Large-scale Context Management

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I. Abstract

Most pervasive computing systems are context-aware and thus are able to dynamically adapt their behavior to context changes. For many applications the relevant context is limited in both size and scope. However there is an emerging class of applications whose context may include a huge amount of entities possibly dispersed over the entire globe. Those applications, including logistics, production systems, traffic control or energy management, rely on highly dynamic context information that is captured by a huge number of networked sensors and potentially shared by a wide spectrum of applications. Due to the distributed nature as well as the varying dynamics and quality of context information, scalable context management becomes a challenging task.

In this talk we give an overview on context management and present some approaches to increase scalability. Finally, we will discuss future research directions in that field.

II. Biography

Kurt Rothermel received his doctoral degree in Computer Science from University of Stuttgart in 1985. From 1986 to 1987 he was "Post-Doctoral Fellow" at IBM Almaden Research Center in San Jose, U.S.A. and then joined IBM's European Networking Center in Heidelberg. Since 1990 he is a Professor for Computer Science at University of Stuttgart. He is Director of Institute of Parallel and Distributed Systems and head of Collaborative Research Center Nexus, which is funded by German Science Foundation (DFG) and is conducting research in the area of mobile context-aware systems. His current research interest is in the field on distributed and mobile systems.

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