

DISTINGUISHED LECTURE

Center for Embedded Computer Systems

Presents

From Service Composition to Gadget Composition: Enabling Process-oriented Web

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Abstract

The synergy of the Web and gadgets (e.g. Google Gadgets, Yahoo Widgets) presents us with an opportunity to evolve in how we conduct our day-to-day activities. To expand the Web from pages to processes, end users need a simple and intuitive way of composing gadgets into personalized Web processes. We choose service composition as the underlying technology for gadget composition. To enable the efficient execution of gadget compositions, we propose a new methodology and architecture for service composition. In this presentation, we discuss HUSKY, our new spreadsheet environment for service composition design, and USCA, our new three-tiered distributed architecture for service composition execution.

HUSKY (*H*uman-centered *S*ervice composition *w*orkspace and *m*ethodology) is an end-user environment designed for composing services into personalized Web processes. It is the first service composition system designed with the spreadsheet as a primary medium, pioneering an effort to weave Internet services with an intuitive paradigm that has proven its advantages over the years. In HUSKY, we extended the spreadsheet paradigm by adding a time dimension, while keeping in focus a tight structure to retain simplicity and consistency. The spreadsheet paradigm enables an intuitive expression of concurrency and non-determinism of service composition through a visual arrangement of service activities within spreadsheet cells.

We achieve an efficient execution of service composition by enhancing the well-known two-tier coordination architecture to a novel three-tier service composition architecture called the USCA (Uncoupled Service Composition Architecture) architecture. USCA provides a finer granularity for mapping elements of functionally decomposed applications to services, compared to other service composition architectures. Since services can be scheduled to separate machines, the proposed architecture enables more flexibility in the distribution of functional elements to the host machines of a distributed system.

Biography

Sinisa Sribljic is a professor at the University of Zagreb, School of Electrical Engineering and Computing. His research interests include Web computing and service-oriented systems. He was a visiting professor at the University of Toronto, AT&T Labs, and UC Irvine. Sinisa received Ph.D. in computer science from the University of Zagreb, Croatia.

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Refreshments at 2:30pm, Lecture begins at 3:00pm

McDonnell Douglas Auditorium

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