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Linux perf tool metrics

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Linux kernel perf events are great, however, individual events are often too low-level to understand a performance issue. For example, a metric like memory bandwidth may consist of read and write counters on multiple memory controllers, with different counters for different types of memory and with counts having additional data combined within them like acknowledgements. The Linux perf tool provides metrics to combine events and give human/tool readable performance data. This presentation will describe the use of performance metrics, recent improvements, background on how metrics are implemented and what the upcoming challenges for metric implementation are.

A particular area where metrics have been improving has been in support of Intel CPUs. The Valkyrie project, a joint effort between Intel and Google, has contributed hundreds of metrics across client and server CPUs. The presentation will show features of this work, discuss new performance data from Intel processors, as well as problems that are general to metrics and their implementation in the Linux perf tool.

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