## **Visualization of Garbage Collection Algorithms in JRE**

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"Garbage collection isn't magic, but is pretty close."

**Joshua Bloch**, the Chief Java Architect at Google

## **Design goals:**

- the ease of use
- modular design and reusable components
- non-intrusiveness
- preciseness of visualization
- transparency
- virtual machine independence

## Observed JVM Communication protocol Visualizing JVM GCSpy Data Provider API uses Visualization

GCSpy high level overview

## **Dealing with:**

- build infrastructure (dependency management, own Maven packaging, customized build lifecycle)
- runtime infrastructure (Groovy script enrichment, continuous script validation)
- test infrastructure (dealing with garbage collection indeterminism, unit and integration tests)
- socket communication protocol (send data semantics, connection management, thread model, blocking states)
- portability (operating system, virtual machine, java)