OpenBGPD

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OpenBGPD for IXP route-servers
OpenBGPD at IXP

Running OpenBGPD as a route-server with full filters is too slow

Old RIB design shows troubles with scaling
  Config reload block updates and withdraw until finished

At a small IXP like YYCIX the configuration requires 370’000 filter rules and reloading the config takes 1h to finish

As a result most IXP route-server run a bird monoculture

It is important to make OpenBGPD a viable alternative again
A major effort is required
Solving the issue

Have a full time developer working on OpenBGPD funded by

RIPE NCC

Community Projects Fund

and

DE CIX

NETNOD

amsix

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Asteroid

LONAP™

NAMEX
OpenBGPD in 6.4

- RFC8212 compliance (default deny policy)
  Be careful when updating from 6.3 to 6.4.
- RPKI ROA support (static table, no RTR support)
- Sets for prefixes, ASnum and origins (prefix + source-as)
  Replace large amount of filters with a single fast lookup
- Background soft-reconfiguration on config reload
  On reload new withdraws and updates are now processed
- 154 commits since 6.3 (close to 8% of all commits)
Results

YYCIX (Calgary Internet Exchange) using arouteserver to generate config

6.3: generated config consists of 370’000 filter rules

6.4: with as-set, prefix-set and origin-set ruleset is now below 6000 rules

Background soft-reconfiguration no longer blocks update processing during a config reload. Even with the big config in place reloads were no longer that bad.

After a restart the system converges in around 2 minutes and a regular configuration reload normally is done in less than 10 seconds.
OpenBGPD in 6.5 (May 2019)

Better community filtering

- Matching more than one community per filter rule
- Faster set and delete of communities

More filter refinements and tuning

Further RIB refactoring, make multiple RIB support faster

Resurrect portable version and keep it alive (like OpenSSH and LibreSSL)
- No FIB support for now
Future Projects

Multi-thread support in the RDE for filtering and maybe some other tasks

In the portable version add FIB support for other BSDs and Linux

New features (ADD_PATH, BGP multipath, BMP, RTR)

To make these projects happen further funding is needed.
Thanks

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Questions?