Summary of the 2nd International Workshop on Incorporating COTS Software into Software Systems: Tools and Techniques

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Abstract

This workshop explored innovative ways of integrating commercial off-the-shelf software products into software systems for purposes often unimagined by their creators. It investigated the challenges and risks faced as well as the benefits gained in building COTS-based software systems. The papers accepted to this workshop described tools and techniques for plugging COTS software products into software systems safely, reliably, and predictably. In the past, researchers have predominantly investigated COTS component integration with respect to requirements engineering, risk assessment, and selection. The more recent integration of entire products into software applications complements traditional software development with techniques for designing, implementing, and testing COTS-based systems.

1. Introduction

Building and evolving software systems is an arduous, costly, lengthy, and complex task. The resulting systems are similarly complex. We are thus constantly searching for ways to reduce such costs, time, and complexity while increasing system functionality and quality. Not surprisingly, our quest for "silver bullets," as described by Frederick Brooks back in 1987, has not produced magnitude improvements. Instead, we have achieved steady, incremental improvements in the enterprise of building and evolving software systems.

This workshop focused on the potential of incorporating commercial off-the-shelf software products (COTS) and other non-developed items into software systems. The goal is to buy rather than build anew. However, dealing with commercial off-the-shelf products is a high-risk activity, in part due to lack of access to its source code and its developers. In the past, COTS software integration has addressed this problem predominantly as an add-on to software development. However, COTS software integration affects the entire software development life cycle from requirements engineering, design, implementation, and testing to long-term maintenance. COTS software integration transcends social, economic, and development concerns and it affects all the "traditional" aspects of software development. The theme of the workshop was thus to report on:

- New software engineering principles (methods, techniques, tools) for integrating COTS products into software systems effectively, safely, reliably, and predictably
- Lessons learned and case studies that demonstrated such software engineering principles

The workshop built on three previous workshops and a special issue in IEEE Software on the topic of COTS product integration:

⇨ Workshop on Incorporating COTS Software into Software Systems (IWICSS) (co-located with ICCBSS 2004) http://www.tuisr.utulsa.edu/iwicss/

⇨ Workshops on Adoption-Centric Software Engineering (ACSE 2003 and ACSE 2004) (co-located with ICSE 2003 and ICSE 2004, respectively)
http://www.acse2004.cs.uvic.ca/
http://www.acse2003.cs.uvic.ca/

⇨ Special Issue of IEEE Software on Integrating COTS into the Development Process, July/August 2005
http://www.computer.org/portal/cms_docs_software/software/content/cots.pdf

2. Web Site

Further details and the program can be found at the workshop web site at:
http://www.softwareml.com/iwicss07.

2. Organization

The workshop was organized by:

- Alexander Egyed, Teknowledge Corporation, USA
- Hausi Müller, University of Victoria, Canada
- Dewayne E. Perry, University of Texas at Austin, USA
- Dennis B. Smith, Software Engineering Institute, USA
- Scott Tilley, Florida Institute of Technology, USA

We would like to gratefully acknowledge the contributions of the program committee which helped us decide on what papers to accept. The program committee consisted of the following members:

- Robert Balzer, Teknowledge Corporation, USA
- Brian Berenbach, Siemens Corporate Research, USA
- Alan Brown, IBM Rational, USA
- Lisa Brownsword, Software Engineering Inst., USA
- Rose Gamble, University of Tulsa, USA
- Mark Grechanik, Accenture Research Labs, USA
- Paul Grünbacher, Johannes Kepler University, Austria
- Anatol Kark, National Research Council, Canada
- Marin Litoiu, IBM Canada Ltd., Canada
- Anna Liu, Microsoft Research, USA
- Maurizio Morisio, Politecnico di Torino, Italy
- Judith Stafford, Tufts University, USA
- Tarja Systä, Tampere University of Tech., Finland
- Ken Wong, University of Alberta, Canada
- Dave Wile, Teknowledge Corporation, USA

And finally, we would like to thank all those people who submitted papers to the workshop and participated in it.