Intervals: The "Glue" Between the Java$^{\text{TM}}$ Language, Computing Hardware and Grids*

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Intervals can become the "glue" that connects the write-once-run-anywhere Java$^{\text{TM}}$ language paradigm to computing hardware and grids. The result will be Java$^{\text{TM}}$-language advantages *and* unsurpassed runtime performance. This paper describes how the properties of interval solvers will be used to logically connect Java$^{\text{TM}}$ applications to generic interval solver libraries that efficiently perform the most demanding floating-point computations.