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Towards data type profiling

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Memory accesses can suffer from problems like poor spacial and temporal locality, as well as false sharing of cache lines. Existing presentations of profile data, such data from the perspective of code, can make it difficult to reason as to what the problems are and to work out what the fixes should be. A typical fix may be to reorder variables within a data structure.

In this work Namhyung Kim will present ongoing work combining perf event and DWARF debug information, in order to correlate samples and present data type of the variables accessed within a program. However, DWARF debug information is not reliable in enabling a good understanding of variables accessed. The presentation will discuss the state of data type profiling and its addition to the Linux perf tool, how toolchain limitations are worked around by the tool, and how toolchains can be improved for data type profiling in the future.

Primary author: KIM, Namhyung (Google)

Presenter: KIM, Namhyung (Google)

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