



The BGP Source of Truth

Few Words To Start

- Introduced during RIPE Meeting 76 in Marseille
- Open Source project not related to a company
- Written by engineers for engineers

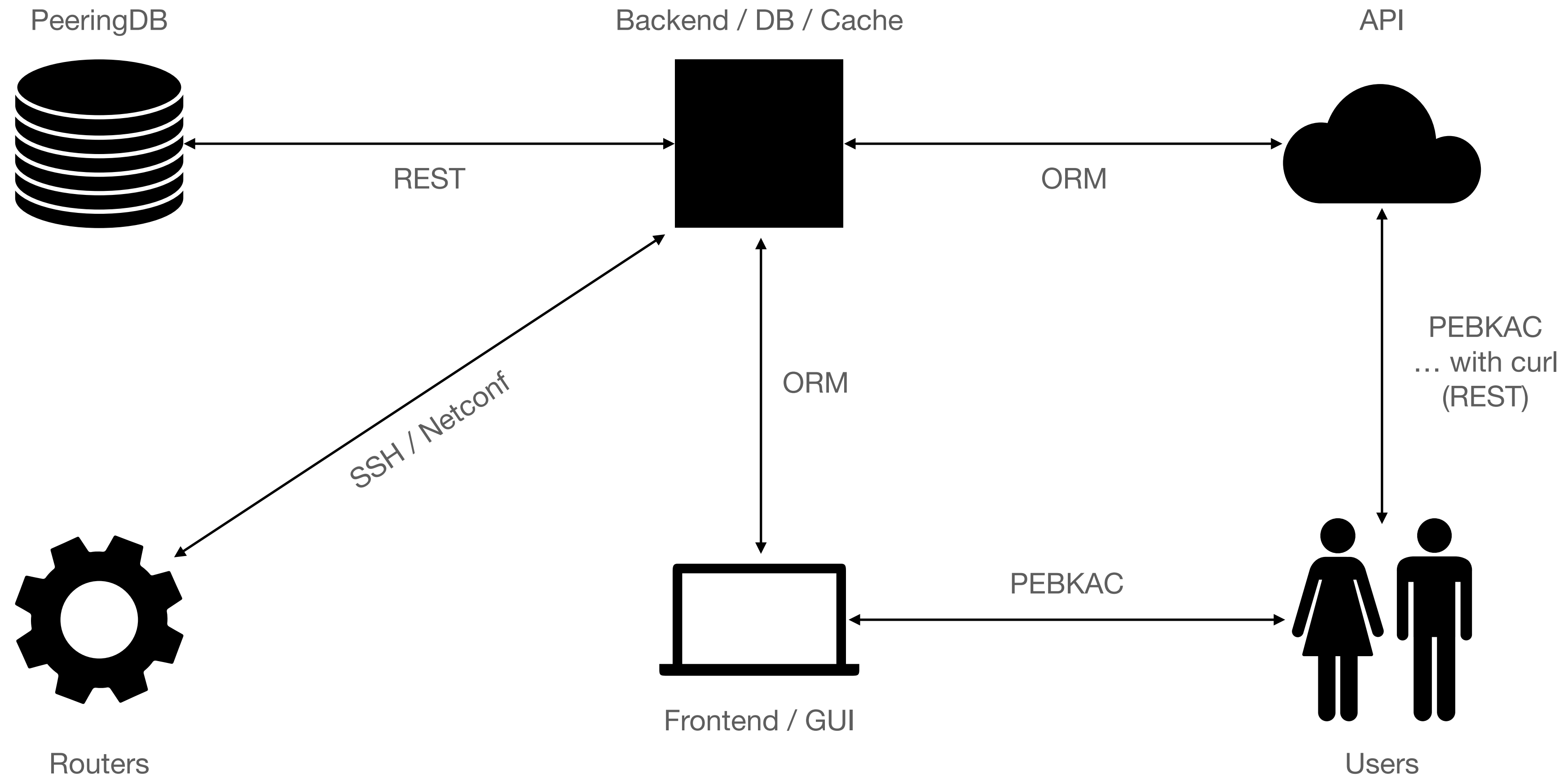
Under The Hood

- Python \geq 3.6 required, needs WSGI process (gunicorn, uwsgi, nginx unit ...)
- PostgreSQL as database and Redis for caching/task scheduling
- Docker images and stacks
- REST API as first class citizen
- NAPALM to interact with routers
- Integration with third-party tools (PeeringDB, IX-API)
- Apache-2.0 Licensed
- Available on GitHub

BGP Source Of Truth, Why?

- Tracking BGP configuration changes (adding/updating/deleting sessions)
- Knowing the desired state
- Gathering as many details as possible
- Allowing automation without YAML and/or JSON hell
- User “friendly” interface for day-to-day management
- Highly specialised tool; does one thing but does it well (at least try to)

How Hard Can It Be?



Features To Come

- IX-API improvements with write capability
- Peering sessions workflow (requested, configured, to be removed, ...)
- API endpoints to connect self service public peering portals
- Export templates to dump data for other uses: RIPE-db, git repository, ...
- Extension of configuration contexts for better configuration management
- Improved mailing features (send requests, inform about maintenances)
- Tighter integration with NetBox

Let's have a look

[API](#) · [Docs](#) · [GitHub](#)

⚠ No preferred affiliated autonomous system selected.

Q

Policy Options

C

Policies filtering advertised/received routes

C

Tags for traffic engineering

C

Q

Templates to build e-mails

Peering Manager

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Relationships

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Job Results

Change Log

5d69432a799c (v1.6.2)

2022-05-17 12:48:08 UTC

API · Docs · GitHub

localhost

🔍 Last Search 👤

Job Results / Result for job 49c23e7d-2ca1-4959-858b-7f6d0e4f0aee

No preferred affiliated autonomous system selected.

Details

Job ID

49c23e7d-2ca1-4959-858b-7f6d0e4f0aee

Name

peeringdb.synchronize

Created

2022-05-17 12:40

Summary

Status

Completed

Duration

7 minutes, 20.29 seconds

Completed

May 17, 2022, 12:47 p.m.

Logs

Time	Level	Object	Message
main			
2022-05-17T12:40:30.141548+00:00	INFO		Synchronising PeeringDB local data.
2022-05-17T12:47:50.388645+00:00	INFO		Created 182922 objects
2022-05-17T12:47:50.399640+00:00	INFO		Updated 0 objects
2022-05-17T12:47:50.401824+00:00	INFO		Deleted 0 objects
2022-05-17T12:47:50.403637+00:00	SUCCESS		Synchronisation finished.

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5d69432a799c (v1.6.2)

2022-05-17 12:49:30 UTC

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Add a new Autonomous System

Last Search

No preferred affiliated autonomous system selected.

Autonomous System

ASN

35280

BGP autonomous system number (32-bit capable)

Name

F5 Inc. (formerly Acorus Networks / Volterra)

Full name of the AS

☒ Affiliated

Check if you own/manage this AS

IRR AS-SET

AS-ACORUS

IPv6 max prefix

2000

IPv4 max prefix

10000

Routing Policies

Import routing policies

Export routing policies

Communities

Synchronize with PeeringDB

☒ Name

☒ IRR AS-SET

☒ IPv6 max prefixes

☒ IPv4 max prefixes

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2022-05-17 12:49:58 UTC

API · Docs · GitHub

EditDelete

Autonomous Systems / AS35280 - F5 Inc. (formerly Acorus Networks / Volterra)

Last SearchAS35280

DetailsPeeringDBDirect Peering SessionsIX Peering SessionsSend E-mailChangelog

Last updated: 2022-05-17 12:49

AS Details

ASN35280

NameF5 Inc. (formerly Acorus Networks / Volterra)

IRR AS-SETAS-ACORUS

IPv6 Max Prefixes2000

IPv4 Max Prefixes10000

General PolicySelective

Affiliated

PeeringDBSynchronize

Contacts

None

Add a contact

Routing Policies

None

BGP Communities

None

Comments

None

Tags

No tags assigned

Peering Manager

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2022-05-17 12:50:55 UTC

API · Docs · GitHub

Internet Exchanges / Import IXPs and Connections

Last SearchAS35280

Equinix Ashburn

Connection #1 - 100 Gbps

206.126.238.91/22

2001:504:0:2:0:3:5280:1/64

Equinix San Jose

Connection #1 - 100 Gbps

206.223.117.89/23

2001:504:0:1:0:3:5280:1/64

Equinix Atlanta

Connection #1 - 100 Gbps

198.32.182.12/24

2001:504:10::3:5280:1/64

Equinix New York

Connection #1 - 100 Gbps

198.32.118.1/24

2001:504:f::3:5280:1/64

SIX Seattle

Connection #1 - 100 Gbps

206.81.80.48/23

2001:504:16::89d0/64

LINX LON1

Connection #1 - 100 Gbps

195.66.225.161/21

2001:7f8:4::89d0:1/64

TorIX

Connection #1 - 100 Gbps

206.108.35.187/23

2001:504:1a::35:187/111

Connection #2 - 100 Gbps

206.108.35.188/23

2001:504:1a::35:188/111

AMS-IX

Connection #1 - 100 Gbps

80.249.209.14/21

2001:7f8:1::a503:5280:1/64

DE-CIX Frankfurt

Connection #1 - 100 Gbps

80.81.193.10/21

2001:7f8::89d0:0:1/64

HKIX

Connection #1 - 100 Gbps

123.255.92.74/21

2001:7fa:0:1::ca28:a24a/64

Netnod Stockholm GREEN -- MTU1500

Connection #1 - 100 Gbps

194.68.123.96/24

2001:7f8:d:ff::96/64

GigaPIX - LAN 1

Connection #1 - 10 Gbps

193.136.250.225/24

2001:7f8:a:1::225/64

DE-CIX Hamburg

Connection #1 - 100 Gbps

185.1.210.102/23

2001:7f8:3d::89d0:0:1/64

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Internet Exchanges / DE-CIX Frankfurt

Last SearchAS35280

InfoConnectionsPeering SessionsAvailable PeersChangelog

Last updated: 2022-05-17 12:51

AS	Connection	IP Address	Route Server	Enabled	
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	80.81.193.202	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	80.81.193.223	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	80.81.194.161	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	80.81.194.171	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	2001:7f8::2ca:0:1	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	2001:7f8::2ca:0:2	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	2001:7f8::2ca:0:3	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS714 - Apple Inc.	DE-CIX Frankfurt	2001:7f8::2ca:0:4	✗	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS6695 - DE-CIX Frankfurt Route Servers	DE-CIX Frankfurt	80.81.192.157	✓	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS6695 - DE-CIX Frankfurt Route Servers	DE-CIX Frankfurt	80.81.193.157	✓	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS6695 - DE-CIX Frankfurt Route Servers	DE-CIX Frankfurt	2001:7f8::1a27:5051:c09d	✓	✓	<div>↺✎🗑</div>
<input type="checkbox"/> AS6695 - DE-CIX Frankfurt Route Servers	DE-CIX Frankfurt	2001:7f8::1a27:5051:c19d	✓	✓	<div>↺✎🗑</div>

Configure+ AddEdit SelectedDelete Selected

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Search

Autonomous system

IXP connection

Address family

Route server

Enabled

Tags

ApplyClear

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5d69432a799c (v1.6.2)

2022-05-17 12:55:28 UTC

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localhost

Last Search AS35280

Internet Exchanges / DE-CIX Frankfurt

InfoConnectionsPeering SessionsAvailable PeersChangelogLast updated: 2022-05-17 12:51

State	VLAN	IPv6	IPv4	Router
Enabled	—	2001:7f8::89d0:0:1/64	80.81.193.10/21	ASBR 1

ConfigureAddEdit SelectedDelete Selected

Showing 1-1 of 1

Search

State

Internet exchange point

Router

Tags

ApplyClear

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Platforms

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EditDelete

Routers / ASBR 1

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InfoConfigurationConnectionsDirect Peering SessionsChangelog

Compare before commit

Deploy

Copy

Raw Output

```
protocols {
  bgp {
    replace: group ipv6-de-cix-frankfurt-31 {
      type external;
      multipath;
      advertise-inactive;
      family inet6 {
        unicast;
      }
      neighbor 2001:7f8::2ca:0:1 {
        description "Peering: AS714 - Apple Inc.";
        family inet6 {
          unicast {
            prefix-limit {
              maximum 1000;
            }
          }
        }
        peer-as 714;
      }
      neighbor 2001:7f8::2ca:0:2 {
        description "Peering: AS714 - Apple Inc.";
        family inet6 {
          unicast {
            prefix-limit {
              maximum 1000;
            }
          }
        }
        peer-as 714;
      }
      neighbor 2001:7f8::2ca:0:3 {
        description "Peering: AS714 - Apple Inc.";
      }
    }
  }
}
```


Peering Manager

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Provisioning ▶

Policy Options ▶

Devices ▶

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Other ▶

5d69432a799c (v1.6.2)

2022-05-17 12:58:06 UTC

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localhost

Last SearchAS35280

Search

Peering Data

Autonomous Systems

3

Networks to peer with

BGP Groups

0

Groups of BGP sessions

Internet Exchange Points

51

Infrastructures allowing peering

Direct Peering Sessions

0

BGP sessions for transit, PNIs, etc.

IXP Peering Sessions

12

BGP sessions setup over IXPs

Devices

Configurations

1

Templates to build router configurations

Routers

1

Network devices running BGP

Messaging

Contacts

0

People to discuss peering with

E-mails

0

Templates to build e-mails

Policy Options

Routing Policies

0

Policies filtering advertised/received routes

Communities

0

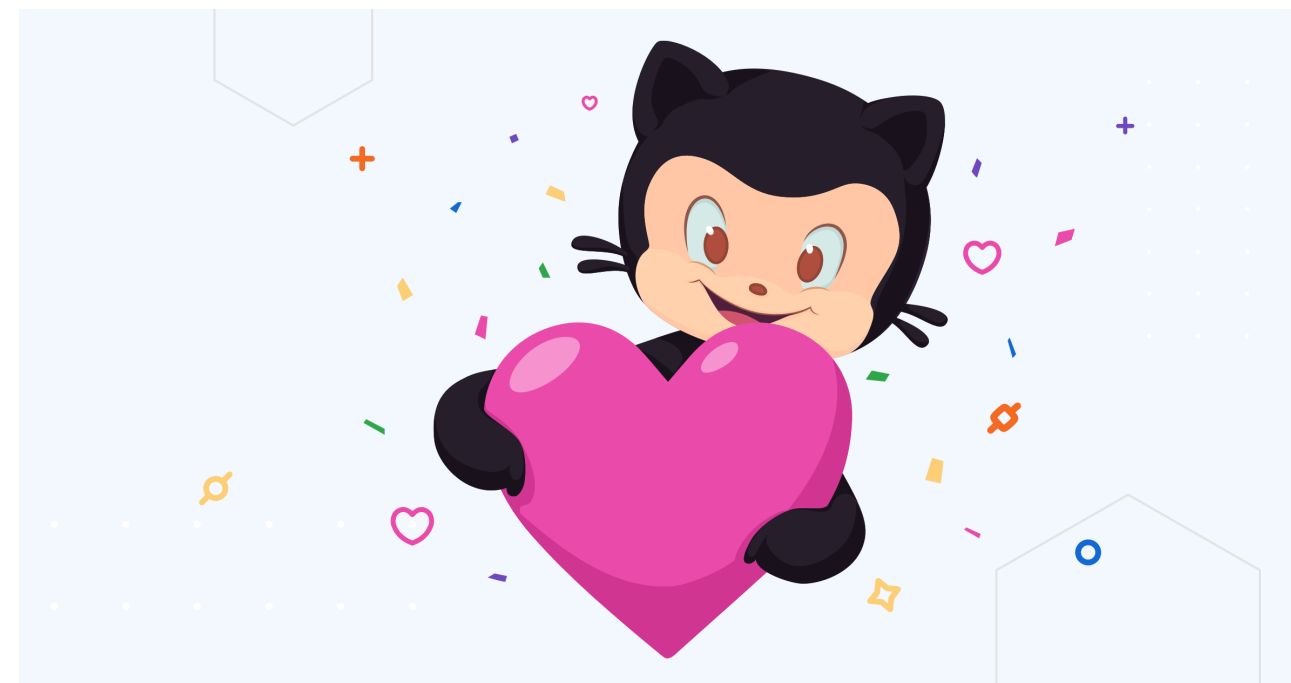
Tags for traffic engineering

Changelog

User	Action	Type	Object	Time	
admin	Updated	Connection	DE-CIX Frankfurt on ASBR 1	2022-05-17 12:55	...
admin	Created	Router	ASBR 1	2022-05-17 12:55	...
admin	Created	Internet Exchange Peering Session	DE-CIX Frankfurt - AS6695 - IP 80.81.193.157	2022-05-17 12:54	...
admin	Created	Internet Exchange Peering Session	DE-CIX Frankfurt - AS6695 - IP 2001:7f8::1a27:5051:c19d	2022-05-17 12:54	...
admin	Created	Internet Exchange Peering Session	DE-CIX Frankfurt - AS6695 - IP 80.81.192.157	2022-05-17 12:54	...
admin	Created	Internet Exchange Peering Session	DE-CIX Frankfurt - AS6695 - IP 2001:7f8::1a27:5051:c09d	2022-05-17 12:54	...

Participate

- Try it - demo available at <https://demo.peering-manager.net>
- Talk about it
- Open issues, propose pull requests, help documenting
- Sponsor feature requests (💶 ; 💻 ; 🍕 ; 🧐)
- Huge thanks to the current sponsors: DE-CIX, hpt GmbH, VTs, and the hidden ones 🙈



Questions?

Demo - <https://demo.peering-manager.net>

[GitHub Discussions](#)

[NetDev Community](#) #peering-manager