International Workshop on Component-Based Software Engineering

Alan W. Brown
Sterling Software
6620 Chase Oaks Blvd MS8515
Plano, TX 75023, USA
+1 972-575-4590
Alan_Brown@sterling.com

Kurt C. Wallnau
Software Engineering Institute
Carnegie Mellon University
Pittsburgh, PA 15213 USA
+1 412-268-3265
kcw@sei.cmu.edu

ABSTRACT
Component-based software engineering (CBSE) spans a range of technologies and engineering practices. Component-based technologies have made steady inroads in the commercial marketplace; however, the significant business opportunity for technology providers has and will continue to lead to intense competition and technology instability. Engineering practices for component-based systems (e.g., design, integrate, test, deploy and sustain) are also emerging, but in isolated settings rather than at a community level. The goal of this workshop is to provide a baseline understanding, in the form of a CBSE Handbook, of the broad aspects of CBSE. A draft of the handbook will be produced by workshop attendees, and will provide a starting point for refinement by CBSE practitioners.

Keywords
Component-based software, component-based development

1 INTRODUCTION

Technology to support component-based development has been emerging for several years. Most recently, vendors are attempting to prove the viability of Enterprise JavaBeans™ as a commercial component infrastructure, but there are also competitors in place (or just over the horizon) from Microsoft, the Object Management Group and others. Whether these infrastructures are shaping or are shaped by an evolving understanding of CBSE, there can be no question that they will strongly influence engineering practice. It is also possible (and sometimes necessary) to engineer systems using component concepts independent of commercial component infrastructures. One thing is certain: technology and engineering practice are still malleable, and an opportunity exists to shape CBSE in a way that will benefit the broader software engineering community.

ICSE '99 Los Angeles CA

The first ICSE workshop on CBSE held in Kyoto in 1998 defined the broad outlines of CBSE. Although nominally focused on technology aspects, discussions demonstrated the dependencies among CBSE technology, engineering practice, business factors, and technology adoption. The workshop participants decided that a structured form for presenting these concepts was needed. From this emerged the idea of a handbook to serve as structure and focal point for community elaboration of CBSE concepts.

2 WORKSHOP GOALS

Modeled on the past success of the design patterns community, the second ICSE/CBSE workshop will bring together researchers and practitioners to develop an outline for a CBSE Handbook, and to develop initial content for selected portions of this handbook. Although the structure and content will be determined during pre-workshop discussions and at the workshop itself, a draft outline is:

- Principles of CBSE, including definitions and relations to other fields such as conventional object-oriented development; patterns and frameworks; software architecture; distributed objects; and commercial off-the-shelf software.
- Practices for adopting CBSE, including methodologies; project management; life cycle phases and activities; organizational and human factors; metrics, economics and pricing models; market trends; adoption reasons and barriers; and case studies.
- Technology for supporting CBSE, including models, languages and notations; tools and environments; development, run-time and deploy-time support; interfaces to legacy systems; and commercial and custom component infrastructures.
- Research issues and directions, crosscutting the above topics and possibly introducing others.

3 PUBLISHING WORKSHOP RESULTS

The handbook will be published via the workshop homepage www.sei.cmu.edu/cbs/icse99. A workshop summary will also be published in a suitable forum.