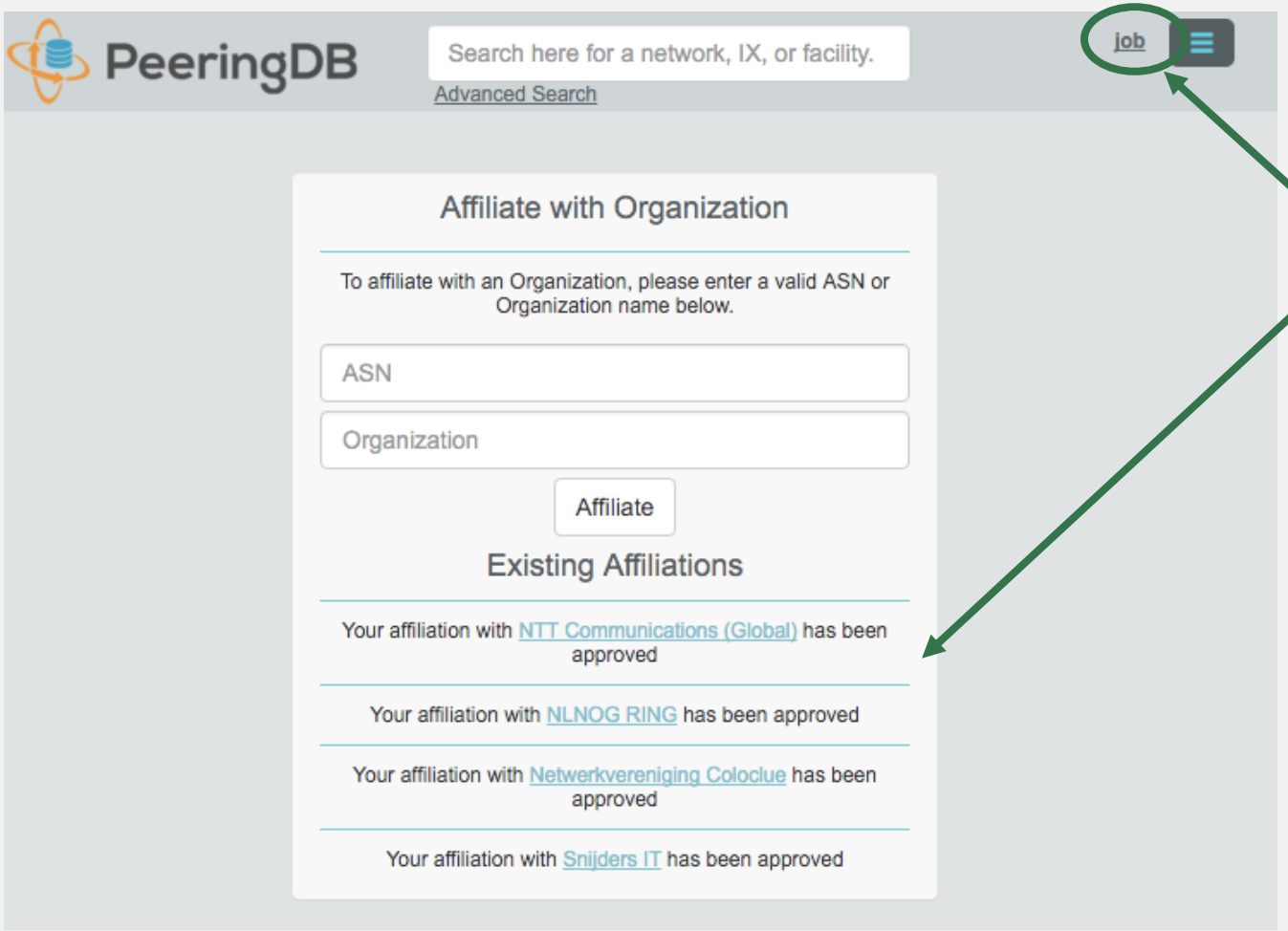
Name	Country / City
IXCardiff	United Kingdom / Cardiff
IXManchester	United Kingdom / Manchester
IXScotland	United Kingdom / Scotland
LINX LON1	United Kingdom / London
LINX LON2	United Kingdom / London
LINX NoVA	United States of America / Northern Virginia

Facilities are Shown Here
LINX has 1 Facility

Networks are Shown Here
LINX has 2 Network Records

Exchanges are Shown Here
LINX has 6 Exchange Records

One Account Managing Multiple Organizations



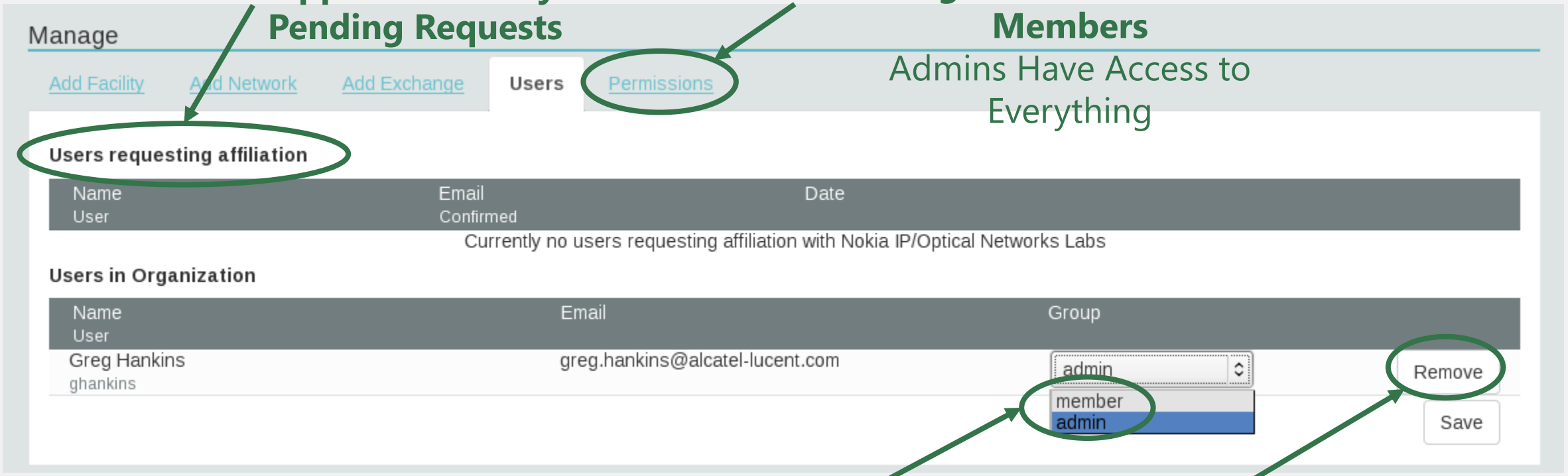
Account "job" is Affiliated with 4 Organizations

Organization User Management

Approve or Deny Pending Requests

Delegate Permissions for Members

Admins Have Access to Everything



Change User Access Levels

Admin – Administrator

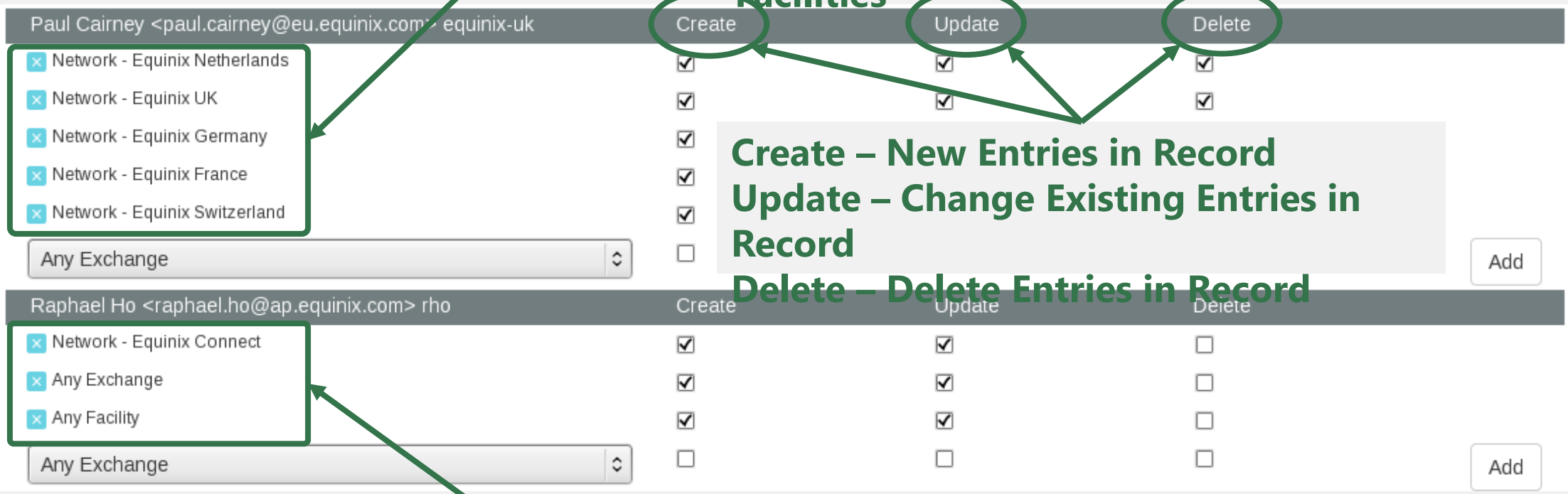
Member – Delegate Permissions

Remove Users From the Organization

Does not Remove the User Account From PeeringDB

Administrative Permission Delegation

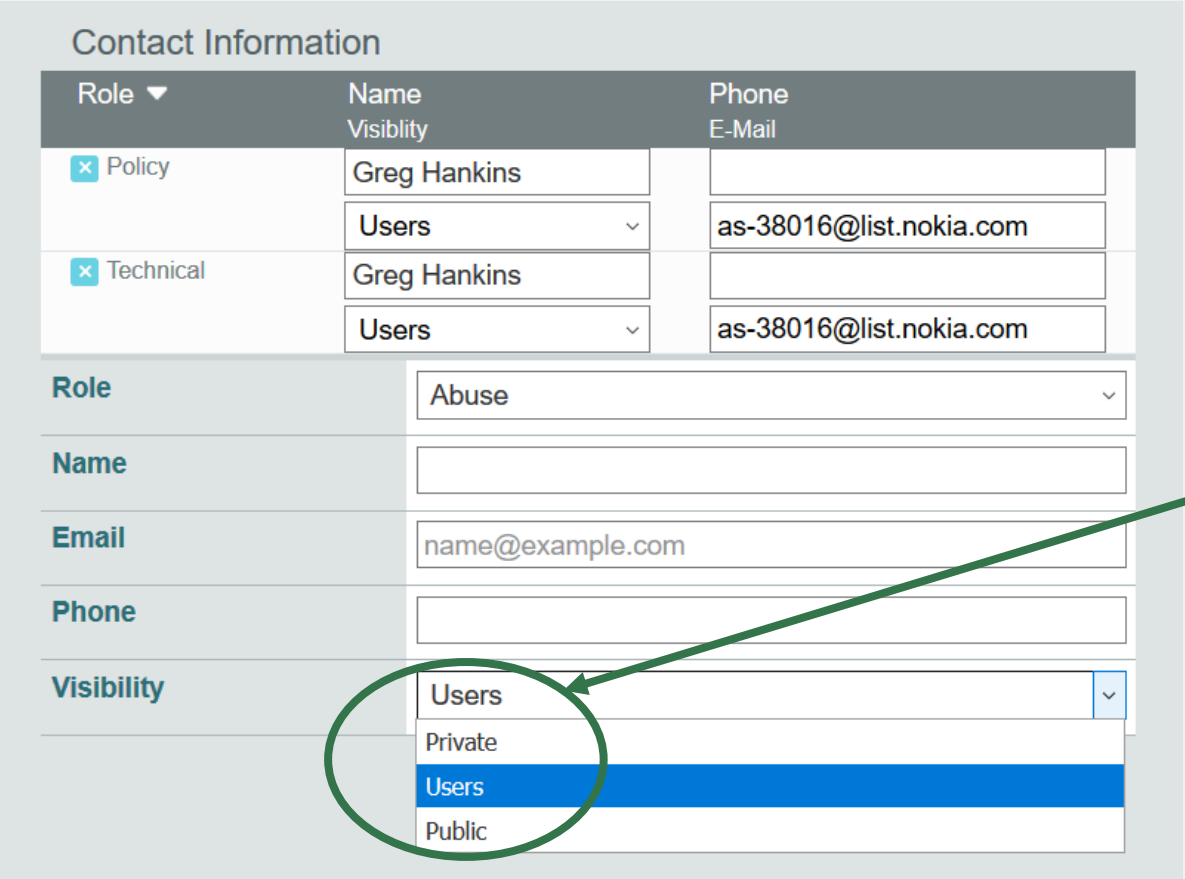
User “equinix-uk” can Manage Several Network Records, but no Exchanges or Facilities



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



Separate Visibility Preferences for Each Role

Private – Organization Only

Users – Registered Users Only (Default)

Public – Anyone (no Login Required)

Roles:

Abuse

Policy

Technical

NOC

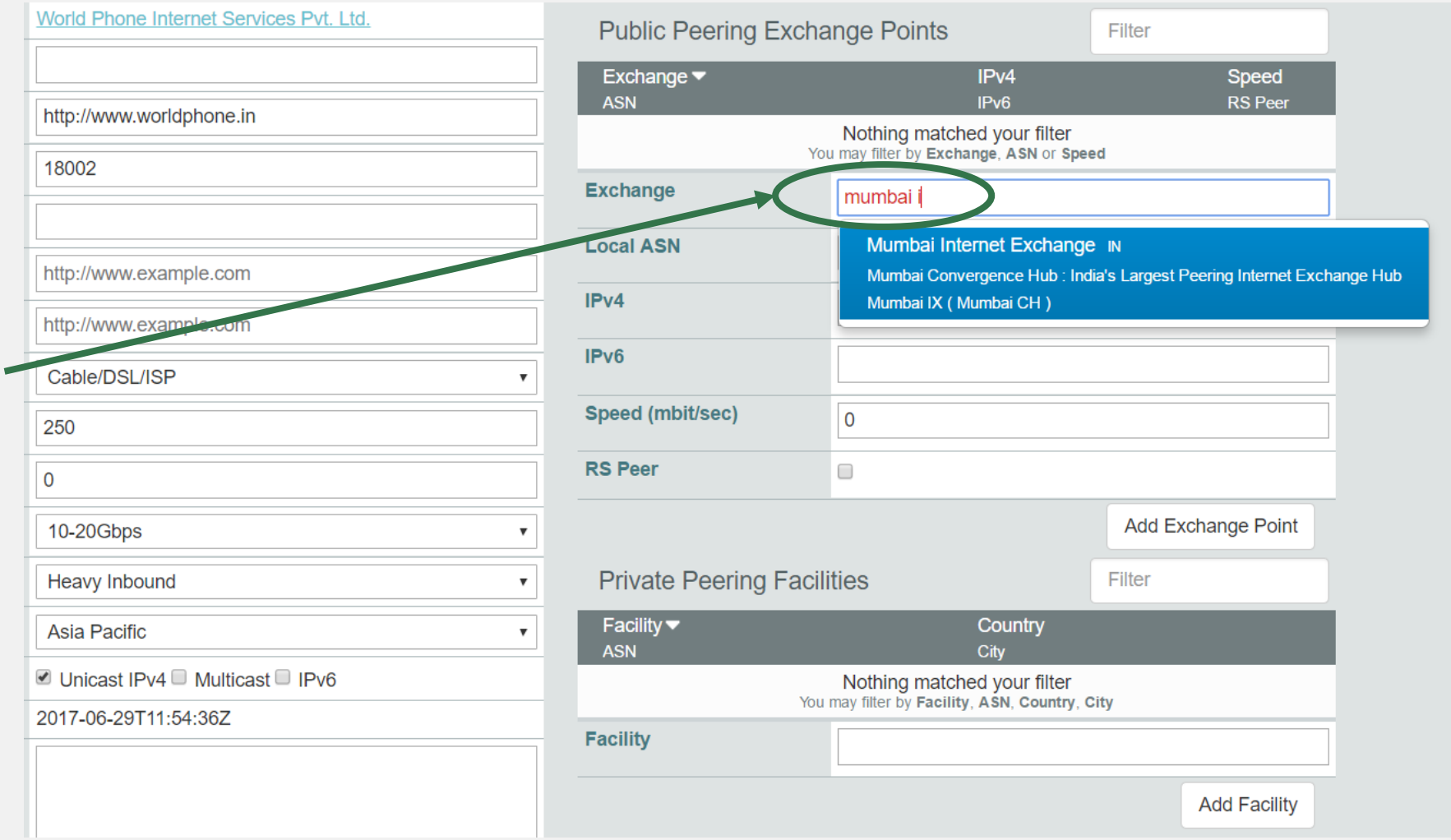
Public Relations

Sales

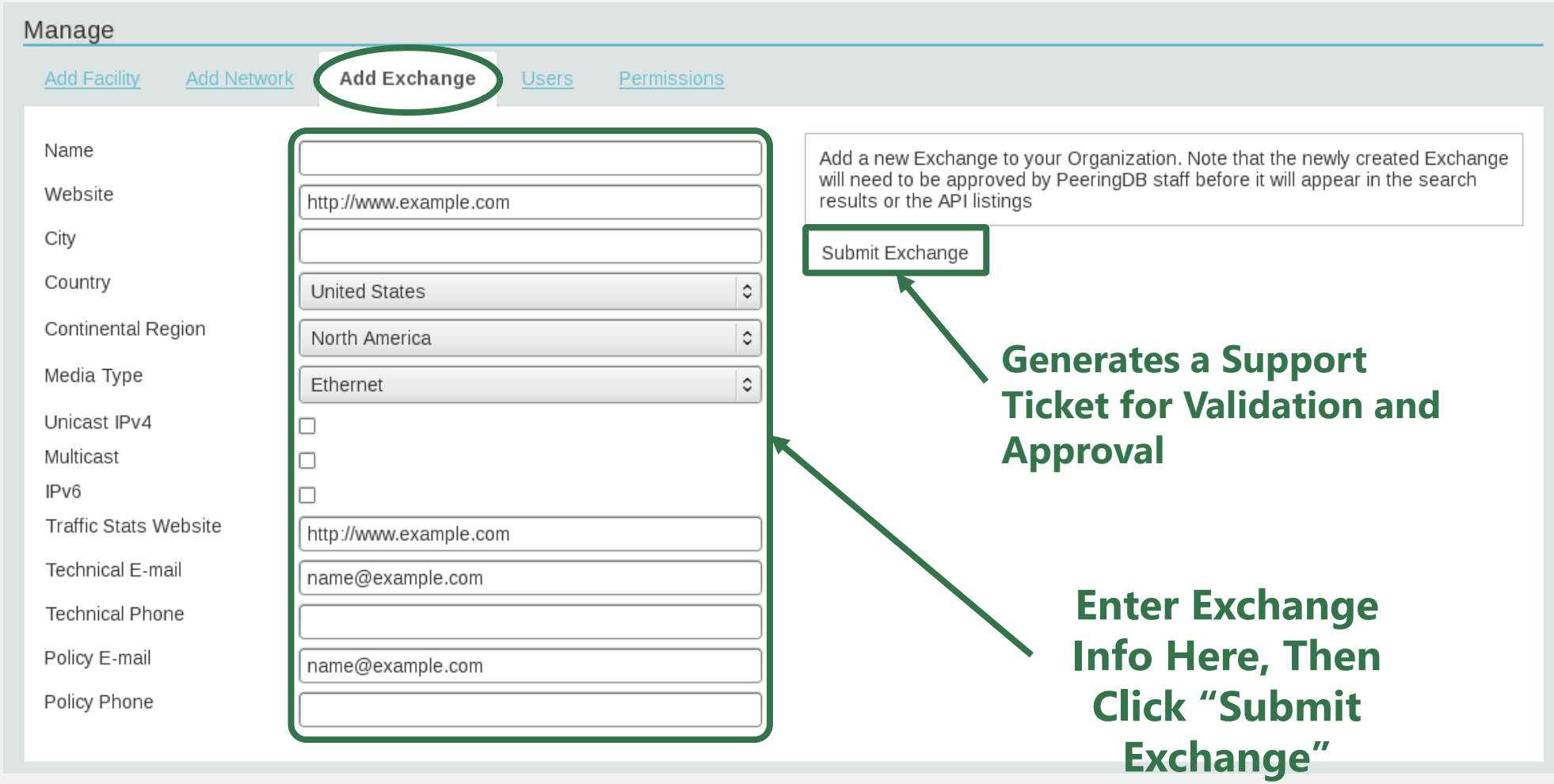
Adding Your Network to an IXP or Facility

1. Go to your network record and click on “Edit”
2. Start to type in the name of the IXP and select the IXP
3. If the IXP is missing, contact PeeringDB support
4. Add your IP addresses, port speed, and click the “RS Peer” box if you peer with the route server
5. Finally click on “Add Exchange Point”

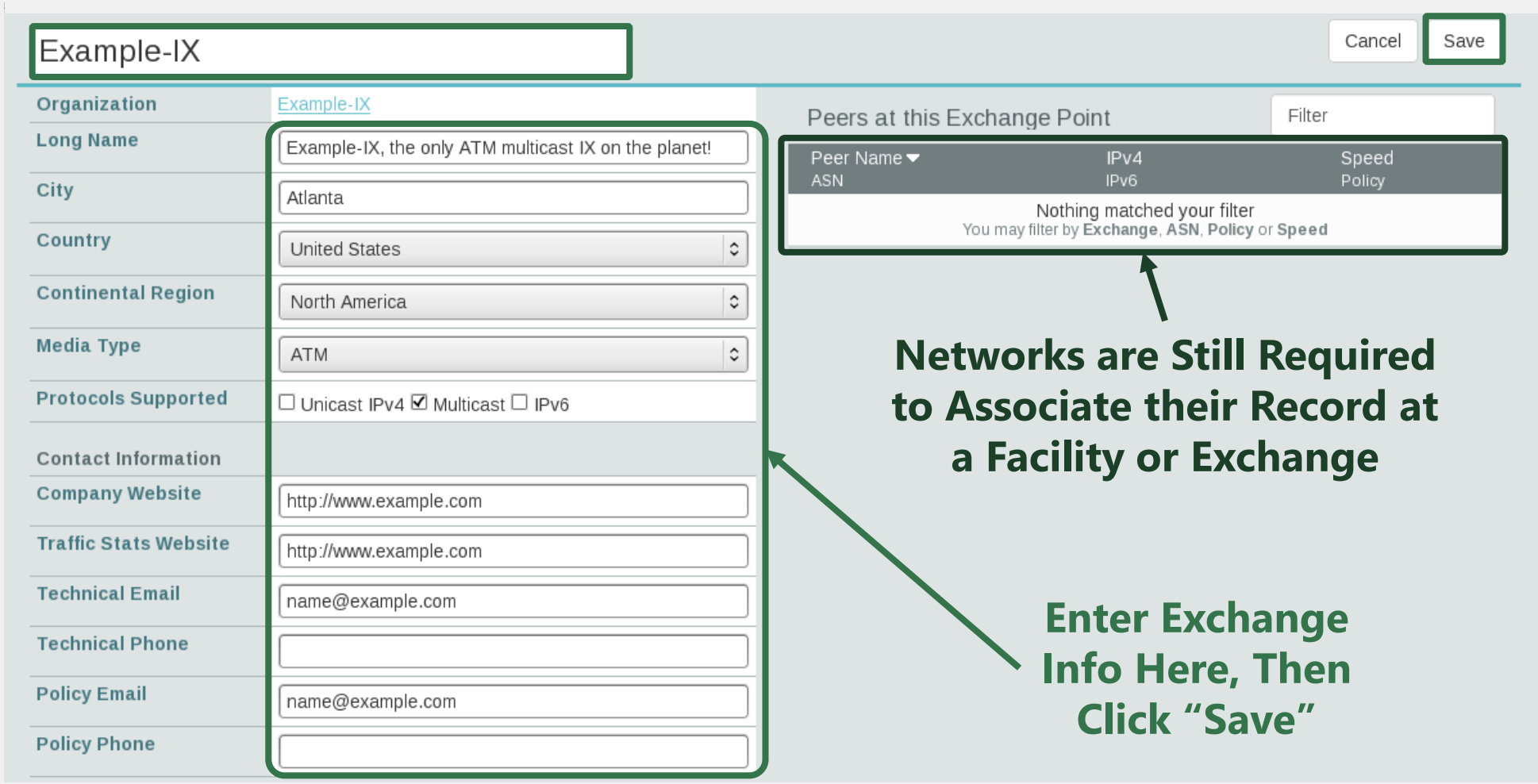
- Use the same procedure for adding a Facility



Adding a New Exchange to Your Organization



Editing Your Exchange Record



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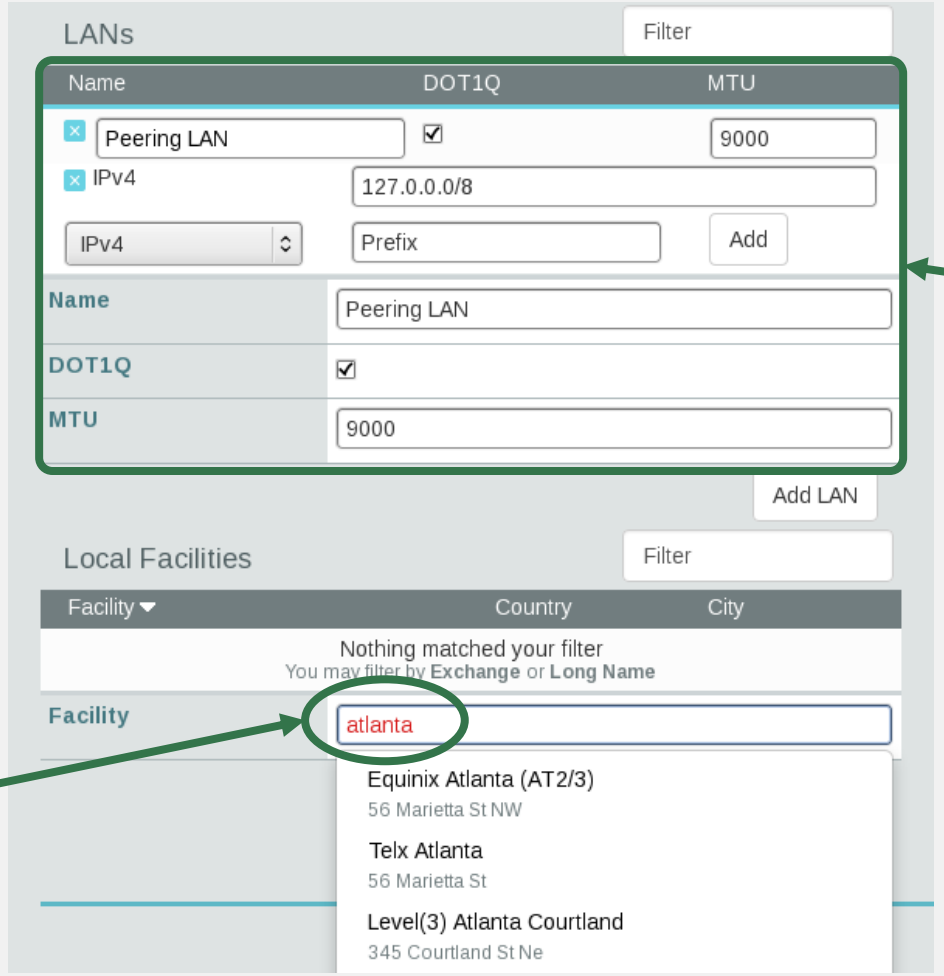


Enter LAN Info Here
Name – Optional Name
DOT1Q – 802.1Q Tag
MTU
IPv4/IPv6 Addresses

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

PeeringDB

How To:
Why Adding Users is Important

Adding Users

- You do not have to be the only person with PeeringDB
- Other users from your organization may also register
- User can be “admin” or ”member”
  - First user is automatically admin
- Administrators are allowed to edit all fields (for your organization)
- Members rights can be as restrictive or as open – you choose!

Why is it important

- Allow people to find contact details for network
  - Could be peering request
  - Or Operational issues
- Need to be logged in to see contact details
- Organizations build automation based on PeeringDB data

PeeringDB

How To:
Automation and Authentication

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
  - Basic types: org, net, ix, fac, poc
  - Derived types: ixfac, ixlan, ixpfx, netfac, netixlan
- List of objects: https://peeringdb.com/apidocs/
- API documentation: 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
- Sync using the provided tools or build your own using the API

Django Library

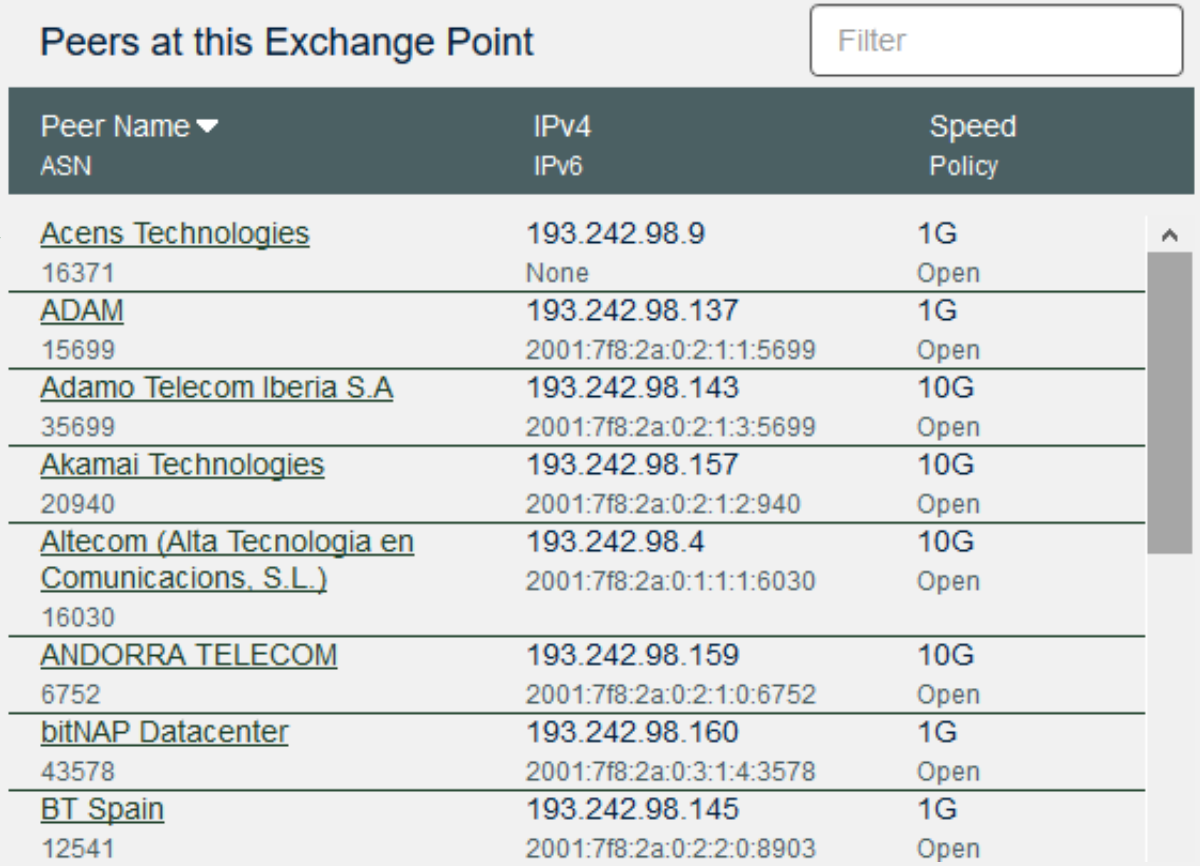
- django-peeringdb is a Django library with a local PeeringDB database sync
- Defines the database schema to create a local database copy
- Easy to integrate in a common framework for locals tools and custom interfaces
- Supports multiple database engines (MySQL, Postgres, SQLite)
- Available at http://peeringdb.github.io/django-peeringdb/

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

List All Peers at an IXP

```
% curl -s -X GET https://www.peeringdb.com/api/netixlan\?ixlan_id=62 | jq '.data[]'
{
  "id": 13312,
  "net_id": 2255,
  "ix_id": 62,
  "name": "CATNIX",
  "ixlan_id": 62,
  "notes": "",
  "speed": 1000,
  "asn": 16371,
  "ipaddr4": "193.242.98.9",
  "ipaddr6": null,
  "is_rs_peer": false,
  "created": "2013-02-08T00:00:00Z",
  "updated": "2016-03-14T21:31:39Z",
  "status": "ok"
}
```



Peers at this Exchange Point

Filter

Peer Name ▾ ASN	IPv4 IPv6	Speed Policy
Acens Technologies 16371	193.242.98.9 None	1G Open
ADAM 15699	193.242.98.137 2001:7f8:2a:0:2:1:1:5699	1G Open
Adamo Telecom Iberia S.A 35699	193.242.98.143 2001:7f8:2a:0:2:1:3:5699	10G Open
Akamai Technologies 20940	193.242.98.157 2001:7f8:2a:0:2:1:2:940	10G Open
Altecom (Alta Tecnologia en Comunicacions, S.L.) 16030	193.242.98.4 2001:7f8:2a:0:1:1:1:6030	10G Open
ANDORRA TELECOM 6752	193.242.98.159 2001:7f8:2a:0:2:1:0:6752	10G Open
bitNAP Datacenter 43578	193.242.98.160 2001:7f8:2a:0:3:1:4:3578	1G Open
BT Spain 12541	193.242.98.145 2001:7f8:2a:0:2:2:0:8903	1G Open

OAuth Authentication – New in 2.7.1

- PeeringDB users are often connected to multiple IXPs and meet at the same events
  - OAuth2 defined in RFC 6749 is a third-party authentication framework that lets PeeringDB be an OAuth server
  - Register your application, so people can use their PeeringDB account to login instead of requiring them to register in your application
- Full user control, each PeeringDB user must permit each application to use OAuth
- More details are available here: https://docs.peeringdb.com/oauth/