

Kolloquium Angewandte Informatik

Where event processing is going in 2020, and how it will make the world proactive?

Dr. Opher Etzion, IBM Senior Technical Staff Member and Principle Investigator of the Proton - Proactive event-driven computing project

Abstract

While event processing is considered as an emerging technology in enterprise computing, it barely scratched the surface of its potential. This talk will describe our vision for the next generation of event processing in where it is used everywhere, consumed by everybody (enterprises as well as consumers) and used for reactive as well as proactive purposes. These topics reflect some of the areas in which the event processing activities within IBM Research deal with. The presentation starts with the vision of event processing of the future and its associated research challenges and surveys three related research projects we are doing in IBM Haifa Research Lab.

Proactive applications: The processing of events enabled the shift from responsive mode (the system responds to the user's request) to reactive mode (the system reacts to detected events), proactive applications enable the next phase of this evolution: the computerized system predicts that it will get to undesired state, and should get automatic decision of how best to re-plan its actions before this undesired state actually happens. In the presentation the proactive notion with multiple examples and give an overview of our architecture and solution

Specifying applications correctness: Higher level languages and Graphical user interfaces make it easy to develop applications, however event processing adds the time dimension to application, where temporal properties of events and orders of execution can generate results that are not consistent with the users' intuition. Ensuring correctness as part of the application specification is a major challenge and can reduce the conceptual gap between non-technical users and the ability to develop event processing applications. In the presentation we illustrate some correctness issues and explain possible solutions.

Optimization of event processing networks: Survey of current work on optimizations of event processing networks including black-box and white-box optimizations. We'll describe in detail recent work that deals with optimization of complex event patterns using pattern rewriting techniques.

Bio: *Dr. Opher Etzion is IBM Senior Technical Staff Member, and Principle Investigator of the Proton – Proactive event-driven computing project in IBM Haifa Research Lab. He is also the chair of EPTS (Event Processing Technical Society). In parallel he is also an adjunct professor at the Technion - Israel Institute of Technology; over the years he supervised 6 PhD and 20 MSc theses (2 more are in process). He has authored or co-authored more than 80 papers in refereed journals and conferences, on topics related to: active databases, temporal databases, rule-base systems, event processing and autonomic computing, and gave several keynote addresses and tutorials. He is the co-author of the book Event Processing in Action (with Peter Niblett), and co-edited the book "Temporal Database - Research and Practice", Springer-Verlag, 1998. Prior to joining IBM in 1997, he has been a faculty member and Founding Head of the Information Systems Engineering department at the Technion, and held professional and managerial positions in industry and in the Israel Air-Force. He is a senior member of ACM and recognized as ACM Distinguished Speaker. He has been general chair and program chair of various conferences such as COOPIS 2000 and ACM DEBS 2011. He won several prestigious awards over the years, such as the Israel Air-Force award for introduction of new technologies towards widely usage, IBM Outstanding Innovation Award and IBM Corporate Award (the highest IBM award) for the pioneering work on event processing.*

Termin: Mittwoch, 09. November 2011, 14:00 Uhr

Ort: Englerstraße 11, 76131 Karlsruhe
Kollegiengebäude am Ehrenhof (Geb. 11.40), 2. OG, Raum 253
(Hinweise für Besucher: www.aifb.kit.edu/Allgemeines/Besucher)

Veranstalter: Institut AIFB, Forschungsgruppe Effiziente Algorithmen

Zu diesem Vortrag lädt das Institut für Angewandte Informatik und Formale Beschreibungsverfahren alle Interessierten herzlich ein.

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