

Peering Manager

Making Peering Great Again

C'est qui lui ?

- Ingénieur Réseau (cœur de réseau + automatisation)
- Contexte NSP (MPLS / BGP / <insert acronym here>)
- Contributions au monde de l'open source
 - Looking Glass
 - PeeringDB Go API
 - Debian/Ubuntu
 - Google Summer of Code
 - ...

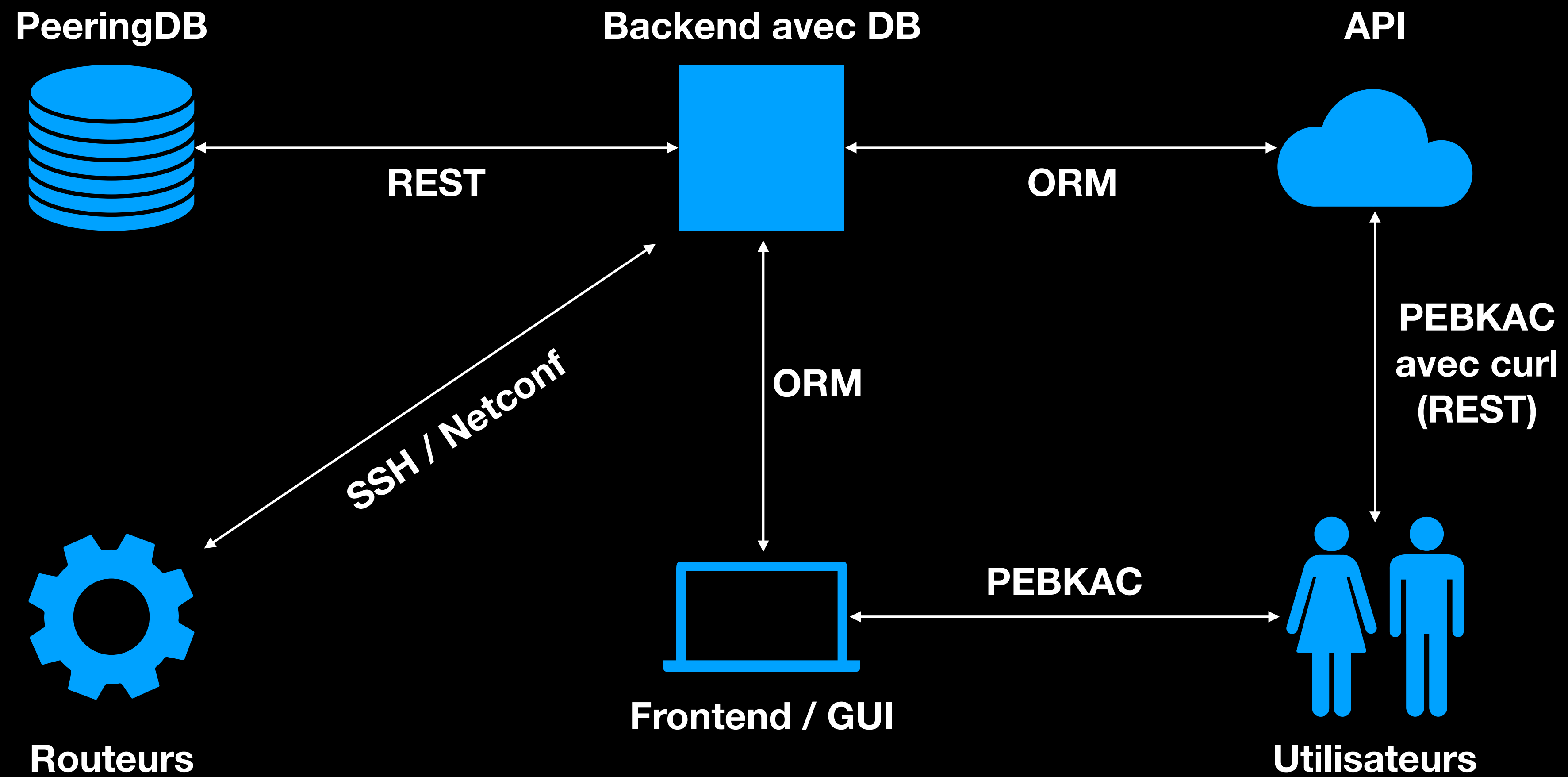
Contexte

- « Peerer » c'est bien
- Pas de vue autre que celle opérationnelle aka « il se passe quoi sur mes routeurs »
- Il manque une base de vérité
 - À jour
 - Capable de configurer les control planes
 - D'améliorer encore son peering
 - Sans perdre trop de temps si possible
 - Et idéalement de monitorer tout ça



How hard can it be?

Principe





Habile !

Documentation, configuration et exploitation

Comment s'est fait ?

- Python (v3) avec Django Framework
- PeeringDB via REST (optionnel mais mieux)
- License Apache-2.0
- Disponible sur le SPOF de l'open source ([GitHub](#))

Et la configuration des routeurs ?



Modern problems require modern solutions

NAPALM

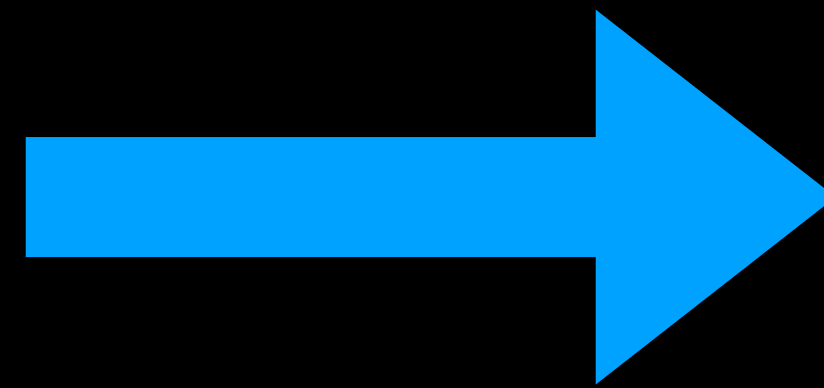
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NETWORKS



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On récapitule

- Un backend PostgreSQL (pour « inet », « cidr » et « json »)
- Une interface utilisateur
- Une API REST
- Gestion de configuration multivendor via NAPALM
- PeeringDB qui peut servir de référence
- Début d'intégration avec NetBox (liste de routeurs)



Policy Options

Routing Policies4

Routing policies used for routes filtering

Communities2

Communities used to tag routes from or to Internet exchanges

Deployment

Templates1

Templates used to generate configuration for network devices

Routers3

Network devices connected to Internet exchanges, generated configuration can be applied to these devices if they are running on a supported platform

Peering Data

Autonomous Systems24

Autonomous systems peering with the local AS

Internet Exchanges11

Internet exchanges that local AS is connected to

Peering Sessions

Direct4

Internet Exchange28

Changelog≡

Internet Exchange Peering Session AMS-IX - AS42 - IP 80.249.208.250

gmazoyer - 03/05/2019 9:38 p.m.

Internet Exchange Peering Session AMS-IX - AS42 - IP 80.249.208.250

gmazoyer - 03/05/2019 9:24 p.m.

Internet Exchange Peering Session AMS-IX - AS42 - IP 80.249.208.250

gmazoyer - 03/05/2019 9:23 p.m.

Internet Exchange Peering Session AMS-IX - AS42 - IP 80.249.208.250

PeeringDB Synchronizations

↻ Added 25, updated 52 and deleted 6 objects

03/03/2019 1:49 p.m.

↻ Added 244, updated 386 and deleted 164 objects

03/01/2019 10:09 p.m.

↻ Added 2, updated 5 and deleted 2 objects

02/24/2019 2:02 a.m.

↻ Added 41691, updated 1271 and deleted 0 objects

02/23/2019 9:36 p.m.

France-IX

Edit

Delete

Info

Peering Sessions

Available Peers

Configuration

Deploy

Copy

```
protocols {
  bgp {
    replace: group ipv6-franceix {
      type external;
      multipath;
      advertise-inactive;
      import import-all;
      family inet6 {
        unicast;
      }
      export export-all;
      neighbor 2001:7f8:54::92 {
        description "Peering: AS42 - Packet Clearing House AS42";
        family inet6 {
          unicast {
            prefix-limit {
              maximum 600;
            }
          }
          peer-as 42;
        }
      }
    }
    replace: group ipv4-franceix {
      type external;
      multipath;
      advertise-inactive;
      import import-all;
      family inet {
        unicast;
      }
      export export-all;
      neighbor 37.49.236.92 {
        description "Peering: AS42 - Packet Clearing House AS42";
        family inet {
          unicast {
            prefix-limit {
              maximum 600;
            }
          }
          peer-as 42;
        }
      }
    }
  }
}
```



```
{
  "count": 26,
  "next": "http://127.0.0.1:8000/api/peering/autonomous-systems/?page=2",
  "previous": null,
  "results": [
    {
      "id": 3,
      "asn": 42,
      "name": "Packet Clearing House AS42",
      "comment": "# ASN\\r\\n\\r\\n## Comment",
      "irr_as_set": "AS-PCH",
      "irr_as_set_peeringdb_sync": true,
      "ipv6_max_prefixes": 600,
      "ipv6_max_prefixes_peeringdb_sync": true,
      "ipv4_max_prefixes": 600,
      "ipv4_max_prefixes_peeringdb_sync": true
    },
    {
      "id": 14,
      "asn": 109,
      "name": "Cisco Systems, Inc.",
      "comment": "",
      "irr_as_set": "AS-CISCO",
      "irr_as_set_peeringdb_sync": true,
      "ipv6_max_prefixes": 5,
      "ipv6_max_prefixes_peeringdb_sync": true,
      "ipv4_max_prefixes": 100,
      "ipv4_max_prefixes_peeringdb_sync": true
    },
    {
      "id": 32,
      "asn": 112,
      "name": "DNS-OARC-112",
      "comment": "",
      "irr_as_set": "AS112",
      "irr_as_set_peeringdb_sync": true,
      "ipv6_max_prefixes": 2,
      "ipv6_max_prefixes_peeringdb_sync": true,
      "ipv4_max_prefixes": 2,
      "ipv4_max_prefixes_peeringdb_sync": true
    },
    {

```


Installation

Python 3 + Git + pip + PostgreSQL + WSGI



Dépôt GitHub

Contribuer



<https://github.com/respawner/peering-manager>

Issues - Pull Requests - ...

Comme



Et d'autres ...

Questions ?

Bloatware Slack (qui a besoin de RAM ?)

NetworkToCode **#peering-manager**

Par email pour les timides :

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