

MONTE CARLO SIMULATION FOR PRICING OPTIONS USING PVM ON A CLUSTER OF PCs

Adrian RĂBĂEA, Eduard-Marius CRĂCIUN

Abstract. Pricing options often requires use of Monte Carlo methods in financial industries. We describe and analyze the performance of a cluster of personal computers dedicated to Monte Carlo simulation on the evaluation of financial derivatives. Usually, Monte Carlo simulation (MCS) requires too much computer time. This requirement limits most of MCS techniques to use supercomputers, available only at supercomputer centers. With the rapid development and low cost of PCs, PC clusters are evaluated as a viable low-cost option for scientific computing. The free implementation of PVM is used on fast ethernet based systems. Serial and parallel simulations are performed.

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