

EINLADUNG

Zeit: Donnerstag, 23.02.2012, 14:00 Uhr

Ort: Raum 5056, Ahornstr. 55

Referent: Dipl.-Inform. Stefan Götz

Titel: Supporting Diversity and Evolvability
in Communication Protocols

Abstract:

Internet communication has become very heterogeneous: typical use cases include web browsing, mobile communication, cloud and data-center networking, and sensor networks. However, today's communication protocols are still developed with significant manual effort for supposedly generic or average use cases. As a result, protocols are not custom-tailored to the requirements of users, applications, or services and are not as fast, flexible, secure, or reliable as they could be. Also, advances in protocol engineering and research are adopted only very slowly.

This talk presents an evolvable protocol platform, EPP, which illustrates a step in this direction of greater flexibility. It aims at assembling protocol stacks semi-automatically from software components, so that they can adapt gracefully to the constant evolution of communication protocols and their usage scenarios.

At its core, EPP describes the functionality of and interaction between individual software components. It then composes them into complete protocol stacks by evaluating these descriptions along with a set of communication requirements, as specified by the network, device, application, and user.

The main contributions of our approach consist of a concise protocol component meta-model, a composition algorithm for protocols, and an efficient ranking method where a single protocol stack needs to be selected from multiple alternatives. Together, these mechanisms can contribute to adapting protocols automatically to the increasing heterogeneity of communication scenarios and challenges.

Es laden ein: Die Dozenten der Informatik