

Lazy Continuations for Java Virtual Machines

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Continuations, or “the rest of the computation”, are a concept that is most often used in the context of functional and dynamic programming languages. Implementations of such languages that work on top of the Java virtual machine (JVM) have traditionally been complicated by the lack of continuations because they must be simulated.

This talk will present our implementation of continuations in the Java virtual machine with a lazy or on-demand approach. Our system imposes zero run-time overhead as long as no activations need to be saved and restored and performs well when continuations are used. Although our implementation can be used from Java code directly, it is mainly intended to facilitate the creation of frameworks that allow other functional or dynamic languages to be executed on a Java virtual machine.

Along with some preliminary performance numbers this talk will also feature a discussion on how the concept of continuations fits into the Java world and which problems and needs it addresses.