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Master's Thesis

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A Monitoring Agent for Go

The goal of this thesis is to build an agent to monitor performance metrics of a Go application at run-time. The agent must be implemented in the context of Dynatrace, a state-of-the-art peformance monitoring tool.

The agent must be deployable with as little effort as possible, in the best case by automatically detecting Go processes and injecting itself. It must provide at the very least heap and GC metrics (e.g., memory usage, GC pause times, and allocations) as well as sampled CPU data compatible with Dynatrace. Also, the agent must generate a PurePath, as other Dynatrace agents do, with as little effort for the user of the agent.

The thesis must include a detailed analysis of the Go runtime and its monitoring capabilities, as well as an analysis of comparable monitoring tools that support Go. It must also include a detailed evaluation of the both the functionality and performance of the agent.

The master thesis will be implemented in cooperation with Dynatrace Austria. It must be submitted not later than 03.10.2017.

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