
Verified Secure Routing: The Verified Scion Project

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ABSTRACT

Routing is at the heart of the Internet and has been a continual source of security problems since its expansion in the 1980s. SCION is a new approach to the Internet, which offers dramatically better security properties than we currently have. We describe a collaborative effort, the Verified Scion Project, at ETH Zurich that aims to verify Scion, going the full distance from high-level network-wide properties down to the code running on SCION routers. We will explain the issues involved, the approach we take, the progress we have made, and perspectives for the future.

The work reported on is joint work between three groups at ETH Zurich: my Information Security Group, the Network Security Group of Adrian Perrig, and the Programming Methodology Group of Peter Mueller.

SPEAKER BIOGRAPHY

David Basin is a full professor within the Department of Computer Science, ETH Zurich since 2003, where he leads the Information Security Group.

He received his bachelors degree in mathematics from Reed College in 1984, his Ph.D. from Cornell University in 1989, and his Habilitation from the University of Saarbrücken in 1996. His appointments include a postdoctoral research position at the University of Edinburgh (1990 - 1991), and afterwards he led a subgroup, within the programming logics research group, at the Max-Planck-Institut für Informatik (1992 - 1997). From 1997 - 2002 he was a full professor at the University of Freiburg where he held the chair for software engineering.

His research focuses on Information Security, in particular on foundations, methods, and tools for modeling, building, and validating secure and reliable systems. He is Editor-in-Chief of the ACM Transactions on Privacy and Security and of Springer-Verlag's book series on Information Security and Cryptography. He is also the founding director of ZISC, the Zurich Information Security Center, an industry research center that he led from 2003-2011.