

Keys in your Smartphone

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it-sa 2012: Fraunhofer SIT presents flexible access management with NFC-based wireless locks.

Darmstadt, October 2, 2012: At the it-sa security trade show in Nuremberg, the Fraunhofer Institute for Secure Information Technology SIT premieres Key2Share, a smartphone solution for NFC-enabled locks. Key2Share turns smartphones into door openers for cars, hotel rooms and offices. Access rights can be flexibly managed with a smartphone app. Particularly, rights can be distributed and revoked remotely, delegated to other users and can be limited to a certain period of time. Delegated access rights can be represented as QR codes that can be sent per e-mail or SMS, or printed on paper. A special security architecture on the smartphone protects cryptographic keys from malware. Fraunhofer SIT presents the solution from 16th to 18th October at trade show in Hall 12 at Booth 213. Further information can be found at www.sit.fraunhofer.de/itsa (in German).

The Key2Share system design addresses the bandwidth constraints of the NFC (Near-field Communication) interface and the limited computational resources of NFC-enabled lock hardware. The process of checking access rights is very fast: opening a wireless lock with Key2Share takes less than 500 milliseconds. Access rights are encoded in cryptographic tokens, which are created and managed using established security protocols. The Key2Share software considers different approaches for the secure integration into the smartphone platform, starting from a pure software solution which leverages a multi-layer software architecture and does not require hardware security anchors, to a solution which leverages security hardware such as smart cards for the protection of cryptographic keys on the device. The solely software-based implementation does not pose additional requirements on the underlying hardware platform. Fraunhofer SIT implemented the solution on common Android smartphones and NFC hardware.

Caption

Flexible key management with smartphones

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Editorial notes