



ICPE 2012

April 22-25, 2012, Boston, USA



The goal of the International Conference on Performance Engineering (ICPE) is to integrate theory and practice in the field of performance engineering by providing a forum for sharing ideas and experiences between industry and academia. ICPE is established as a joint meeting of the Association for Computing Machinery (ACM) and the Standard Performance Evaluation Corporation (SPEC). The conference brings together researchers and industry practitioners to share and present their experiences, discuss challenges, and report state-of-the-art and in-progress research on performance engineering of software and systems, including performance measurement, modeling, benchmark design, and run-time performance management. Topics of interest include:

Performance and software development processes

- ✓ Performance engineering for systems including but not limited to: smart grids, cloud platforms, sensor nets, manufacturing and handling, embedded systems, transportation control systems, multi-tier systems, event-driven systems
- ✓ Techniques to elicit and incorporate performance, availability, power and other extra-functional requirements in the early stages of software design
- ✓ Performance engineering as risk mitigation for software projects
- ✓ Agile, performance test driven, and/or model-driven performance engineering
- ✓ Performance engineering in Commercial-of-the-Shelf (COTS) system development
- ✓ Software performance patterns and anti-patterns

Performance modeling of software and systems

- ✓ Languages and ontologies for software performance engineering
- ✓ Specifying, interpreting and exploiting software performance annotations and data
- ✓ Automatic model discovery during early stages of development
- ✓ Methods, tools, and tool interoperability

Performance measurement, and experimental analysis

- ✓ Performance measurement, monitoring, and workload characterization techniques
- ✓ Test planning, tools for performance load testing, measurement, profiling and tuning
- ✓ Automated model extraction for functional or partially functional systems

Performance prediction techniques for software and systems

- ✓ Analytic, simulation, statistical, AI-based, and hybrid modeling methods for performance prediction
- ✓ Performance prediction for multi-socket, multi-core platforms and virtualized systems
- ✓ Model validation and calibration techniques
- ✓ Relationship/integration/tradeoffs among QoS attributes

Benchmarking, configuration, sizing, and capacity planning

- ✓ Benchmark design and benchmarking methods, metrics, and suites
- ✓ Development of new, configurable, and/or scalable benchmarks
- ✓ Use of benchmarks in industry and academia
- ✓ System configuration, sizing and capacity planning techniques

Run-time performance/power management/optimization

- ✓ Use of models for run-time configuration and/or management
- ✓ Online performance prediction and model parameter estimation
- ✓ Autonomic /self-adaptive resource management
- ✓ Power consumption models and management techniques
- ✓ Tradeoffs between performance and energy efficiency

Authors are invited to submit original, unpublished papers that are not being considered in another forum. A variety of contribution styles for papers are solicited including: basic and applied research, industrial experience reports, and work-in-progress/vision papers. Different acceptance criteria apply for each category. The conference proceedings will be published by ACM and included in the ACM Digital Library.

Important Dates

Research paper submissions:	30 Sep 2011	Work-in-progress/vision paper submissions	10 Jan 2012
Research paper notification:	1 Dec 2011	Poster and demo papers submissions:	7 Nov 2011
Industrial/experience paper submissions:	31 Oct 2011	Tutorial proposals submissions:	7 Nov 2011

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