



# PeeringDB 2.0



Walt Wollny  
[walt@peeringdb.com](mailto:walt@peeringdb.com)

# Agenda

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

# What is PeeringDB?

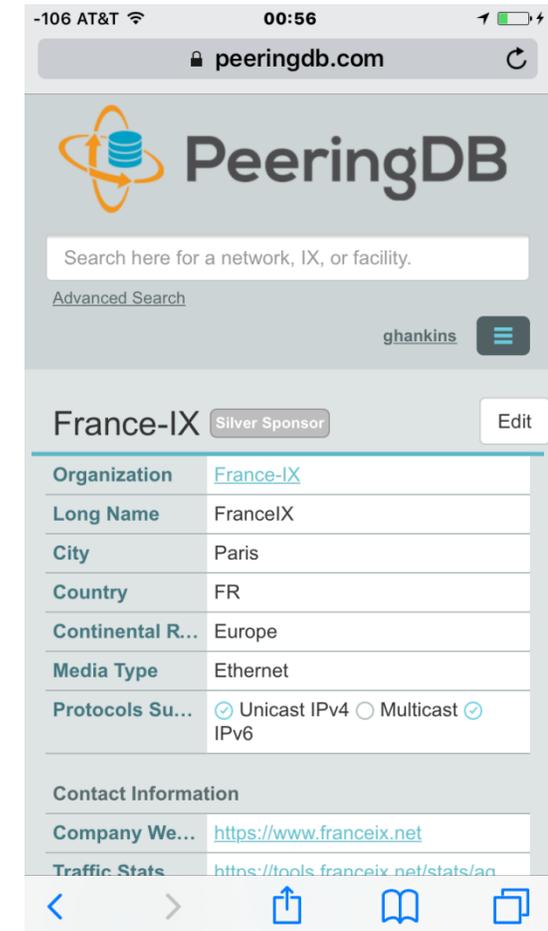
- PeeringDB is the database of peering information on the Internet
- Contains peering location and contact information for
  - Networks
  - Exchanges
  - Facilities
- A PeeringDB record makes it easy for people to find you, and helps you to establish peering
- If you aren't registered in PeeringDB, you 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: 2.0.11

# 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

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

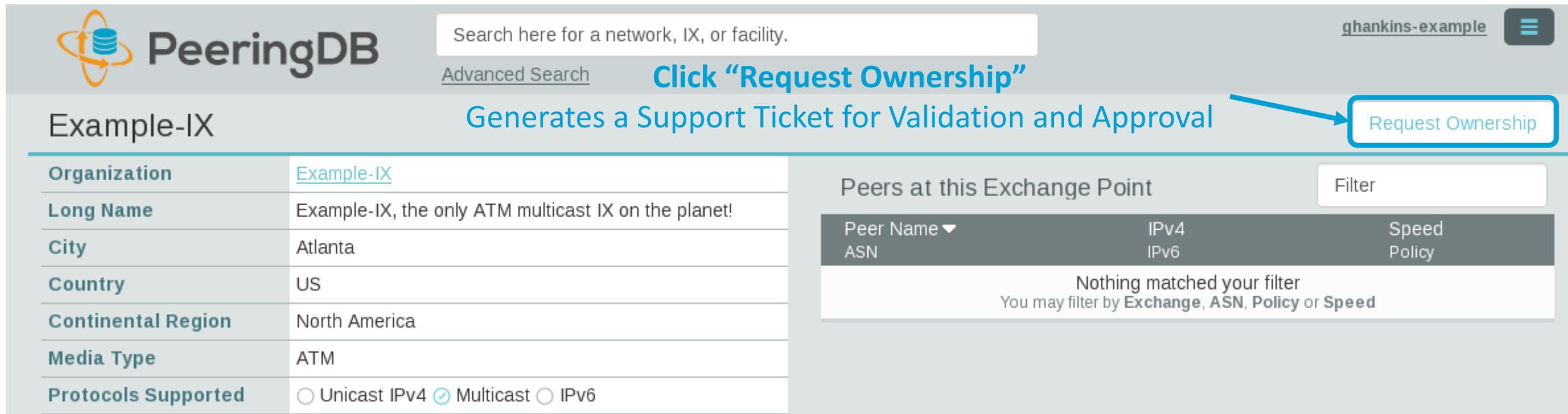
# One Account Managing Multiple Organizations

The screenshot shows the PeeringDB website interface. At the top left is the PeeringDB logo. To its right is a search bar with the text "Search here for a network, IX, or facility." and a link for "Advanced Search". In the top right corner, the word "job" is circled in blue, indicating the current account. 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" account label to the "Existing Affiliations" section.

**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"](#)

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](#)

# 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 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

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 'Add LAN' button is located below the configuration area. Below the LANs section is the 'Local Facilities' section, which includes a search bar and a list of facilities. The search bar contains the text 'atlanta', which is circled in blue. The list of facilities includes 'Equinix Atlanta (AT2/3)', 'Telx Atlanta', and 'Level(3) Atlanta Courtland'.

Name	DOT1Q	MTU
Peering LAN	<input checked="" type="checkbox"/>	9000
IPv4		127.0.0.0/8
Prefix		

Facility	Country	City
Nothing matched your filter You may filter by Exchange or Long Name		
atlanta		
Equinix Atlanta (AT2/3)		56 Marietta St NW
Telx Atlanta		56 Marietta St
Level(3) Atlanta Courtland		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

# 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 member 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 (equinix-uk)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Raphael Ho (rho)	<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
- 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

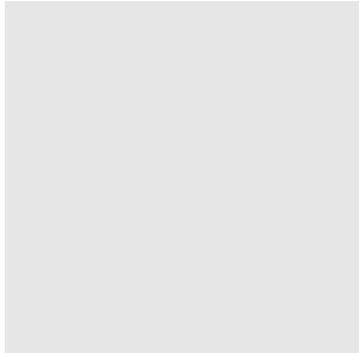
## Admin Committee

- 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)

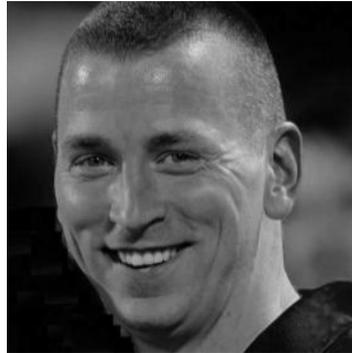
# Admin Committee



Samer  
Abdel-Hafez



Kate  
Gerry



Charles  
Gucker



Greg  
Hankins



Florian  
Hibler



Eric  
Lindsjö



Arnold Nipper –  
Vice Chair



Robert  
Philips



Eduardo  
Ascençõ Reis



Job Snijders –  
Chair



Michael  
Still



Walt  
Wollny

# Support Ticket Stats

Month	Tickets	Tickets/Day	Response Time (d)
2016-03	954	31.80	0.94
2016-04	704	23.47	0.54
2016-05	657	21.90	0.50
2016-06	611	20.37	0.75
2016-07	536	17.87	0.27
2016-08	468	18.00	0.39

- Admin Committee volunteers are based around the world in a variety of time zones
- Goal is to respond to support tickets within 24 hours

# Product Committee



Karthik  
Arumugham



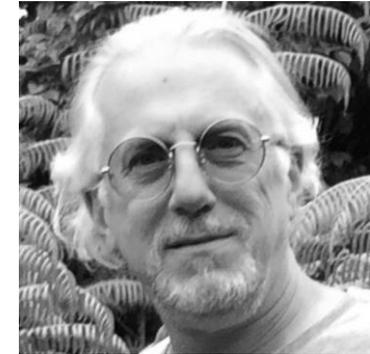
Matt Griswold –  
Vice Chair



Greg  
Hankins



Aaron Hughes –  
Chair



Martin J.  
Levy



Eric  
Loos



Chris  
Malayter



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 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
- Contact [sponsorship@peeringdb.com](mailto:sponsorship@peeringdb.com) for sponsorship info

Microsoft <span>Diamond Sponsor</span>	
Organization	<a href="#">Microsoft</a>
Also Known As	8068
Company Website	<a href="http://www.microsoft.com">http://www.microsoft.com</a>
Primary ASN	8075
IRR Record	AS-MICROSOFT

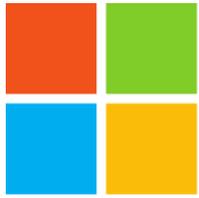
DE-CIX Frankfurt <span>Platinum Sponsor</span>	
Organization	<a href="#">DE-CIX Management GmbH</a>
Long Name	Deutscher Commercial Internet Exchange
City	Frankfurt
Country	DE
Continental Region	Europe



Proud Sponsor of  
**PeeringDB**  
GOLD

# Thank you to our sponsors!

Diamond  
Sponsors



Microsoft

Platinum  
Sponsors



YAHOO!

Gold  
Sponsors



IX

AUSTRALIA

INTERNET PEERING FOR AUSTRALIA

Silver  
Sponsors



border 6  
NON STOP INTERNET



DIGITAL REALTY



NIX.CZ



RIPE NCC  
RIPE NETWORK COORDINATION CENTRE



workonline  
communications



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](mailto:stewards@lists.peeringdb.com)
- Admins: [support@peeringdb.com](mailto:support@peeringdb.com)
- Bugs and feature requests:  
<https://github.com/peeringdb/peeringdb/>  
 [@PeeringDB](https://twitter.com/PeeringDB)  
 <https://www.facebook.com/peeringdb/>  
 <https://www.linkedin.com/company/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?