Current Status of OpenBSD / OpenBGPd

Peter Hessler
phessler@openbsd.org

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
openbsd projects

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

- 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
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"

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
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)
vxlans
openbsd network performance

- 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) 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 (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