

Implementing Language-Based Virtual Machines

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Abstract

Craftsmanship, innovation, competition, and stubbornness are all ingredients for pushing the envelope of virtual machines.

I've spent the last 25 years striving to perfect the art of creating such systems. A few of them even had real impact: Hotspot for Java and V8 for JavaScript. This talk will highlight both technical and non-technical aspects of taking an idea, building a team around it, and then developing a product. Rest assured, the majority of this presentation will focus on interpreters, compilers, garbage collectors, and performance.

Categories and Subject Descriptors D.3.4 [**Programming Languages**]: Run-time environments.

General Terms Performance, Languages.

Keywords Virtual machines

Biography

Lars Bak is a veteran virtual machinist. His passion for designing and implementing object-oriented virtual machines has left marks on several software systems: Beta, Self, Strongtalk, Sun's HotSpot and CLDC HI, OOVm Smalltalk, and V8. Since joining Google in the fall of 2006, Lars has been responsible for the design and implementation of V8. He graduated from Aarhus University in 1988 with a MS degree in computer science.