

Security in the Internet: towards perfect DDoS attacks, and how to defy them

by Roger Karrer, Deutsche Telekom Laboratories in Berlin

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About the Speaker

Roger Karrer is a Senior Research Scientist at the Deutsche Telekom Laboratories in Berlin. He received the Ph.D. in Computer Science in 2002 from ETH Zurich. After 2 years as a PostDoc at Rice University in Houston, he joined the T-Labs in 2005. His research interests include wireless mesh networks, security in networks, network protocols and architectures and multimedia streaming. Among other, he is the project leader of the Magnets project where a wireless mesh network of 100 outdoor nodes is currently deployed with heterogeneous technology. Moreover, he is involved in 3 EU projects from 2008-2011, of which one focuses on carrier-grade wireless mesh networks and two on clean slate Internet design.

About the Talk

Security in the Internet: for more than a decade, the problem is imminent, yet we are still far from having viable solutions! Even worse, I will argue that DDoS attacks are not yet exploiting their full potential, and show ways to “improve” the impact of DDoS attacks towards a perfect attack. Consequently, I will also propose a solution termed Edge-based Capabilities to defy such attacks. This solution advocates for a collaboration of end systems and networks. Moreover, as compared to many proposed solutions, Edge-based Capabilities provides direct incentives to all participants. Finally, I will conclude my talk with an outlook towards security in a future, clean slate Internet architecture.

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