

CALL FOR PAPERS

Third International Workshop on Feedback Control Implementation and Design in Computing Systems and Networks (FeBID 2008)

Sponsored by ACM Sigmetrics 2008

<http://www.controlofsystems.org/febid2008/>

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Traditional practice in performance modeling focuses on using a variety of techniques including mathematical modeling, simulation, and analysis to understand the behavior of systems for the purpose of better design and evaluation. As IT systems, networks, and services become increasingly complex, this task becomes ever more difficult. In recent years, there has been considerable success in applying feedback control theory to analyzing and designing run-time IT control systems. Feedback control theory complements traditional modeling by providing formal mechanisms to dynamically control behavior of systems at run-time.

The Third International Workshop on Feedback Control Implementation and Design in Computing Systems and Networks (FeBID 2008) will be held June 6th, 2008 in Annapolis, Maryland, USA. The FeBID 2008 workshop will offer a unique opportunity for researchers and practitioners to discuss recent and innovative results in applying control theory to controlling performance of computing systems and networks. It will provide a forum to exchange ideas and experiences on practical control system design and implementation and to identify future directions and challenges in aligning feedback control techniques with traditional performance modeling and simulation.

Topics of interest to this workshop include, but are not limited to, the following:

1. Control engineering and applications to server and network systems
 - Automated resource allocation
 - Virtual environment management
 - Centralized or distributed load balancing
 - Workload management
 - Power management
 - Automated configuration management
 - Congestion control and queue management
 - Control of IT services and business operations
 - Control of networks (overlay networks, sensor networks, wireless networks)
 - Control of middleware (Web servers, application servers, database servers)
 - Case studies in applying control theory to systems
2. Control models, methodologies and paradigms
 - Control system architecture
 - System identification and modeling techniques
 - Controllability and observability in computer and network systems
3. Self-configuring, self-organizing, self-tuning, self-healing, or self-managing systems
 - Actuator and sensor design
 - Analysis of system stability and convergence
 - Control performance evaluation
 - Analysis of system robustness and robust control
 - Control algorithms and functions
 - Adaptive control design
 - Optimal control design
 - Nonlinear control
 - Decentralized and distributed control
 - Supervisory control and discrete event systems
 - Self-* systems analysis
 - Online estimation and adaptation of models
 - Problem diagnosis and recovery
 - Adaptive performance troubleshooting
 - Other emerging techniques for self-* system management (machine learning, economic models)

The structure of this workshop will include paper presentations and panels to encourage discussions and foster future collaborations. We encourage papers that position research directions in new areas, or share lessons learned in practical applications.

Authors are invited to submit original contributions in PDF through the workshop website. All submissions should be formatted according to the standard ACM proceedings guidelines and not exceed 6 pages in length. Links to manuscript templates are available at <http://www.controlofsystems.org/febid2008/>

Important Dates:

Submission of full papers: 31 March, 2008

Notification of acceptance: 25 April, 2008

Submission of final manuscript: 9 May, 2008

Workshop date: 6 June 2008