

understanding the perf file format

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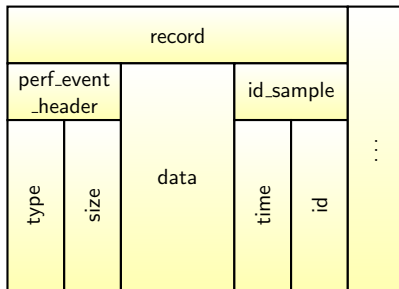
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Problem [2]

- processors does not get faster
- more into parallel computing
- software has to be improved
- performance monitoring to find bottlenecks
- performance monitoring system of Linux is perf
- understanding monitoring system → extract relevant information

Process (1)

- sparse online resources
 - perf report reads the data file
 - stepping through code with debugger
 - static analyze code
 - analyzing data structures
- ⇒ Pitfall: overseen data structures



Process (2)

- analyzing code / structures → thinking → idea → verifying
 - write code to see if it works
 - compare it with perf report
- Andrzej / → contact to other people

- good understanding of perf data format
 - "proof of concept" application (readperf), verified against perf report
 - only 1k lines of code (perf 34k)
 - no kernel code / dependencies
 - small dependencies
 - report[1] as description of file format and readperf
- ⇒ basis for performance analysis

Conclusion

- perf seems like historically grown
 - ⇒ complex, difficult to understand
- Open Source is good, still need time to understand the code
 - ⇒ but without code it would be much harder

- [1] Urs Fässler. *perf file format*. Tech. rep. CERN, Sept. 2011.
- [2] Sverre Jarpe. *Computer Architecture and Performance Tuning*. Sept. 2010. URL: <http://indico.cern.ch/getFile.py/access?resId=1&materialId=slides&confId=36801>.