The GENESIS distributed-memory benchmarks


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Getov, Vladimir 2012. Hybrid cloud adoption issues are a case in point for the need for industry regulation of cloud computing. Business Computing World.

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Proceedings of the CoreGRID Workshop on Grid Systems, Tools and Environments, 1st December 2006, Sophia-Antipolis, France

Problem solving environment for distributed interactive applications

Domain-specific metadata for model validation and performance optimisation

Design support for componentising and grid-enabling scientific applications

Letters to the editor

Corrections

Proceedings of the 2007 symposium on Component and framework technology in high-performance and scientific computing

Specification and verification of reconfiguration protocols in grid component systems

Componentising a scientific application for the grid

Mapping "heavy" scientific applications on a lightweight grid infrastructure

Security models for lightweight grid architectures
Lightweight grid platform: design methodology

A metadata extracting tool for software components in grid applications

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Specification and verification of reconfiguration protocols in grid component systems

Towards building a generic grid services platform: a components-oriented approach

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Developing grid services with Jini and JXTA

Computational grid and web services: concepts, functionalities and comparisons

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Performance evaluation of hybrid parallel programming paradigms

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Intelligent architecture for automatic resource allocation in computer clusters
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Agent-based service management in large datacentres and grids

Performance comparisons of basic openMP constructs

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Performance optimisations of the NPB FT kernel by special-purpose unroller

MPI and Java-MPI: contrasts and comparisons of low-level communication performance

Multi-language programming environments for high performance Java computing

A programming environment for high-performance computing in Java

MPI for Java

MPI for Java: position document and draft API specification

High-performance parallel programming in Java: exploiting native libraries

Low-level benchmarking: performance profiles

Towards portable message passing in Java: binding MPI

P MPI: high-level message passing in Fortran77 and C

Automatic binding of native scientific libraries to Java

Message-passing performance of parallel computers

Massively parallel computing in Java

Benchmarking the cache memory effect
The GENESIS distributed memory benchmarks. Part 2: COMMS1, TRANS1, FFT1 and QCD2 benchmarks on the suprenum and IPSC/860 computers


Performance characterisation of the cache memory effect


Benchmarking for distributed memory parallel systems: gaining insight from numbers


Comparison of HPF-like Systems


PARKBENCH Report - 1: Public international benchmarks for parallel computers


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The GENESIS benchmark suite: current state and results


The GENESIS benchmark suite manual. Release 2


The GENESIS distributed-memory benchmarks. Part 1: Methodology and general relativity benchmark with results for the SUPRENUM computer


Final report on benchmark suite


Mid-term report on benchmark suite


Benchmarking for MPP procurement. Mid-term report


1-Dimensional parallel FFT benchmark on SUPRENUM


Simulation facility of distributed memory system with 'mad postman' communication network

The Genesis benchmark suite has been assembled to evaluate the performance of distributed-memory MIMD systems. The problems selected all have a scientific origin (mostly from physics or theoretical chemistry), and range from synthetic code fragments designed to measure the basic hardware properties of the computer (especially communication and synchronisation overheads), through commonly used library subroutines, to full application codes. A brief overview of the Genesis Distributed Memory Benchmark suite developed in the Esprit-2 Genesis project is presented. These benchmarks are directed towards the evaluation of Distributed Memory MIMD systems and are therefore rather different in character from the PERFECT benchmarks. 

b. The GENESIS Distributed-Memory Benchmarks[19] were developed in a 3-layer hierarchy – low-level micro-benchmarks, kernels, and compact applications. This was intended to express the performance of higher level codes via a composition of performance results produced by the codes in the layer below. However, this proved to be a difficult task, particularly with including sufficiently broad computational science codes in the compact application layer. c. The PARKBENCH Public International Benchmarks for Parallel Computers[20]. This was an ambitious international effort to glue together the mos