What’s new in knet this year? (2020)

Or “You’ve been tinkering with this for ages. It must work by now?”

Christine Caulfield
Principal Software Engineer, Red Hat
What is knet?

A quick overview for those that are new, or simply forgetful

Knet is the network transport for corosync 3

- Multi-home, Multi-transport, Dynamic MTU
- Blah blah blah
- You get the idea
- Provides all the dirty comms stuff
- Encryption, compression, link events, stats
- STATS!
What is knet? (cont)

A quick overview for those that are new, or missed the last slide

Knet is the network transport for corosync 3

- We ripped out LOADS of the corosync code
- Including RRP
- Cos knet does all of that
- We also get dynamic link configuration
  - Which is nice
- V1.0 released Jan 2018
- Current version 1.14
Any questions so far?

This isn’t going to get any easier
New stuff!

Features & bug fixes (overview)

Features first, then you can have a snooze

- ACLs
- libnozzle
- Compression types
- API man pages
- Better thread handling
New stuff(1)

ACLs

- Prevents unauthorized access to the cluster
- By default nodes not known to knet will be ignored
- Yes, you can do this with crypto but this is neater
- And quicker
- We were going to leave this till v2 but Honza preempted us
- Corosync only supports on/off
- Using the library, lots of options possible
- A bit like iptables but we won’t change it every year
- You hope
New stuff(2)

libnozzle

- More useful than it sounds
- Creates an ethernet device that tunnels through knet
- Easier than all that CPG stuff
- No extra coding required to use it, just use IP address
- You get all the transport options & failover for free
- In corosync 3.0.2
- Used to be called libtap
  - But that was taken
  - And nozzle sounds weirder
New stuff(2a)

libnozzle in corosync.conf

nozzle{
  name: schnoz1
  ipaddr: 192.168.5.0
  ipprefix: 24
}

- ipaddr & macaddr filled in with nodeid
- FreeBSD has restrictions on the name
New stuff(3)

More compression types

- Actually we only added libzstd
- But it shows it’s nice and easy
- And I wanted to use this photo
  - it was taken from a train ...
New stuff(4)

man pages

- A small thing, I admit
- But it shows we care
- All man pages show the API calls and structure definitions used
- Generated from the header file
  - Doxygen
  - + some terrible thing I knocked up one afternoon
  - Seriously who wants to be typing .TP for hours on end?
New stuff(5)

Better thread handling

- Like you care
- But we do, and every little helps

- Improved regression tests
  - To avoid more ...
Bugfixes

Yes, there were bugs

- Varying levels of bugs fixed
- From ‘how did this ever work’?
- To typos in comments

- A lot of fixes in the config system
- Preventing bad configurations
- Flush on close – helps with corosync LEAVE messages
- Crypto reconfig (not corosync, and not really what you think it is)
Bug fixes 2

- MTU fixes – lots of these. I told you last time it was a lot of work
- SCTP was a bit of a … train crash
- All the little stuff – covscans, flying pointers etc etc

- Thanks to all those who reported bugs
  - And helped with reproducers
  - Seriously, it’s great working with you
CI (I was told to talk about this) - on Monday

- Covers all of the clusterlabs projects
  - libqb, knet, corosync, pacemaker, sbd ... all that stuff

- jenkins

- Multiple architectures & versions
- Coverity scans

- ci.kronosnet.org/view/<project>
Future

Stuff for next time

- Proper crypto config changes while running
  - Making good progress on this
- Re-keying
- More stats?
  - Yes really
- We’ll think of other stuff
# RealtimeTrains.co.uk

Running on corosync

## 0627 Manchester Piccadilly to Scarborough

**Departing on 3rd February 2020**

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[Go to detailed version](#)
Links 1

Website https://kronosnet.org/
Tarballs https://www.kronosnet.org/releases/
Source code https://github.com/kronosnet/kronosnet/

TODO list https://trello.com/kronosnet
Google docs https://goo.gl/9ZvkLS
IRC: #kronosnet on Freenode

Mailing lists
https://lists.kronosnet.org/mailman/listinfo/users
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Any Questions?