



# PeeringDB 2.0

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# Agenda

- **PeeringDB 2.0**
- Membership and Governance
- Committees
- Sponsorship
- Information and Resources

# What is PeeringDB?

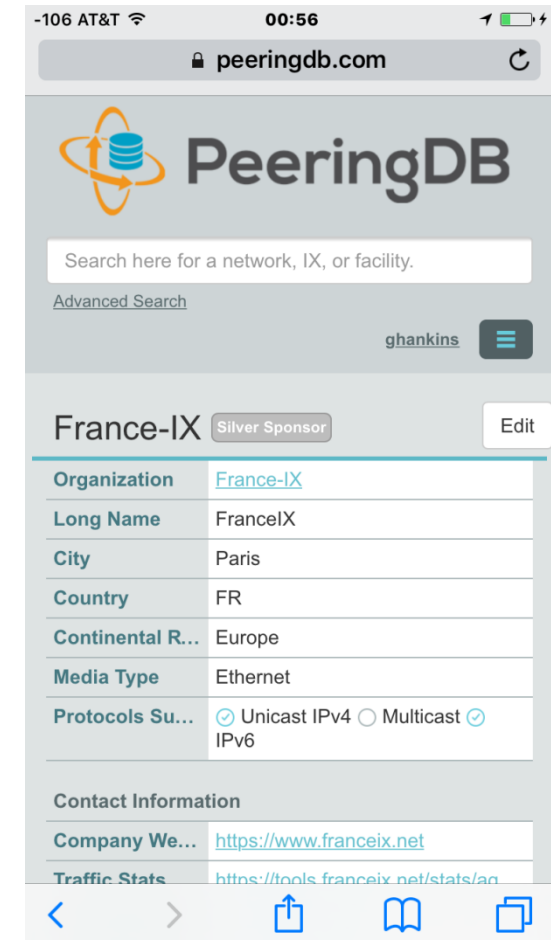
- PeeringDB is the database of peering information on the Internet
- Contains peering location and contact information for
  - Networks
  - Exchanges
  - Facilities
- A PeeringDB record makes it easy for people to find you, and helps you to establish peering
- If you aren't registered in PeeringDB, you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

- 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
  - 20C (developer contractor) very responsive to community - thanks!
- Current release: 2.0.10

# 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

Name	Country	City
<a href="#">IXCardiff</a>	United Kingdom	Cardiff

## Networks

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

## Exchanges

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

PeeringDB

Search here for a network, IX, or facility.  
[Advanced Search](#)

**job**

### Affiliate with Organization

To affiliate with an Organization, please enter a valid ASN or Organization name below.

ASN

Organization

Affiliate

### Existing Affiliations

Your affiliation with [NTT Communications \(Global\)](#) has been approved

Your affiliation with [NLNOG RING](#) has been approved

Your affiliation with [Netwerkvereniging Coloclue](#) has been approved

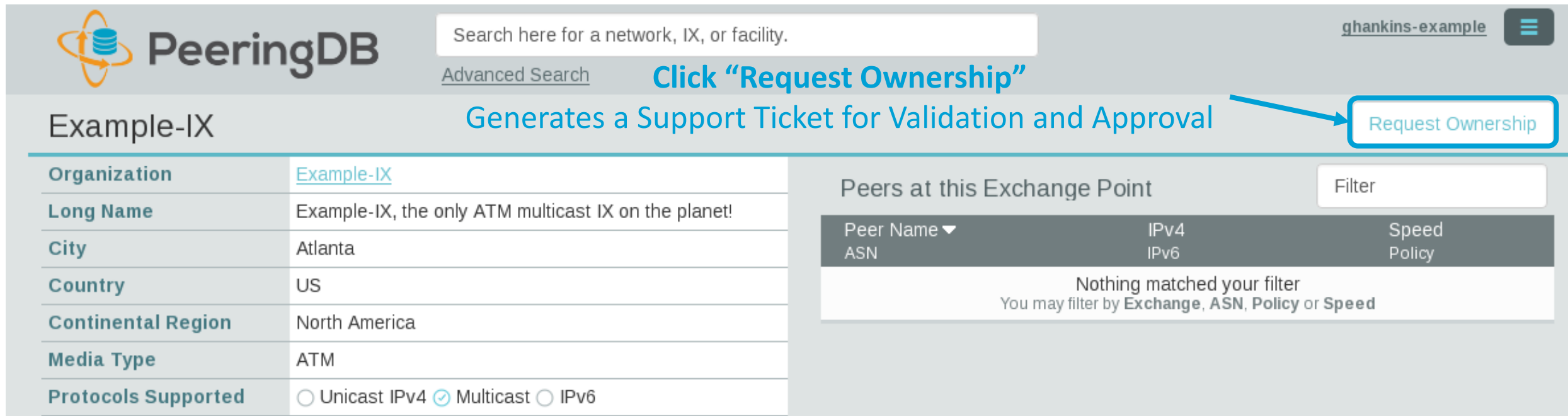
Your affiliation with [Snijders IT](#) has been approved

**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 top navigation bar includes the PeeringDB logo, a search bar, and the user name 'ghankins-example'. Below the search bar, there is a link for 'Advanced Search' and a prominent blue button labeled 'Request Ownership' with a blue arrow pointing to it. A text annotation above the button reads 'Click "Request Ownership" Generates a Support Ticket for Validation and Approval'. The main content area is divided into two sections: a table of organization details on the left and a 'Peers at this Exchange Point' section on the right. The organization details table includes fields for Organization, Long Name, City, Country, Continental Region, Media Type, and Protocols Supported. The peers section has a filter input and a table with columns for Peer Name, ASN, IPv4, IPv6, Speed, and Policy. A message below the peers table states 'Nothing matched your filter' and provides suggestions for filtering by Exchange, ASN, Policy, or Speed.

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

Advanced Search **Click "Request Ownership"**

Example-IX 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	ASN	IPv4	IPv6	Speed	Policy
Nothing matched your filter 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 ghankins	greg.hankins@alcatel-lucent.com	admin

Remove 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

The screenshot displays two user profiles with their respective permissions:

- Paul Cairney <paul.cairney@eu.equinix.com> equinix-uk**
  - Network - Equinix Netherlands
  - Network - Equinix UK
  - Network - Equinix Germany
  - Network - Equinix France
  - Network - Equinix Switzerland
  - Any Exchange
- Raphael Ho <raphael.ho@ap.equinix.com> rho**
  - Network - Equinix Connect
  - Any Exchange
  - Any Facility
  - Any Exchange

Permissions for actions:

User	Create	Update	Delete
Paul Cairney	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Raphael Ho	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Legend:

- 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

- 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
- 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>

# Agenda

- PeeringDB 2.0
- **Membership and Governance**
- **Committees**
- **Sponsorship**
- **Information and Resources**

# Membership and Governance

- PeeringDB organization formally formed 16 Dec, 2015
- PeeringDB 501(c)(6) filed 7 Jan, 2016 (approved 24 Feb, 2016)
- 2<sup>nd</sup> election held April 2016: 94 organizations registered, 80 voted
- 292 addresses subscribed to the Governance mailing list (as of 16 May 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/>

# Board of Directors and Officers



Chris Caputo – Secretary & Treasurer  
(Non-Board Member)



Patrick Gilmore – Director  
(Term Expires 2017)



Matt Griswold – Director  
(Term Expires 2017)



Aaron Hughes – President  
(Term Expires 2018)



Arnold Nipper – Director  
(Term Expires 2017)



Job Snijders – Vice President  
(Term Expires 2018)

# Committees

## Admin Committee

- Manage administration of user accounts and PeeringDB records
- Answer support tickets
- Board members Job Snijders (Chair) and Arnold Nipper (Vice Chair)
- Seeking 0 community volunteers (1 year term)
- Contact: [support@peeringdb.com](mailto:support@peeringdb.com)

## Product Committee

- Ask for input from the community on desired features
- Manage roadmap and development priorities
- Write SoWs to solicit bids to complete requested features
- Board members Aaron Hughes (Chair) and Matt Griswold (Vice Chair)
- Seeking 0 community volunteers (1 year term)
- Contact: [productcom@lists.peeringdb.com](mailto:productcom@lists.peeringdb.com)

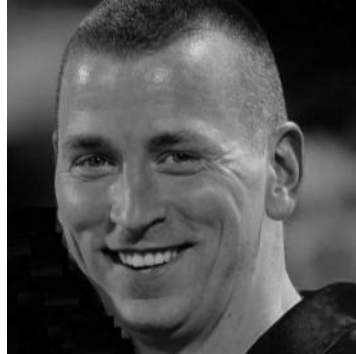
# Admin Committee



Kate  
Gerry



Patrick  
Gilmore



Charles  
Gucker



Greg  
Hankins



Florian  
Hibler



Eric  
Lindsjö



Arnold Nipper –  
Vice Chair



Robert  
Philips



Eduardo  
Ascençõ Reis



Job Snijders –  
Chair



Michael  
Still



Walt  
Wollny

# Product Committee



Karthik  
Arumugham



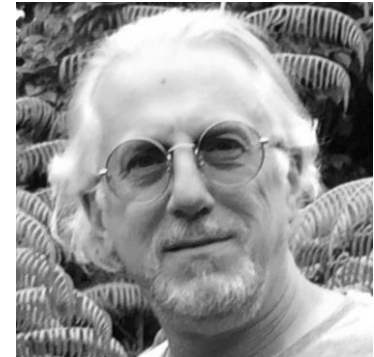
Matt Griswold –  
Vice Chair



Greg  
Hankins



Aaron Hughes –  
Chair



Martin J.  
Levy



Eric  
Loos



Stephen  
McManus



Arnold  
Nipper



Kay  
Rechthien



# 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



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!

Diamond  
Sponsors



Microsoft

Platinum  
Sponsors



Gold  
Sponsors



Silver  
Sponsors



# Information and Resources

- 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>
  - Docs, presentations, guides: <http://docs.peeringdb.com/>
  - Board and Officers: [stewards@lists.peeringdb.com](mailto:stewards@lists.peeringdb.com)
  - Admins: [support@peeringdb.com](mailto:support@peeringdb.com)
-  [@PeeringDB](https://twitter.com/PeeringDB)
-  <https://www.facebook.com/peeringdb/>

# 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?

# Editing Your Exchange Record

The screenshot shows the 'LANs' section of the PeeringDB interface. A blue box highlights the configuration area for a LAN named 'Peering LAN'. The configuration includes a checked 'DOT1Q' checkbox and an 'MTU' field set to '9000'. Below this, there are fields for 'IPv4' (containing '127.0.0.0/8') and 'Prefix', along with an 'Add' button. A second form below shows the 'Name' field with 'Peering LAN', a checked 'DOT1Q' checkbox, and an 'MTU' field with '9000'. An 'Add LAN' button is located at the bottom right of this section.

The 'Local Facilities' section below shows a search filter and a table with columns 'Facility', 'Country', and 'City'. A search input field contains 'atlanta', which is circled in blue. A dropdown menu shows three results: 'Equinix Atlanta (AT2/3)' with address '56 Marietta St NW', 'Telx Atlanta' with address '56 Marietta St', and 'Level(3) Atlanta Courtland' with address '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