CALL FOR PAPERS

First International Workshop on Parallel and Distributed Computing in Finance
(PDCoF08) April 18, 2008
http://www.cs.umanitoba.ca/pdcof
tulsi at cs.umanitoba.ca
ctdowning at gmail.com

to be held in conjunction with
International Parallel and Distributed Processing Symposium (IPDPS)
Friday, April 14-18, 2008

The first International workshop on **Parallel and Distributed Computing in Finance (PDCoF8)** is a forum for exchange of fundamental ideas, knowledge, techniques, and applications among computer scientists, physicists, finance academics and practitioners on problems in finance, business, management. This international workshop is the first to be held in conjunction with the IEEE/ACM International Parallel and Distributed Processing Symposium, a well established and highly reputed meeting of leading computer scientists and engineers in the field.

Original contributions in the design (theoretical and experimental), development, implementation, of parallel and distributed algorithms for finance computation are solicited.

Scope and Benefits

Today, principles of finance are combined with advanced mathematical structures to form useful financial products, strategies and models that are tested and implemented with the use of advanced quantitative techniques. Use of computing technology is pervasive throughout this process.

In the last decade Computational Finance (CF) has influenced the market place extensively with enormous impact on wealth building, employment opportunities, and tremendous economic growth. This field forms an ever-expanding part of the financial sector in numerous ways today. The time is, therefore, ripe now to bring together researchers in the areas of finance using complicated financial models to solve computationally intensive problems and computer scientists having the resources and solution methodologies to solve these problems. The main **goal** of this workshop is to provide a timely forum for these two groups to exchange and disseminate new ideas, techniques, and research in computational finance. Strong discussions will follow the presentations and the experience could lead them into formulation, and implementation of the models used by the practitioners in financial sector.

This workshop will be a first such effort in bringing together researchers in the areas of finance and advanced computing (i) who desgin and develop parallel and distributed algorithms extensively (ii) at a venue where Parallel, Distributed, Grid, and High Performance computing are the fundamental threads of discussions and arguments.

The papers to be presented will examine the problems in finance, bring out computing challenges these problem pose and how parallel and distributed computing knowledge and

practice could be employed to solve such problems. The papers will cover fundamental problems in finance (for example, interest rate and volatility modeling, pricing derivatives, risk management strategies etc.), introduce the computational issues therein and report latest findings and understanding of financial modeling that would have resulted with the use of parallel and distributed computing and bring out new in-sights to this field.

Engaging with leading computer scientists and engineers, researchers from finance will benefit a lot as well by learning the latest from the experts, without having to reinvent the wheel.

Put simply, *this workshop will be a perfect marriage between two historically established, technologically evolving and at the time same time traditionally different fields: finance and computing.*

Topics of interest include but not limited to the following:

- Parallel Algorithms for problems such as stock price predictions, asset pricing, option pricing and risk management

- Numerical Techniques for above problem and their implementations on state-of-the-art parallel architectures

- Molecular simulation in finance

- Engineering approaches (e.g. Fast Fourier Transform, Wavelet Transform) to finance problems

- Finance computations using system on a chip architectures

- Real time pricing

- High Performance data mining in finance

Paper Submissions:

We plan for a purely web based submission and review process. Authors are requested to submit papers (in PDF format) not exceeding 8 single-spaced pages, including abstract, contact address, figures, and references. Detailed instructions on paper submissions will be available soon.

Note: the PDF file must be viewable using "acroread" or similar common utility. Also, your paper should use a page size of 8.5x11 inches (LETTER sized output not A4).

Review:

All the manuscripts will be peer reviewed by at least two committee members for relevance to the scope, originality, quality and quantity of contribution, language and style of presentation. The papers might be sent to experts outside of the committee, if warranted.

Proceedings:

The proceedings of this workshop will be published with the proceedings of IPDPS '08.

IMPORTANT DATES:

- Paper submission: 09 October 2007

- Author notification: 11 December 2007

- Camera-ready due: 28 January 2008

Workshop Chairs

- Ruppa K. Thulasiram, University of Manitoba, Canada

- Christopher Downing, Barclay Global Investors, USA

Program Committee (to be revised)

- Dr. S.S. Appadoo, University of Manitoba, Canada

- Prof. Amir Atiya, Cario University, Egypt

- Prof. Arunaba Bagchi, University of Twente, Netherlands

- Prof. Milton Boyd, University of Manitoba, Canada (to confirm)

- Prof. Anthony Brabazon, University College Dublin, Ireland

- Prof. Joe Campolieti, Wilfred Laurier University, Canada

- Prof. Carl Chiarella, UTS, Australia, (to confirm)

- Prof. Silvano Cincotti, University of Genoa, Italy (to confirm)

- Prof. Thomas Coleman, University of Waterloo, Canada

- Prof. Sanjiv Das, Santa Clara University, Santa Clara, CA, USA

- Prof. Michael Dempster, Cambridge University, UK (to confirm)

- Prof. Chris Downing, Rice Univ, USA

- Prof. Guang R. Gao, University of Delaware, USA

- Prof. Jin Duan, Univ. of Toronto, Canada (to confirm)

- Prof. Manfred Gilli, University of Geneva, Switzerland

- Prof. Sergey Isaenko, Concordia University, Canada

- Prof. Gady Jacoby, University of Manitoba, Canada (to confirm)
- Prof. Fima Klebaner, Monash University, Australia
- Prof. Kiran Kumar, Indian School of Business, India
- Prof. Dmitri Livdan, Texas A & M University, USA (to confirm)
- Prof. Yuh-Dauh Lyuu, National Taiwan University, Taiwan
- Prof. Dilip Madan, University of Maryland, USA (to confirm)
- Prof. Charles E. Mossman, University of Manitoba, Canada (to confirm)
- Dr. Golaka C. Nath, Cleaing Corporation of India, India
- Prof. Giray Okten, Florida State University, USA
- Prof. Eckhard Platen, UTS, Australia
- Prof. M. Thenmozhi, Indian Institute of Technology, Chennai, India
- Prof. Parimala Thulasiraman, University of Manitoba, Canada
- Prof. Ruppa K. Thulasiram, University of Manitoba, Canada
- Prof. Edward P.K. Tsang, University of Essex, UK
- Prof. Ing Chyuan Wu, Fo Guang University, Taiwan
- Prof. Mieko Tanaka-Yamawaki, Tottori University, Japan