

libnetstat(3) (Google Summer of Code 2009)

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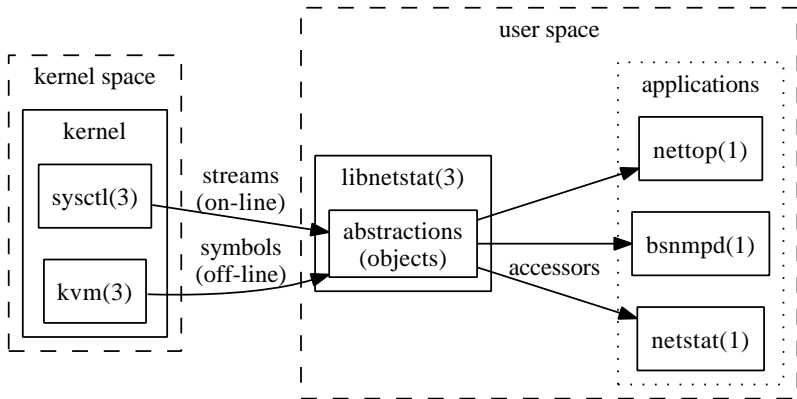
libnetstat(3) – Introduction

- ▶ It is `netstat(1)` as a library, similar to `libmemstat(3)`.
- ▶ Collection of `kvm(3)`, `sysctl(3)` exporters and wrappers for networking statistics functions.
- ▶ A tool for improving consistency between multiple sources, providing robustness for Application Binary Interface over time.
- ▶ An attempt to make a 32-bit tool to work on a 64-bit kernel correctly.
- ▶ A case study on how to write similar libraries and kernel support for them.



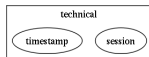
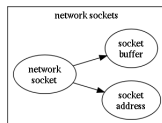
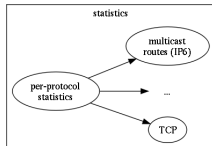
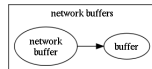
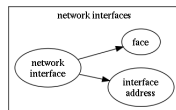
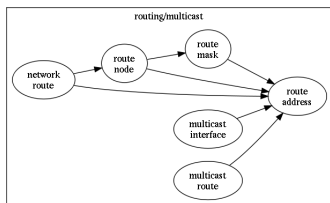
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libnetstat(3) – Internals



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libnetstat(3) – Externals



libnetstat(3) – Conclusions

- ▶ `netstat(1)` became very simple (i.e. a “front-end”) while all of its functions (“back-end”) are accessible by any other tool, like `bsnmpd(1)`, `nettop(1)`.
- ▶ Now a 32-bit `netstat(1)` works over a 64-bit kernel indeed. Perhaps it would be able to work over network as well.
- ▶ The proposed interface is more abstract than the original, i.e. it is easier and safer to use.
- ▶ The “front-end + back-end” composition seems to be a good idea in general.



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libnetstat(3) – Future Work

- ▶ Write documentation, clean up.
- ▶ Learn more about its efficiency.
- ▶ Support for SCTP, Netgraph, IPX, and AppleTalk protocols.
- ▶ Get review and approval from somebody in the field.
(netstat(1) has no dedicated maintainer)
- ▶ SNMP support.
- ▶ VIMAGE support.
- ▶ ABI-independent KVM image support.



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