

The 2009 International Symposium on Collaborative Technologies and Systems  
(CTS 2009)  
May 18-22, 2009  
The Westin Baltimore Washington International Airport Hotel  
Baltimore, Maryland, USA  
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## CALL FOR PAPERS

### Special Session on Executable Architectures

**Submission Deadline: January 15, 2009**

#### **Description**

Integrated Architectures (Architectural Frameworks) and Network Centric represent two central concepts for many organizations in their on-going transformation. The true power of integrated architectures is brought to bear when they are combined with simulation to move beyond a static representation and create an executable architecture.

An *executable architecture* is comprised of a set of models that may be analyzed (“executed”) to answer questions that help verify and validate the real world system represented by the architecture models. Current architecture products are mostly static and don’t lend themselves well for dynamic analysis. Lacking are mechanisms to perform time varying analyses to evaluate a system’s behavior and operational effectiveness. Consequently, it is currently difficult or impossible to determine the interoperability or performance of systems-of-systems solutions from their architectures. Executable architectures could be used to experimentally evaluate multiple system configurations to guide decision making at various phases of the system life cycle. Executable Architectures are an important mechanism for the success of applications such as simulation based acquisition, virtual manufacturing, virtual prototyping, simulation based training, and automated code generation. Architectural frameworks that have been widely used include the DoDAF, MoDAF, FEAF, TEAF, and the Zachman Framework. System architectures resulting from these frameworks come in three basic varieties:

- 1) Architectures of existing systems;
- 2) Architectures of emerging systems; and
- 3) Capabilities architectures of desired “systems of systems”.

But system architectures are traditionally authored for “human-consumption” — to support the definition, development, production, operation, and maintenance of systems. None of these

frameworks currently have criteria for executability. To serve the goals previously noted, these architectures should be able to be augmented into a form that can be transformed into models directly usable for quantitative assessment of interoperability or performance. Such “executable architectures” would be able to be evaluated using techniques such as simulation (both discrete event and continuous) as well as with analytic methods such as queuing theory, cost modeling techniques, CPM/PERT, critical chain analysis, etc.

Executable Architectures will provide an important enabling mechanism for the emerging Net Centric Warfare and the Global Information Grid. Further, it is likely that advances in this area will support multiple modes of collaboration with disparate and cross-cutting technologies. Thus, this special session of CTS2009 will bring together researchers interested in bridging the gaps between the different technologies and between technologies and applications. We invite original contributions from researchers in academia and industry on the technology practice and user experience for these emerging and important areas.

Topics of Interest include (but are not limited to):

- Methodologies for enabling executable architectures
- Modeling techniques for enabling executable architectures
- Tools for executable architectures
- Representation techniques and languages for executable architectures
- Methods and technologies to transition legacy models and architectures for executability
- Applications and practices of executable architectures

**Submission Instructions:**

Authors are invited to submit original papers to the special session organizer by **January 15, 2009**. Electronic (pdf) submissions are encouraged and should be sent to [pbenjamin@kbsi.com](mailto:pbenjamin@kbsi.com) and [rfernandes@kbsi.com](mailto:rfernandes@kbsi.com). For other review electronic formats, please check with the organizers. Papers submitted for review should not exceed 10 pages in IEEE single-spaced, double-column format. Include up to 6 keywords and an abstract of no more than 350 words. Submissions should also include the title, authors name, affiliation, e-mail address, fax number and postal address. In case of multiple authors, an indication of which author is responsible for correspondence should also be included. If accepted, the final manuscript will follow the CTS 2009 format that is available on the conference Web site at <http://cisedu.us/cis/cts/09/main/callForPapers.jsp>.

Consistent with standard practice, each submitted paper will receive a minimum of three reviews. Papers will be selected based on their originality, timeliness, significance, relevance, and clarity of presentation. Initial selection will be based on full papers. Submission implies the willingness of at least one of the authors to register and present the paper, once accepted. All accepted papers are required to be presented and will be included in the conference proceedings. Instructions for final manuscript format and requirements will be posted on the CTS 2009 Symposium web site later.

**Special Session Organizers:**

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### **Technical Program Committee:**

All submitted papers will be rigorously reviewed by the special session technical program committee members.

(This committee will be announced shortly.)

### **Important Dates:**

<b>Paper Submission Deadline</b>	<b>January 15, 2009</b>
<b>Notification of Acceptance</b>	<b>February 7, 2009</b>
<b>Registration &amp; Camera-Ready Paper Due</b>	<b>March 3, 2009</b>

For information or questions about the workshop and the paper submission procedure, please contact the Workshop organizers.

For information or questions about the full Symposium's program, tutorials, exhibits, demos, panel and special sessions organization, please consult the conference web site at URL: <http://cisedu.us/cis/cts/09/main/callForPapers.jsp> or contact the symposium co-chairs: Bill McQuay at AFRL/RYT, WPAFB ([William.McQuay@wpafb.af.mil](mailto:William.McQuay@wpafb.af.mil)) or Waleed W. Smari at the Dept. of Electrical and Computer Engineering, University of Dayton ([Waleed.Smari@notes.udayton.edu](mailto:Waleed.Smari@notes.udayton.edu)).