

Current Status of OpenBSD / OpenBGPd

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OpenBSD

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- 20 year anniversary on October 18th
- 5.8 released on that date, last week
- the berlin u2k15 hackathon is happening right now
- everything mentioned is committed in either in 5.8 or in -current

- openssh
- pf
- opensmtpd
- mandoc
- libressl
- ... and many others

openbsd outside of openbsd

- pretty much everyone uses openssh
- pf is in all apple devices, the *bsds, a windows port, and even solaris!
- a rather large part of the android libc is from openbsd
- and a huge amount of people are switching to libressl

software defined operations

- devops
- ... it's a unix system, i know this
- ... atomic config reloads
- ... automated deployments (ansible, salt, chef, puppet, etc)
- sdn compatible
- ... networking on a full unix-like environment
- ... triggers on network states
- ... carp / ifstated / relayd router / perl

- ntp time keeping
- ... simple and (reasonably) accurate
- ... network and/or timedelta sensors driven
- ... a portable version also exists
- mostly cve free

routing daemons

- bgp
- ldp
- ospf (v2 and v3)
- eigrp
- rip, routed

- been around a long time (2004-present)
- massive improvements have been made in the last years

- all the features you need
- ... edge router
- ... ibgp
- ... route reflector
- ... route server
- and many features you want
- ... multi-RIB
- ... mrt dumps
- ... mpls (vrf)
- ... mpls vpn (vpls / pseudo-wire)
- ... looking glass

openbgpd scaling

- hundreds of peers
- many full-feeds
- more than 8 million prefixes
- 1500+ nexthops

- configuration language
- ... templates
- ... groups
- ... macros

openbgpd config

```
group "IXP-Peers" {
    transparent-as yes
    enforce neighbor-as no
    passive
    max-prefix 1000

    neighbor 2001:db8:42::/48
    neighbor 2001.db8:42::6939 { max-prefix 120000 }
}

deny from any
allow from group "IXP-Peers"

match from any community 1234:666 \
    prefix ::/0 prefixlen = 128 set nexthop 2001:db8:42::666
```

openbgpd as an edge router

- works great as a client router
- at my day job, we use it in production
- ... decix, amsix, ecix, etc
- ... transits

openbgpd as a route server

- used at isps for internal route servers
- works well these days
- ... pause for laughter

openbgpd as a route server

- we fixed many of the bugs!
- ... crashers
- ... oom
- ... performance

openbgpd filter performance

- active development
- performance has slightly improved
- converging on an irr ruleset from hurricane electric (561k rules)
- ... from 35 minutes, to half a second
- ... "just" one bug left!

- stateful firewalling
- ... can disable states, for slower performance
- ... all of the usual filtering options
- ... nat64/46/66/44
- ... rdomains (vrf-lite)
- relayd can do layer 4 and layer 7 load balancing
- ... including ssl offloading

- real interfaces from the user-perspective
- ... tcpdump / link state works
- carp (vrrp-a-like)
- gre/gif
- netflow 5 and ipfix (10)
- svlan (q-in-q)
- vxlan

- 10gig ethernet card support (intel, myricom, emulex oneconnect, etc)
- 8 Gbps (1500 mtu) with pf filtering
- 1 Mpps routing
- beginnings of an smp-safe network stack
- ... work is on-going
- oracle is assisting with making pf smp-safe

look at all of these services

- isakmpd (ike v1) andiked (ike v2)
- l2tp / pptp
- radius
- ldap
- dhcp (and relay)
- iscsi
- spamd (email greylisting)
- nsd and unbound
- snmp

coming soon...

- massively unlocked network stack
- virtualization as a host
- bfd (rs bfd)
- vswitch
- you tell me?

open source needs your help too

openbsd needs funding to continue development work

general funding, sponsors for hackathons, etc

www.openbsdfoundation.org - a canadian not-for-profit corporation