Abstract: We will show that SOA is the underpinning of Cloud Computing. Next, a phenomenological overview of *aaS is given and the layered architecture of Cloud technology is derived. The structure of applications running in the Cloud and their provisioning underpinnings is discussed. Finally, a list of major research problems to be solved in order to make the Cloud ubiquitous is given.

BRIEF BIOGRAPHY

Since 2004, Frank Leymann is Professor for Computer Science and director, Institute of Architecture of Application Systems at University of Stuttgart, Germany. Before that he worked for IBM from 1984 on in various development positions, in 2000 he was nominated IBM Distinguished Engineer. He was Chief-Architect of IBM’s workflow/process management technology, responsible for the architecture of Grid- and On Demand Computing for IBM Software Group, finally co-leader of the Web Services Architecture Team and architect of IBM’s Service Bus; he is co-author of many Web Service specifications. His current research projects are on many aspects of service- and business process technology, and are funded by the European Community, the German Research Foundation, and the German Federal Ministry of Education and Research. Frank is (co-)author of more than 150 refereed publications and co-inventor of more than 40 patents filed.