

CALL FOR PAPERS

Fourth AOSD Workshop on Aspects, Components, and Patterns for Infrastructure Software (ACP4IS)

March 14, 2005

Chicago, IL, USA

<http://aosd.net/2005/workshops/acp4is/>

A one-day workshop to be held in conjunction with the
Fourth International Conference on
Aspect-Oriented Software Development (AOSD.05),
March 14–18, 2005, Chicago, IL, USA
<http://aosd.net/conference>

The importance of “systems infrastructure” software — including application servers, virtual machines, middleware, compilers, and operating systems — is increasing as application programmers demand better and higher-level support for software development. Vendors that provide superior support for application development have a competitive advantage. The software industry as a whole benefits as the base level of abstraction increases, thus decreasing the need for application programmers to continually “reinvent the wheel.”

These trends, however, mean that the demands on infrastructure software are increasing. More and more features and requirements are being “pushed down” into the infrastructure, and the developers of systems software need better tools and techniques for handling these increased demands. In particular, developers need better techniques for modularizing, combining, and analyzing the many features that are now being demanded from infrastructure software.

This meeting of the ACP4IS workshop will focus on the particular topic of **implementing infrastructure software product families**. A software product family is a group of systems, designed around a shared set of features and implemented using a common set of parts. Each member of a family is implemented as a unique assembly or configuration of parts; as a result, different family members have different feature sets. Aspects, components, and patterns have all been used to implement software product families. The goal of this year’s workshop is to better understand how these techniques relate, individually and in combination, to the inherent challenges of systems infrastructure product families. Critical issues include untangling the inherent complexity of infrastructure software; obtaining strong assurances of correct and predictable behavior; achieving maximum run-time performance; and dealing with the large body of existing systems software components. Suggested topics for position papers include, but are not restricted to:

- Feature-oriented design and implementation of infrastructure software
- Relationships between features and aspects
- Novel approaches for dealing with conflicting features
- Support for fine-grain trade-offs between features
- Advances in representing, managing, and modularizing emergent system properties
- Application- or domain-specific optimization of family-based systems
- Software product lines for resource-constrained and embedded systems
- Testing and validation across members of an infrastructure product family
- Issues in systems that support dynamic feature selection
- Techniques for particular concerns in infrastructure product families, e.g., security and real-time
- Methods and tools for aspect-oriented product family design and implementation
- Quantitative and qualitative evaluations of product families

Agenda

The workshop will be structured to encourage fruitful discussions and build connections between workshop participants. To this end, approximately half of the workshop time will be devoted to short presentations of accepted papers, with the remaining half devoted to semi-structured discussion groups. To help ensure focused discussions, participants will be expected to read accepted papers and submit written comments on some of those papers prior to the workshop. Participants will work with the workshop organizers prior to the workshop to establish topics for discussion groups.

Submission Guidelines

Invitation to the workshop will be based on accepted position papers, 3–6 pages in length. All papers must be submitted electronically in PDF, Postscript, or MS Word format. Papers should be submitted via the workshop's Web site. Paper submissions will be reviewed by the workshop program committee and designated reviewers. Papers will be evaluated based on technical quality, originality, relevance, and presentation.

All accepted papers will be posted at the workshop Web site prior to the workshop date, to give all participants the opportunity to read them before the workshop. The accepted papers will also be published in a Workshop Proceedings as a technical report.

Important Dates

Submission Deadline: January 13, 2005
Notification of Acceptance: February 3, 2005
Workshop: March 14, 2005

Workshop Program Committee

Yvonne Coady, University of Victoria
Adrian Colyer, IBM UK
Krzysztof Czarnecki, University of Waterloo
Rémi Douence, Ecole des Mines de Nantes
Eric Eide, University of Utah
Marc E. Fiuczynski, Princeton University
Erik Hilsdale, Google
Hans-Arno Jacobsen, University of Toronto
Ray Klefstad, University of California, Irvine
Julia Lawall, DIKU
David H. Lorenz, Northeastern University
Martin Robillard, McGill University
Christa Schwanninger, Siemens AG
Yannis Smaragdakis, Georgia Tech
Olaf Spinczyk, University of Erlangen-Nuremberg
Rob van Ommering, Philips

Workshop Organizing Committee

Yvonne Coady, University of Victoria
Eric Eide, University of Utah
David H. Lorenz, Northeastern University
Olaf Spinczyk, University of Erlangen-Nuremberg