Agentless Bare-Metal Introspection

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Abstract

A rapid growth in various run-times has been observed over the last decade and these run-times are being constantly evolved to overcome any shortcomings that they may have. However, the presence of any existing shortcomings in the run-times makes the system vulnerable to objectionable exploits.

Previous research has shown that introspecting a system for vulnerabilities requires low to high resource usage -- depending on the vulnerability being inspected for. Thus, introspecting for vulnerabilities on a system running workloads could impact the performance of those workloads unless the administrator reserves resources for introspection. However, reserving exclusive resources for introspection leads to poor resource efficiency as introspection is performed at periodic intervals.

In this talk, we present a prototype that we developed for out-of-band introspection of bare-metal deployments to mitigate the impact of vulnerability analysis on running workloads. This project is a joint effort between Massachusetts Open Cloud and IBM Research T.J. Watson.

Speaker Bios

Apoorve is a 5th year PhD student at Northeastern University with Prof. Gene Cooperman. His current research focus is towards improving resource utilization in bare-metal deployments. (www.apoorve.com)