inspectIT is dead – long live inspectIT Ocelot!

Invited Industry Talk

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Today's enterprise software systems are subject to a strong architectural and organizational change. Monolithic applications are split into microservices, moved from self-hosted deployments to cloud environments and developed and operated by DevOps teams. Such changes present challenges but also opportunities for Application Performance Management (APM) strategies, including open source tooling. While open source tools have always been an alternative to big commercial APM tools, they are gaining more and more attention due to heterogeneous application landscapes that require customized APM solutions. This is also favored by standards such as Open-Tracing, OpenCensus, and OpenTelemetry, which allow a simple combination of different tools. At the same time, long-standing open source tools, which are often developed by small teams, are challenged to keep pace. One such tool is inspectIT, which is grown from a developer-centric monitoring tool to a full-stack APM tool including data collection, storage, configuration, and visualization. Due to its architecture, its scalability capabilities are limited, which is a major problem in the area of distributed systems. Furthermore, it focuses on Java applications, disallowing monitoring different technologies in a single APM solution. Finally, the immense speed of emergence and evolution of new technologies causes high costs for maintaining the full-stack components of the inspectIT solution.

In this talk, we present our path from the development-centric monitoring tool to the new inspectIT Ocelot (https://www.inspectit.rocks/) – a newly developed Java agent addressing our recently faced challenges. Due to the high costs of adapting the existing inspectIT to the extensively changed requirements, we have opted for the new development. In doing so, we focus on data collection and integration with other open source tools for data storage and visualization. For this purpose, inspectIT Ocelot is natively based on OpenCensus, which allows standardized APM data exchange between different APM components beyond the borders of programming languages. Hence, it can be easily integrated into already operated APM solutions and into heterogeneous, distributed landscapes. Its dynamic nature allows adding, removing, and updating the Java agent on the fly, without restarting the monitored application. Even sensor logic can be dynamically adjusted and extended as required. Additionally, it is natively scalable, enabling the use in distributed cloud applications.

In its current state, inspectIT Ocelot is able to dynamically collect (distributed) traces, metrics, service dependencies, end user monitoring (EUM), and any other kind of data without being a heavyweight full-stack solution. Instead, it integrates natively with many other specialized open source tools for building a complete APM solution. In

the future, we are going to extend its functionality by automated anomaly detection, anomaly clustering, and support for monitoring Kubernetes infrastructures.