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INVITED-TALK

Virtual Machines: Should We Keep Doing Them? (Invited Talk)

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Virtual Machines: Should We Keep Doing Them? (Invited Talk)

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ABSTRACT

Virtual machines are software components that require high development efforts in order to obtain efficient implementations. In the past decade, the GraalVM has made it possible to cut the costs of language implementation through the use of Java as the mother of all VMs. However, a pressing question remains: Can we replicate this success in a platform that is truly open, widely available and without requiring special support from the host environment? This talk delves into the Powerlang experiment, which explores a runtime system enabling languages to operate atop JavaScript. The aim is to get the most out the JIT and GC capabilities that JS implementations provide. Rather than striving to develop the fastest VM, we investigate strategies to optimize the performance of our language within engines like V8, and explore the benefits and disadvantages of this approach.

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BIOGRAPHY

A fan of high-level programming, specially high-level low-level programming. Have been mixing Smalltalk and assembly code for more than a decade. Spent the last decade working on Smalltalk VMs with particular interest in self-hosted metacircular ones. Working on Egg Smalltalk, before that on Bee DMR project, and previously in Squeak No-Operating-System project for my MSc. At the university, I teach about computer architectures, compilers, assembly and operating system programming.

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