The Power of Service: Lessons from building Amazon.com, the world largest e-commerce platform

Amazon runs a world-wide e-commerce platform that serves tens of millions customers at peak times using tens of thousands of servers located in many data centers around the world. This platform is one of the world’s largest distributed systems in existence. To meet the unique reliability and scalability requirements and to provide an agile environment for fast innovation the platform is implemented using hundreds of loosely coupled services that power many different applications. In this presentation we will review the evolution of the Amazon architecture and its unique control structure. We’ll dive into the main scalability and reliability challenges and the different patterns of state management that each requires a unique solution. We’ll close the presentation with a discussion of the challenges of adopting research results into production environments.

Dr. WERNER VOGELS is Vice President & Chief Technology Officer at Amazon.com where he is responsible for driving the company’s technology vision, which is to continuously enhance the innovation on behalf of Amazon’s customers at a global scale. Prior to joining Amazon, Dr. Vogels worked as a researcher at the Computer Science Department at Cornell University where he was a principal investigator in several research projects that target the scalability and robustness of mission-critical enterprise computing systems. He has held positions of VP of Technology and CTO in companies that handled the transition of academic technology into industry. Vogels holds a Ph.D. from the Vrije Universiteit in Amsterdam and has authored many articles for journals and conferences, most of them on distributed systems technologies for enterprise computing.