

Table of Contents

Expressing Irregular Computations in Modern Fortran Dialects	1
<i>Jan F. Prins, Siddhartha Chatterjee, and Martin Simons</i>	
Memory System Support for Irregular Applications	17
<i>John Carter, Wilson Hsieh, Mark Swanson, Lixin Zhang, Erik Brunvand, Al Davis, Chen-Chi Kuo, Ravindra Kuramkote, Michael Parker, Lambert Schaelicke, Leigh Stoller, and Terry Tateyama</i>	
MENHIR: An Environment for High Performance Matlab	27
<i>Stéphane Chauveau and Francois Bodin</i>	
On the Automatic Parallelization of Sparse and Irregular Fortran Programs	41
<i>Yuan Lin and David Padua</i>	
Loop Transformations for Hierarchical Parallelism and Locality	57
<i>Vivek Sarkar</i>	
Dataflow Analysis Driven Dynamic Data Partitioning	75
<i>Jodi Tims, Rajiv Gupta, and Mary Lou Soffa</i>	
A Case for Combining Compile-Time and Run-Time Parallelization	91
<i>Sungdo Moon, Byoungro So, Mary W. Hall, and Brian Murphy</i>	
Compiler and Run-Time Support for Adaptive Load Balancing in Software Distributed Shared Memory Systems	107
<i>Sotiris Ioannidis and Sandhya Dwarkadas</i>	
Efficient Interprocedural Data Placement Optimisation in a Parallel Library	123
<i>Olav Beckmann and Paul H. J. Kelly</i>	
A Framework for Specializing Threads in Concurrent Run-Time Systems ..	139
<i>Gregory D. Benson and Ronald A. Olsson</i>	
Load Balancing with Migrant Lightweight Threads	153
<i>David Cronk and Piyush Mehrotra</i>	
Integrated Task and Data Parallel Support for Dynamic Applications	167
<i>James M. Rehg, Kathleen Knobe, Umakishore Ramachandran, Rishiyur S. Nikhil, and Arun Chauhan</i>	
Supporting Self-Adaptivity for SPMD Message-Passing Applications	181
<i>M. Cermele, M. Colajanni, and S. Tucci</i>	
Evaluating the Effectiveness of a Parallelizing Compiler	195
<i>Dixie Hisley, Gagan Agrawal and Lori Pollock</i>	

Comparing Reference Counting and Global Mark-and-Sweep on Parallel Computers	205
<i>Hirotaaka Yamamoto, Kenjiro Taura, and Akinori Yonezawa</i>	
Design of the GODIVA Performance Measurement System	219
<i>Terrence W. Pratt</i>	
Instrumentation Database for Performance Analysis of Parallel Scientific Applications	229
<i>Jeffrey Nesheiwat and Boleslaw K. Szymanski</i>	
A Performance Prediction Framework for Data Intensive Applications on Large Scale Parallel Machines	243
<i>Mustafa Uysal, Tahsin M. Kurc, Alan Sussman, and Joel Saltz</i>	
MARS: A Distributed Memory Approach to Shared Memory Compilatio . .	259
<i>M.F.P. O'Boyle</i>	
More on Scheduling Block-Cyclic Array Redistribution	275
<i>Frédéric Desprez, Stéphane Domas, Jack Dongarra, Antoine Petitet, Cyril Randriamaro, and Yves Robert</i>	
Flexible and Optimized IDL Compilation for Distributed Applications	288
<i>Eric Eide, Jay Lepreau, and James L. Simister</i>	
QoS Aspect Languages and Their Runtime Integration	303
<i>Joseph P. Loyall, David E. Bakken, Richard E. Schantz, John A. Zinky, David A. Karr, Rodrigo Vanegas, and Kenneth R. Anderson</i>	
Statistical Properties of Host Load	319
<i>Peter A. Dinda</i>	
Locality Enhancement for Large-Scale Shared-Memory Multiprocessors ...	335
<i>Tarik Abdelrahman, Naraig Manjikian, Gary Liu, and S. Tandri</i>	
Language and Compiler Support for Out-of-Core Irregular Applications on Distributed-Memory Multiprocessors	343
<i>Peter Brezany, Alok Choudhary, and Minh Dang</i>	
Detection of Races and Control-Flow Nondeterminism	351
<i>Mindong Feng and Chung Kwong Yuen</i>	
Improving Locality in Out-of-Core Computations Using Data Layout Transformations	359
<i>M. Kandemir, A. Choudhary, and J. Ramanujam</i>	
Optimizing Computational and Spatial Overheads in Complex Transformed Loops	367
<i>Dattatraya Kulkarni and Michael Stumm</i>	

Building a Conservative Parallel Simulation with Existing Component Libraries	378
<i>Chu-Cheow Lim and Yoke-Hean Low</i>	
A Coordination Layer for Exploiting Task Parallelism with HPF	386
<i>Salvatore Orlando and Raffaele Perego</i>	
InterAct: Virtual Sharing for Interactive Client-Server Applications	394
<i>Srinivasan Parthasarathy and Sandhya Dwarkadas</i>	
Standard Templates Adaptive Parallel Library (STAPL)	402
<i>Lawrence Rauchwerger, Francisco Arzu, and Koji Ouchi</i>	
Author Index	411



<http://www.springer.com/978-3-540-65172-7>

Languages, Compilers, and Run-Time Systems for
Scalable Computers

4th International Workshop, LCR '98 Pittsburgh, PA,
USA, May 28-30, 1998 Selected Papers

O'Hallaron, D. (Ed.)

1998, IX, 412 p. 159 illus., 47 illus. in color., Softcover

ISBN: 978-3-540-65172-7