

CobRA 2015

First International Workshop on Exploring Component-based
Techniques for Constructing Reference Architectures

6 May 2015, WICSA/COMPARCH, Montreal

Organisers:

Kung-Kiu Lau, University of Manchester, UK
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Reference Architectures
and
Component-based Software
Engineering

CONTEXT

12th edition of WICSA and 18th edition of CBSE

□ Call for Papers

We solicit submissions on both theoretical and practical aspects. Topics of interest include:

- Definition of reference architectures
- Attributes of reference architectures
- Case studies in reference architectures
- Current challenges in constructing reference architectures
- Compositional approaches to feature models and variability
- Compositional approaches to functional models and reference architectures

□ Call for Papers

Two types of submissions are invited:

- Regular paper (up to seven pages): sound technical contributions from both academia and industry; and
- Position paper (up to four pages): new ideas, positions, or perspectives of research that are not fully validated.

Submissions:

- 3 submissions (2 accepted and 1 rejected)
- 2 invited papers

□ Program Committee

- **Paris Avgeriou**, University of Groningen, The Netherlands
- **Martin Becker**, Fraunhofer IESE, Germany
- **Tomas Bures**, Charles University, Czech Republic
- **Dominik Domis**, ABB Corporate Research, Germany
- **Xavier Franch**, Polytechnic University of Catalonia, Spain
- **Matthias Galster**, University of Canterbury, New Zealand
- **John Klein**, Carnegie Mellon SEI, USA
- **José Carlos Maldonado**, University of São Paulo, Brazil
- **Flavio Oquendo**, IRISA – Univ. of South Brittany, France
- **Heinz Schmidt**, RMIT, Australia
- **Judith Stafford**, University of Colorado, Boulder, USA

❑ **Number of attendees:** 14

❑ **Talks and presentations:**

1. Chairs' introduction: Kung-Kiu Lau. *Architecture = Components + Composition (+ Variation Points)?*

2. Invited talk: Matthias Galster. *Software Reference Architecture: Related Architectural Concepts, Challenges, and Possible Domains.*

3. Short paper: Edson Oliveirajr and Ana Allian. *Do Reference Architectures Contribute to Standardizing Variability Management Tools?*

4. Short paper: Everton Cavalcante, Marcelo Pitanga, Thais Batista, Flavia Delicato and Paulo Pires. *An Analysis of Reference Architectures for the Internet of Things.*

5. Short paper: Milena Guessi, Lucas Bueno Ruas Oliveira, Lina Garcés and Flavio Oquendo. *Towards a Formal Description of Reference Architectures for Embedded Systems.*

6. Short paper: Valdemar Graciano Neto, Lina Garcés, Milena Guessi, Lucas Bueno Ruas de Oliveira and Flavio Oquendo. *On the Equivalence between Reference Architectures and Metamodels.*

■ Main discussion points

- Relationship between components and RAs
- Say “why” of the RAs, because of their high-level of abstraction
- RA x other related terms (ISO 42010)
- Use of RA to create SLA
- Level of formalism to represent RA
- Meta-models x RAs

- **Main results/takeaways/
conclusions**
 - Discussions about what SA and RA are exactly for both areas!!!
 - RA and CBSE are quite related areas
 - RA is more than components and connectors
 - CBSE approach could be used to describe RAs

■ **Research gaps**

- If/how CBSE approaches can be used in RA area

■ **Next steps**

- Understanding/establishment of a vocabulary to improve communication
- Understanding/establishment the relationship between meta-model and RA
- Understanding the required formality level to describe Ras
- Understanding how to address variability in RAs

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