

Thomas Rosenstatter: "Vehicular Security: On Mapping Automotive Security Levels to System Requirements"

Abstract – Securing the vehicle has become an important matter in the automotive industry. Vehicles are going to communicate with each other and to the infrastructure, they are going to be remotely diagnosed and will provide the users with third-party applications. Given these applications, it is evident that a standardised security development framework for the automotive domain that considers security from the beginning of the development until the operational and maintenance stage is needed. Proposed security models in the automotive domain describe how to derive the security levels, but do not further provide methods to map these levels to predefined system requirements nor mechanisms. This work highlights open problems that need to be solved in order to develop a security framework for the automotive domain. We suggest, based on security and safety standards from other domains as well as proposed security frameworks and models for the automotive domain, a suitable representation for security levels and methods how to relate them to predefined system requirements and mechanisms.