

## An Architectural Approach to Component Composition and Adaptation

by **Dr. Thomas Gschwind, IBM Research Zürich**

In this talk, we will present a novel architectural approach to component-based application development. The approach is based on three technologies we have developed: a generic component model that enables the composition of components from different component models, type based adaptation which enables the adaptation of components, and an architectural composition language that specifies how an application is to be constructed from a set of components. One challenge of component based software applications is that the components an application requires might not always be available. Frequently, however, a substitute component can be located that provides the same functionality but uses a different component interface. Since our application composition language uses an architectural representation such components can be identified easily. To automatically adapt a substitute component to the interface expected by the software application we have developed type based adaptation. In this talk, we will show the three technologies and how they benefit from each other.

Thomas Gschwind received the M.S. and Ph.D. degrees in computer science from Technische Universität Wien, Austria, in 1997 and 2002 respectively, where he was working on the composition and adaptation of software components. In his Ph.D. thesis he presented a new adaptation that based on a component's type information supports its semi-automated adaptation and composition.

Dr. Gschwind was Univ.Ass. at Technische Universität Wien, where he was working on the EASYCOMP project and gave numerous lectures on programming languages and component-based software engineering. In 2004, he joined IBM's Zurich Research Laboratory where he is working on event correlation with IBM's Security Group. He is affiliated with the Universität Zürich. His current interest are software engineering and reverse engineering, programming languages, and computer security.

Dr. Gschwind is a Member of the IEEE Computer Society and the Association for Computing Machinery (ACM).

**Where** Jakob-Haringer-Straße 2, T06

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