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Bachelor's Thesis

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Improving On-the-fly Compression in AntTracks

AntTracks is a VM allowing users to trace object allocations and object movements for the entire application life cycle by logging them into a file. In the process, it generates a significant amount of data, i.e., up to 200 Mb/sec. Thus, the AntTracks VM compresses parts of the trace on the fly before writing them to disk.

The goal of this thesis is to extend the AntTracks VM with a better strategy for on-the-fly compression. New heuristics must be devised to decide when to compress data and how to compress them. In addition, heavily-allocating threads must be identified to optimize compression rate for them. The thesis must include a detailed evaluation about the performance improvement.

The final version of the written thesis must be submitted not later than 01.04.2016.

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