

Table of Contents

1. Evaluation and Performance

Online Performance Monitoring Using OMIS <i>M. Bubak, W. Funika, K. Iskra, R. Maruszewski</i>	3
Performance Analysis of Task-Based Algorithms on Heterogeneous Systems with Message Passing <i>A. Clematis, A. Corana</i>	11
Automatic Detection of PVM Program Performance Problems <i>A. Espinosa, T. Margalef, E. Luque</i>	19
Evaluating and Modeling Communication Overhead of MPI Primitives on the Meiko CS-2 <i>G. Folino, G. Spezzano, D. Talia</i>	27
A Parallel I/O Test Suite <i>D. Lancaster, C. Addison, T. Oliver</i>	36
Improving the PVM Daemon Network Performance by Direct Network Access <i>R. Lavi, A. Barak</i>	44
SKaMPI: A Detailed, Accurate MPI Benchmark <i>R. Reussner, P. Sanders, L. Prechelt, M. Müller</i>	52

2. Extensions and Improvements

MPI on NT: The Current Status and Performance of the Available Environments <i>M. Baker</i>	63
Harness: The Next Generation Beyond PVM <i>G.A. Geist</i>	74
Advances in Heterogeneous Network Computing <i>P. Gray, A. Krantz, S. Olesen, V. Sunderam</i>	83
<i>MPI.Connect</i> Managing Heterogenous MPI Applications Interopration and Process Control <i>G.E. Fagg, K.S. London, J.J. Dongarra</i>	93

An Active Layer Extension to MPI <i>M. Chethur, G.D. Sharma, N. Abu-Ghazaleh, U. Kumar V. Rajasekaran, P.A. Wilsey</i>	97
Interconnecting PVM and MPI Applications <i>P.D. Medeiros, J.C. Cunha</i>	105
WMPI - Message Passing Interface for Win32 Clusters <i>J. Marinho, J.G. Silva</i>	113
A Java Interface for WMPI <i>P. Martins, L.M. Silva, J. Silva</i>	121
3. Implementation Issues	
Porting CHAOS Library to MPI <i>M. Bubak, P. Luszczek, A. Wierzbowska</i>	131
Athapascan: An Experience on Mixing MPI Communications and Threads <i>A. Carissimi, M. Pasin</i>	137
Developing Message-Passing Applications on MPICH under Ensemble <i>Y. Cotronis</i>	145
The NAG Parallel Library and the PINEAPL Project <i>M. Derakhshan, A. Krommer</i>	153
High Performance Fortran: A Status Report or: Are We Ready to Give Up MPI? <i>M. Delves, H. Zima</i>	161
On the Implementation of a Portable, Client-Server Based MPI-IO Interface <i>T. Fuerle, E. Schikuta, C. Loeffelhardt, K. Stockinger, H. Wanek</i>	172
Distributed Computing in a Heterogeneous Computing Environment <i>E. Gabriel, M. Resch, T. Beisel, R. Keller</i>	180
Rank Reordering Strategy for MPI Topology Creation Functions <i>T. Hatazaki</i>	188
Scalable and Adaptive Resource Sharing in PVM <i>M. Kemelmakher, O. Kremien</i>	196
Load Balancing for Network Based Multi-threaded Applications <i>O. Krone, M. Raab, B. Hirsbrunner</i>	206

Creation of Reconfigurable Hardware Objects in PVM Environments <i>G.M. Megson, R.S. Fish, D.N.J. Clarke</i>	215
Implementing MPI with the Memory-Based Communication Facilities on the SSS-CORE Operating System <i>K. Morimoto, T. Matsumoto, K. Hiraki</i>	223
PVM on Windows and NT Clusters <i>S.L. Scott, M. Fischer, A. Geist</i>	231
Java and Network Parallel Processing <i>N. Stankovic, K. Zhang</i>	239
4. Tools	
A Tool for the Development of Meta-applications Supporting Several Message-Passing Programming Environments <i>R. Baraglia, R. Ferrini, D. Laforenza, R. Sgherri</i>	249
Cross-Platform Parallel Debugging and Performance Analysis Tools <i>S. Browne</i>	257
Debugging Point-to-Point Communication in MPI and PVM <i>D. Kranzlmüller, J. Volkert</i>	265
Monitoring PVM Programs Using the DAMS Approach <i>J.C. Cunha, V. Duarte</i>	273
Functional Message Passing with OPAL-MPI <i>T. Nitsche, W. Webers</i>	281
An MPI-based Run-Time Support to Coordinate HPF Tasks <i>S. Orlando, R. Perego</i>	289
Dynamic Visualization and Steering Using PVM and MPI <i>P.M. Papadopoulos, J.A. Kohl</i>	297
A PVM-Based Library for Sparse Matrix Factorizations <i>J. Touriño, R. Doallo</i>	304
Online Monitoring Support in PVM and MPI <i>R. Wismüller</i>	312

5. Algorithms

Coarse Grained Parallel Monte Carlo Algorithms for Solving SLAE Using PVM <i>V. Alexandrov, F. Dehne, A. Rau-Chaplin, K. Taft</i>	323
Parallel Quantum Scattering Calculations Applied to the Dynamics of Elementary Reactions <i>A. Bolloni, A. Riganelli, S. Crocchianti, A. Laganà</i>	331
On the PVM Computations of Transitive Closure and Algebraic Path Problems <i>K.J. Chan, A.M. Gibbons, M. Pias, W. Rytter</i>	338
Implementation of Monte Carlo Algorithms for Eigenvalue Problem Using MPI <i>I. Dimov, V. Alexandrov, A. Karaivanova</i>	346
Running an Advection-Chemistry Code on Message Passing Computers <i>K. Georgiev, Z. Zlatev</i>	354
A Model for Parallel One Dimensional Eigenvalues and Eigenfunctions Calculations <i>A. Laganà, G. Grossi, A. Riganelli, G. Ferraro</i>	364
Sparse LU Factorization with Partial Pivoting Overlapping Communications and Computations on the SP-2 Multicomputer <i>C.N. Ojeda-Guerra, E. Macías, A. Suárez</i>	371
Use of Parallel Computing to Improve the Accuracy of Calculated Molecular Properties <i>E. Ramos, W. Díaz, V. Cerverón, I. Nebot-Gil</i>	379
A New Model for the Analysis of Asynchronous Parallel Algorithms <i>J.L. Roda, C. Rodríguez, F. Sande, D.G. Morales, F. Almeida</i>	387
Portable Randomized List Ranking on Multiprocessors Using MPI <i>J. L. Träff</i>	395
A Parallel Algorithm for the Simultaneous Solution of Direct and Adjoint Multigroup Diffusion Problems <i>E. Varin, R. Roy, T. NKaoua</i>	403
Author Index	411

Recent Advances in Parallel Virtual Machine and
Message Passing Interface

5th European PVM/MPI Users' Group Meeting, Liverpool,
UK, September 7-9, 1998, Proceedings

Alexandrov, V.; Dongarra, J. (Eds.)

1998, XII, 424 p., Softcover

ISBN: 978-3-540-65041-6