



# IBM Algorithmics Riskwatch Monte Carlo Simulation

*Accelerator type: Application and accelerator*

The accelerator allows users to perform risk analysis quickly.

**Accelerator detail:** The accelerator performs Monte Carlo simulation of European pricing options. This Monte Carlo pricing function computes the cash flows for the accumulator forward option, for which an analytics solution does not exist. This demonstration provides an overview of the IBM® POWER8® CAPI architecture using a Sobol quasi-random number generator, an accurate inverse normal function, stock price paths generated using a Black Scholes model of Brownian motion, the final cash flow/payout computation, along with the logic to support communication with the POWER8 host.

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## Competitive advantage

The accelerator is 50x faster than executing the simulation on the POWER8 processor alone.

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