Workshop Description

HIPS 2003 is a full-day workshop to be held at the IPDPS 2003 focusing on high-level programming of parallel and grid architectures. Its goal is to bring together researchers working in the areas of applications, computational models, language design, compilers, system architecture, and programming tools to discuss new developments in programming such systems.

One of the keys for a (commercial) breakthrough of parallel processing and grid computing are high-level programming models that allow to produce truly efficient application, as only they allow a wide range of users in a broad spectrum of application domains to fully exploit the capabilities and resources of these architectures. However, current implementations of high-level programming models often suffer from low performance, from the lack of corresponding high-level development tools, e.g. for performance analysis, and from restricted applicability. This situation requires strong research efforts in the design of parallel programming models and languages that are both at a high conceptual level and implemented efficiently, in the development of supportive tools, and in the integration of languages and tools into convenient programming environments.

Topics of interest include:

- Concepts and languages for parallel and Grid programming
- Concurrent object-oriented programming
- Component-based programming
- Mobile agents
- Web services
- Hybrid programming, e.g. OpenMP/MPI, components/MPI
- Extensions to traditional programming models, e.g. MPI and OpenMP
- Supportive techniques for environments and test beds:
  - Architectural and communication support
  - Grid system support
  - Runtime systems
  - Integration into local environments
  - Compiler techniques
- Tools for high-level parallel programming:
  - System monitoring
  - Performance contracting, analysis, and optimization
  - Automatic performance analysis support

Workshop Chairs
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