River Publishers

Aspects of Personal Privacy in Communications - Problems, Technology and Solutions

Authors:

Geir M. Køien and Vladimir A. Oleshchuk, University of Agder, Norway

The modern society is rapidly becoming a fully digital society. This has many benefits, but unfortunately it also means that personal privacy is threatened. The threat does not so much come from a 1984 style Big Brother, but rather from a set of smaller big brothers. The small big brothers are companies that we interact with; they are public services and institutions. Many of these little big brothers are indeed also being invited to our private data by ourselves.

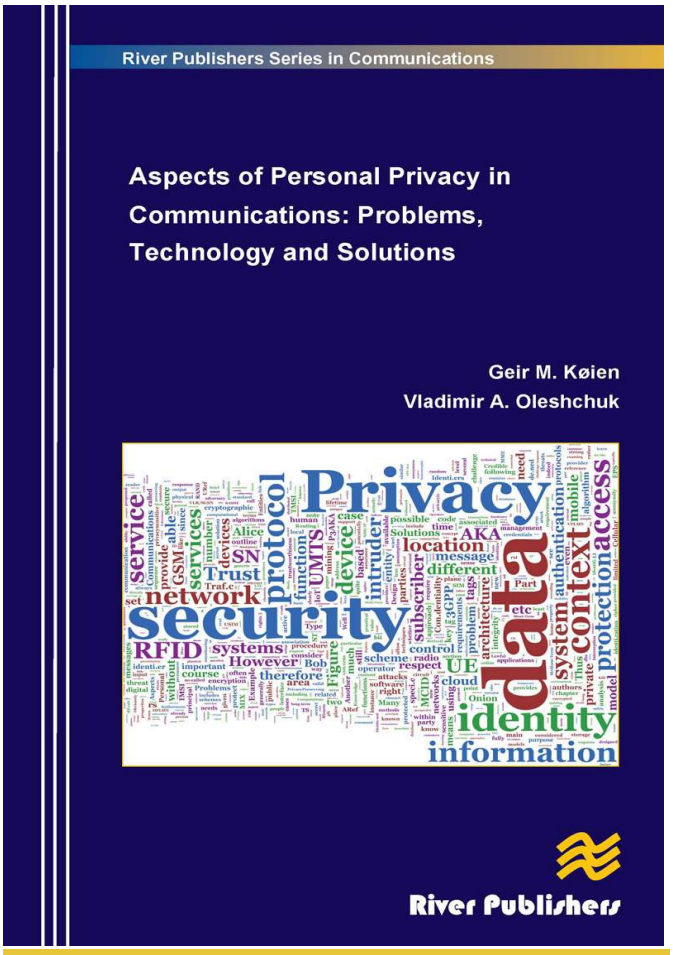
Privacy as a subject can be problematic. At the extreme it is personal freedom against safety and security. We shall not take a political stand on personal privacy and what level of personal freedom and privacy is the correct one.

Aspects of Personal Privacy in Communications is mostly about understanding what privacy is and some of the technologies may help us to regain a bit of privacy. We discuss what privacy is about, what the different aspects of privacy may be and why privacy needs to be there by default.

There are boundaries between personal privacy and societal requirements, and inevitably society will set limits to our privacy (Lawful Interception, etc.). There are technologies that are specifically designed to help us regain some digital privacy. These are commonly known as Privacy Enhancing Technologies (PETs). We investigate some these PETs including MIX networks, Onion Routing and various privacy-preserving methods. Other aspects include identity and location privacy in cellular systems, privacy in RFID, Internet-of-Things (IoT) and sensor networks amongst others. Some aspects of cloud systems are also covered.

Content:

1. Getting a Grip on Privacy
2. The Legal Context of Privacy
3. Anonymous Communications
4. Secure Multi-party Computations and Privacy
5. Privacy and Data Mining in Telecommunications
6. Requirements for Cellular System Subscriber Privacy
7. The 3GPP Systems and Subscriber Privacy
8. Future Cellular Systems and Enhanced Subscriber Privacy
9. Sensor Networks
10. Radio Frequency Identification
11. Privacy and Trust for the Internet-of-Things
12. Privacy in the Cloud
13. Summary and Concluding Remarks



River Publishers Series in Communications and Networking

ISBN: 9788792982087
Available From: July 2013
Price: € 90.00

KEYWORDS:
The Right to Privacy, Privacy Preserving, Anonymity, Pseudonymity, Communications, Privacy Enhancing Technologies (PETs), Data Mining, MIX networks, Onion Routing, Cellular Privacy, RFID, Sensor Networks, Internet-of-Thing (IoT), Cloud, Secure Multi-party Computation (SMC)

www.riverpublishers.com
marketing@riverpublishers.com