



Context Awareness and Trust 2007 (CAT07)

*Proceedings of the First International Workshop on
Combining Context with Trust, Security and Privacy*

30 July 2007, Moncton, New Brunswick, Canada

In conjunction with IFIPTM 2007

Editors:

Bob Hulsebosch

Gabriele Lenzini

Santtu Toivonen

Maarten Wegdam





Preface

This volume contains the proceedings of the First International Workshop on Context Awareness and Trust (CAT), held on 30 July 2007 in Moncton, New Brunswick, Canada, in conjunction with the IFIPTM conference on Trust Management (<http://www.unb.ca/pstnet/itrust-pst2007/>).

The CAT workshop aims to stimulate an active exchange of new ideas on the mutual relationship between the area of context awareness and the area of trust, privacy and security. The CAT workshop aims to bring experts together, to collect the state of the art, to identify open and emerging problems, and to propose future research directions. The workshop attendees will explore related work, theoretical frameworks, and applications which focus on the relationship between these domains.

The CAT workshop looks at the evolution of today's infrastructures towards more pervasive and ubiquitous context aware infrastructures. This phenomenon raises new challenges and new opportunities regarding trust, security, and privacy. The focus on cross pollinating trust, security, and privacy with context awareness will bring new insights and food for thought, as well as provide an interesting playground for the IFIP Trust Management (IFIPTM) community. In particular:

- The opportunity to use context as an opportunity to enhance privacy, trust or security seems an interesting, innovative, and value-adding extension to IFIPTM. For example, the availability of context information can help the establishment of trust relationship (users in the same room for the same meeting are more willing to trust each other more than users without visible contact). Moreover, contextual information can be used to improve dynamic, adaptive, and autonomic aspects of security, access control, and privacy control/enforcement.
- The opportunity to apply the results achieved in security, privacy, and trust to strengthen context aware infrastructures and to facilitate the exchange of context information is a challenge for IFIPTM community. For example, because context information often has a personal character, privacy and other rights of individuals must be carefully protected. Moreover, trust is an essential prerequisite for secure exchange and usage of context information at different quality levels (i.e., Quality of Context).

The workshop is primarily intended for researchers with a computer science background and researchers from other relevant disciplines such as legislation, usability design, as well as social and behavioral sciences.



Eleven papers were submitted to this workshop. Out of these, 5 papers were accepted for online publication at CEUR Workshop Proceedings and oral presentations. All selected papers are of high quality, thanks to the professionalism of the authors, reviewers, and program committee members. All papers were reviewed by at least three reviewers from the program committee. The workshop proceedings and other information can also be found at the workshop website: <http://cat07.telin.nl>.

The papers in this volume are representative for the current research activities on the topics indicated in the title and sub-title of the workshop. Aspects regarding trust, privacy, and security and their interdependency with context information discussed not only from a technical perspective, but also from the user's perspective.

We would like to take this opportunity to thank people who contributed to the CAT07 workshop. We wish to thank all authors and reviewers for their valuable contributions, and we wish them a successful continuation of their work in this area. Finally, we thank the organization of the IFIPTM 2007 conference in which this workshop was embedded.

June 2007

Bob Hulsebosch
Gabriele Lenzini
Santtu Toivonen
Maarten Wegdam

Organization

Workshop chairs

Bob Hulsebosch (Telematica Instituut, The Netherlands)

Gabriele Lenzini (Telematica Instituut, The Netherlands)

Santtu Toivonen (VTT, Finland)

Maarten Wegdam (Alcatel-Lucent/Bell Labs, University of Twente, The Netherlands)

Programme Committee

Claudio Bettini (University of Milan, Italy)

Harry Chen (Image Matters LLC, USA)

Grit Denker (SRI, USA)

Jennifer Golbeck (University of Maryland, USA)

Heikki Helin (TeliaSonera, Finland)

Johan Hjelm (Ericsson Research, Japan)

Mario Hoffmann (Fraunhofer SIT, Germany)

Silke Holtmanns (Nokia Research Center, Finland)

Bob Hulsebosch (Telematica Instituut, The Netherlands)

Maddy Janse (Philips Research, The Netherlands)

Audun Josang (QUT, Australia)

Anders Kofod-Petersen (NTNU, Norway)

Gabriele Lenzini (Telematica Instituut, The Netherlands)

Fabio Martinelli (IIT-CNR, Italy)

Rebecca Montanari (University of Bologna, Italy)

Daniel Olmedilla (L3S Research Center & University of Hannover, Germany)

Konrad Wrona (SAP Research, France)

Santtu Toivonen (VTT, Finland)

Maarten Wegdam (Alcatel-Lucent/Bell Labs & University of Twente, The Netherlands)

Supporting Organizations

Telematica Instituut

Alcatel-Lucent

VTT

CTIT

Freeband Communication

Amigo Project

Table of Contents

Perceived Privacy in Ambient Intelligent Environments	1
<i>Maddy D. Janse, Peter Vink, Iris Soute, Heleen Boland</i>	
Formalizing Trust-based Decision Making in Electronic Commerce Transactions	13
<i>Tyrone Grandison, Han Reichgelt</i>	
Using Context in Security Design of a Search and Rescue System	29
<i>Shivakant Mishra</i>	
Towards Privacy Protection in a Middleware for Context-awareness	36
<i>Linda Pareschi, Daniele Riboni, Sergio Mascetti, and Claudio Bettini</i>	
Context-Aware Management Domains	42
<i>Ricardo Neisse, Maarten Wegdam, Patrícia Dockhorn Costa, and Marten van Sinderen</i>	