Hamburg Internet Technologists Propose Roadmap for Future Internet Design

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Computer scientists of HAW Hamburg announce kick-off for HAMcast, a research project within the Germany Laboratories (G-LAB). Work targets at a new multiservice Internet architecture suitable for mobile users.

HAMcast - this names emerging technology of a future Internet developed and tested in Hamburg. HAMcast stands for "Hybrid Adaptive Mobile Multicast" and will demonstrate the concept for realizing new, useful Internet services within an open, innovative Internet architecture. To turn these concepts into reality, the Internet Technologies group of Prof. Thomas Schmidt at Hamburg University of Applied Sciences receives a half million Euro funding from the German Federal Ministry of Education and Research within the coming three years.

The Internet is Ageing

Today's Internet has been invented more than 30 years ago. It interconnects millions of applications by using a single, common Internet Protocol (IP). A low-level communication interface ties programs to the current IP and prevents an easy spread of new protocols and services such as IPv6, Mobility and Group Communication. Currently, a growing diversity of innovative network features increases complexity in application development and turns deployment into a more and more error-prone procedure. In consequence, application developers avoid innovations and service quality to minimize deployment risks - a vicious circle arose and blocks the technical progress of the Internet.

New Internet Services on the Fast Lane

"We want to break this long-term innovation freeze by assigning higher communication intelligence to end systems", explains Prof. Schmidt the HAMcast approach. "Peer-to-Peer technologies and other forms of distributed intelligence should become part of the communication process, as well as mobile networking schemes." In close collaboration with the professional partners The Unbelievable Machine Company, the Berlin Peering Exchange Point BCIX and Link-Lab, Hamburg's researches want to develop and analyse a component for group communication as part of a multiservice Internet architecture. Encapsulated by an application-transparent interface, this hybrid design will follow an evolutionary model using a universal service middleware that does neither require a deployment by providers, nor dedicated network implementations by application programmers.

Multicast itself is a well-known service for spreading data cost-efficient and serverless among Internet users. It is of particular importance for emerging applications like Internet Television (IPTV) and online games, but also for group conferencing and in the rescue domain. Even though ideas are around for 25 years, the static Internet architecture prevented its deployment ever since.

HAMcast is funded by the German BMBF within the national G-Lab initiative.

Further Information: hamcast.realmv6.org

About INET:

Internet Technologies is a working group in the Department of Informatik at the HAW Hamburg.

We perform research and development on technologies and applications for a Next Generation Internet, with a particular focus on mobility, multimedia and knowledge-based systems. Maintaining an applied, evolutionary perspective, we seek for solutions of practical relevance. Rich experimental environments and strong analytical skills aid us in disclosing the possible. Close collaborations with our partners from industry, research, and standardization bodies sharpen our view to meet the feasible.

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