Peering API

A Proposal for Programmatic Handling of Peering Requests

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Joint Work

- Meta
- 20c
- Cloudflare
- Amazon
- Google
Agenda

- Previous Work
- Present State
- Solution
- Proof-of-Concept
- Future Work
Peering, Before

- Coordinated over email
- Multiple emails exchanged per request
Peering, Now
Peering API Goals

- Machine-to-Machine Configuration

- GOAL:
  - Reduce human time spent configuring peering
  - Improve network latency

- REQUIREMENT:
  - (Security) PeeringDB OAuth support, additional options like RPKI
Peering API Demo

- V0 (Public Peering)
  - /locations (GET)
  - /sessions (POST, GET, DELETE)
Peering API Demo

- Proof-of-Concept: List Peering Locations

- GET: https://autopeer.as13335.net/v0/list_locations?location_type={type}&asn={asn}

GET Locations:

With:
{  
  "asn": 32934,
  "location_type": "PUBLIC"
}

To:
https://autopeer.as13335.net/v0/list_locations?location_type=PUBLIC&asn=13335

Reply:

200: {
  'items': [
    {
      'id': 'pdb:ix:2130',
      'type': 'PUBLIC'
    }
  ],
  'requestId': 'b300478a-5b27-489e-8239-bd940382851b',
  'error': None
}
Peering API Demo

- Proof-of-Concept: Make a Request
- POST https://autopeer.as13335.net/v0/add_sessions

```json
POST
[
  {
    'local_asn': 32934,
    'local_ip': '1.1.1.1',
    'peer_asn': 13335,
    'peer_ip': '2.2.2.2',
    'location': {
      'id': 'pdb:ix:158',
      'type': 'PUBLIC'
    }
  }
]

Reply: 200 OK
json: {
  'sessions': [
    {
      'localAsn': 32934,
      'localIp': '1.1.1.1',
      'peerAsn': 13335,
      'peerIp': '2.2.2.2',
      'peerType': '',
      'md5': '',
      'location':{
        'id': 'pdb:ix:158',
        'type': 'PUBLIC'
      },
      'status': '',
      'uuid': ''
    }
  ],
  'requestId':'b300478a-5b27-489e-8239-bd940382851b', 'error': None
}
```
Peering API, Future

- PNI Connections
  - Add PNI
  - Augment PNI
  - Configurable PNI options
- Maintenance
Peering API, Future

- Security Concerns
  - PeeringDB OAuth
  - Additional Checks
Next Steps

- Industry Adoption? (In Progress)
- Additional Security Requirements or Considerations?
- Does this draft fit under GROW’s charter?
Let’s Discuss!

- Side Meeting Tomorrow (March 21)
  o 14:00-15:00 in M9 and webex
  o Please join us if you would like to discuss more!

- Draft:
Questions?