Component systems and their runtime environments

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DISTRIBUTED SYSTEMS RESEARCH GROUP
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Introduction

- Member of ***D**istributed **S**ystems **R**esearch **G**roup*
  - Component-based systems subgroup
  - http://dsrg.mff.cuni.cz/

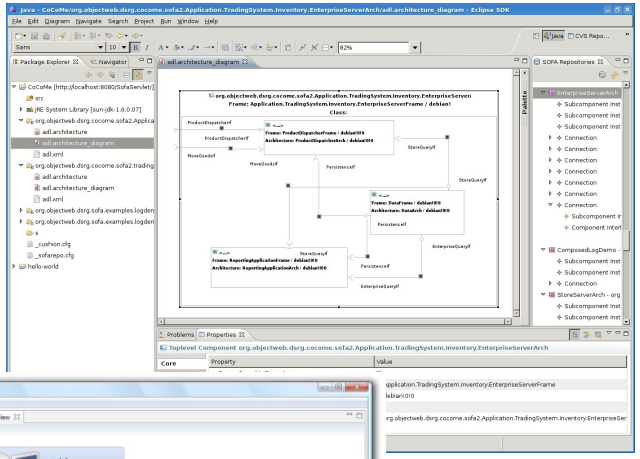
- Research area
  - Component-based Software Engineering
    - Component-based systems
      - Architecture modeling
        - Enterprise, embedded, real-time applications
      - Generative methods for automatized preparation
        - DSLs
        - Model/code transformation
      - Product-lines

  - **SOFA 2 ...**

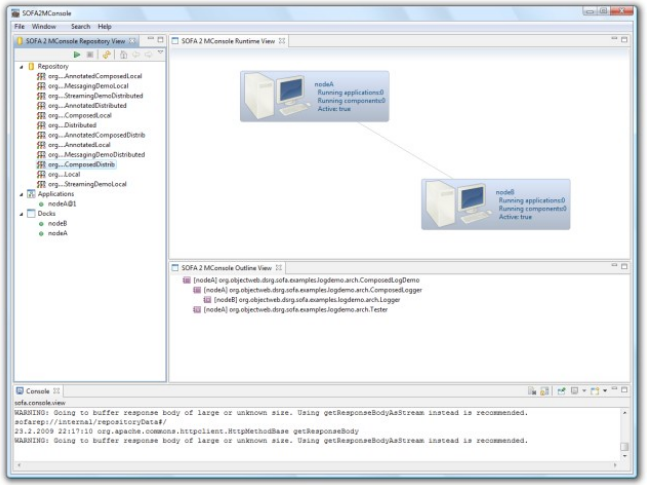
SOFA 2

- SOFA 2 component system
  - http://sofa.ow2.org/

- Many advanced features
  - Transparent distribution
  - Behavior specification and verification, ...



- “sandbox” for experiments
  - Java-based implementation



- Tool support for
  - Modeling
  - Monitoring/managing
  - Formal verifications

PhD topic

- Supervisor: RNDr. Tomáš Bureš, Ph.D.

- **Runtime environment of component-based systems**
  - Automatic preparation of runtime-environments for different applications/target domains (enterprise/ embedded/real-time)

  - Motivation idea
    - Component-based systems share many ideas (meta-models, tools, …)
    - They can be generalized and tailored according to domain requirements

What Can We Share?

- **SOFA 2**
  - Feasible platform for your experiments (?)

- **Knowledge**
  - Preparation of DSLs to describe your problems
  - Meta-modeling
  - Model/code transformations
  - Model verifications
  - …

- What do I need?
  - Case studies