

Theme : Security

Subject : Secured Media - Seamless D2D/D2S Media Security

Introduction

The Internet of Things (IoT) is an emerging global Internet based information architecture facilitating the exchange of goods and services in global supply chain networks. From a technical point of view, the architecture is based on data communication tools, IoT has an impact on the security and privacy of the involved stakeholders. Privacy includes the concealment of personal information as well as the ability to control what happens with this information. The right to privacy can be considered as either a basic and inalienable human right, or as a personal right or possession.

To protect sensitive personal data in IoT, classical security approach cannot use user data utilization in the server side preserving privacy. Since cloud server can provide various service using personal data such as keyword searching, statistical computation, transcoding, etc. So, we need new concept of security technologies including authentication for IoT, key sharing between different kind of devices, and computable encryption.



Scope

Challenges that significantly advance the state-of-the-art authentication or privacy protection for IoT:

- Methods to overcome the current classical encryption method.
- Methods of new authentication for IoT (non-certificate based)
- Privacy anonymizing that can hide user data from server but can get information from server side

Research questions

We are interested in the following research questions. These questions are not exhaustive but different research questions are open to discuss with research partners.

- What would be strong candidate practical computable encryption?
- What would be candidate for practical authentication scheme for IoT ?
- What can be candidate for data anonymizing scheme as device side ?

Expected Deliverables

The following is open to discussion:

- Suggestion of new authentication/privacy protection scheme
- Detailed progress reports every 3 months summarizing accomplishments.
- Prototype samples
- Patents with Samsung SDI (if agreed)