

Publication List - Abhinav Bhatele

Journal Publications:

1. Abhinav Bhatele, Eric Bohm and Laxmikant V. Kale; Optimizing communication for Charm++ applications by reducing network contention, *accepted for publication in Concurrency and Computation: Practice and Experience (Euro-Par Special Issue), 2010*
2. Abhinav Bhatele, Lukasz Wesolowski, Eric Bohm, Edgar Solomonik and Laxmikant V. Kale; Understanding application performance via micro-benchmarks on three large supercomputers: Intrepid, Ranger and Jaguar, *in International Journal for High Performance Computing Applications (IJHPCA), 2010*
3. Abhinav Bhatele and Laxmikant V. Kale; Quantifying Network Contention on Large Parallel Machines, *Parallel Processing Letters (Special Issue on Large-Scale Parallel Processing), Vol: 19 Issue: 4, Pages: 553-572, 2009*
4. Abhinav Bhatele, Laxmikant V. Kale; Benefits of Topology Aware Mapping for Mesh Interconnects, *Parallel Processing Letters (Special issue on Large-Scale Parallel Processing), Vol: 18 Issue: 4 Pages: 549-566, 2008*
5. Eric Bohm, Abhinav Bhatele, Laxmikant V. Kale, Mark E. Tuckerman, Sameer Kumar, John A. Gunnels and Glenn J. Martyna; Fine grained parallelization of the Car-Parrinello ab initio MD method on Blue Gene/L, *IBM Journal of Research and Development, Volume 52, No. 1/2, 2007*
6. Sameer Kumar, Chao Huang, Gengbin Zheng, Eric Bohm, Abhinav Bhatele, James C. Phillips, Hao Yu, Laxmikant V. Kale; Scalable Molecular Dynamics with NAMD on Blue Gene/L, *IBM Journal of Research and Development, Volume 52, No. 1/2, 2007*

Refereed Conference Publications:

7. Gengbin Zheng, Esteban Meneses, Abhinav Bhatele and Laxmikant V. Kale; Hierarchical Load Balancing for Large Scale Supercomputers, *to appear in Proceedings of the International Workshop on Parallel Programming Models and Systems Software for High-End Computing (P2S2), 2010*
8. Abhinav Bhatele, Laxmikant V. Kale, Nicholas Chen and Ralph E. Johnson; A Pattern Language for Topology Aware Mapping, *Workshop on Parallel Programming Patterns (ParaPLOP 2009), 2009*
9. Abhinav Bhatele, Laxmikant V. Kale and Sameer Kumar; Dynamic Topology Aware Load Balancing Algorithms for Molecular Dynamics Applications, *Proceedings of 23rd ACM International Conference on Supercomputing (ICS), 2009*

Continued on next page ...

Publication List - Abhinav Bhatele

10. Abhinav Bhatele, Eric Bohm and Laxmikant V. Kale; A Case Study of Communication Optimizations on 3D Mesh Interconnects, *Proceedings of Euro-Par (Topic 13 - High Performance Networks)*, 2009 (Distinguished Paper Award)
11. Abhinav Bhatele and Laxmikant V. Kale; An Evaluative Study on the Effect of Contention on Message Latencies in Large Supercomputers, *Workshop on Large-Scale Parallel Processing (IPDPS)*, 2009
12. Eric Bohm, Sayantan Chakravorty, Pritish Jetley, Abhinav Bhatele and Laxmikant V. Kale; CkDirect: Unsynchronized One-Sided Communication in a Message-Driven Paradigm, *Proceedings of International Workshop on Parallel Programming Models and Systems Software for High-End Computing (P2S2)*, 2009
13. Abhinav Bhatele, Laxmikant V. Kale; Application-specific Topology-aware Mapping for Three Dimensional Topologies, *Workshop on Large-Scale Parallel Processing (IPDPS)*, 2008
14. Abhinav Bhatele, Sameer Kumar, Chao Mei, James C. Phillips, Gengbin Zheng, Laxmikant V. Kale; Overcoming Scaling Challenges in Biomolecular Simulations across Multiple Platforms, *Proceedings of IEEE International Parallel and Distributed Processing Symposium 2008*
15. Abhinav Bhatele, Guojing Cong; A Selective Profiling Tool: Towards Automatic Performance Tuning, in *Proceedings of Workshop on System Management Techniques, Processes, and Services (IPDPS)*, 2007

Invited Book Chapters:

16. Abhinav Bhatele; Topology Aware Task Mapping, to appear in *Encyclopedia of Parallel Computing*, 2010
17. Klaus Schulten, James C. Phillips, Laxmikant V. Kale, Abhinav Bhatele; Biomolecular modeling in the era of petascale computing, *Petascale Computing: Algorithms and Applications*, pp. 165-181, D. Bader, Ed., Chapman & Hall / CRC Press, New York, 2008

Poster:

1. Abhinav Bhatele, Laxmikant V. Kale; Effects of Contention on Message Latencies in Large Supercomputers, *International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, 2008 (ACM Best Graduate Student Poster Award)