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
- everything mentioned is committed in either in 5.8 or in -current

- 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 (osx / ios)
- opensmtpd

- ntp time keeping
- ... simple and (reasonably) accurate
- ... network and/or timedelta sensors driven
- ... a portable version also exists
- ... tls (constraint) used to avoid chaos
- 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

openbgpd

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

- hundreds of peers
- ... 300+ on our decix router
- many full-feeds
- more than 8 million prefixes
- 1500+ nexthops

openbgpd config

- 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" nexthop neighbor
allow from group "IXP-Peers" nexthop 2001:db8:42::666

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

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

openbgpd filter performance

- performance has slightly improved
- converging on an irr ruleset from hurricane electric (561k rules)
- ... 60k prefixes
- ... from 35 minutes ....

openbgpd filter performance

- performance has slightly improved
- converging on an irr ruleset from hurricane electric (561k rules)
- ... 60k prefixes
- ... from 35 minutes, to 30 seconds

- 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

interfaces

- 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

openbsd network performance

- 10gig ethernet card support (intel, myricom, emulex oneconnect, etc)
- 8.5 Gbps (1500 mtu) with stateful 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) and iked (ike v2)
- l2tp / pptp
- radius
- ldap
- dhcp (and relay)
- iscsi
- spamd (email greylisting)
- nsd and unbound
- snmp

- massively unlocked network stack
- virtualization as a host
- bfd (draft-ietf-idr-rs-bfd?)
- vswitch

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