Implementing privacy in online service models

ENISA panel at CPDP
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ENISA @ CPDP 2011

- Panel
  - Rodica TIRTEA (ENISA) and Claudia DIAZ, K.U.Leuven (BE)
  - Simone FISCHER-HUEBNER, Karlstad University (SE)
    - Transparency enhancing tools, HCI for policy display & informed consent
  - Claire VISHIK, Intel (UK)
    - Adjusting privacy and trust technologies to today's complex and dynamic computing environments
  - Jacques BUS, University of Luxembourg (LU)
    - On the need for a multidisciplinary approach
  - Jesus VILLASANTE, European Commission DG INFSO (EU)
    - Privacy and Trust in the Digital Agenda for Europe
- Objectives
  - Present results of ENISA work during 2010 in the field
  - Discuss and gather ideas for future activities

Overview

- Introduction
  - About ENISA and its activities
- 2010 activities on privacy and data protection topics
  - Data Breach Notification in Europe
  - Survey of accountability, trust, consent, tracking, security and privacy mechanisms in online environments
  - Privacy, Accountability and Trust –Challenges and Opportunities
  - Bittersweet cookies. Some security and privacy considerations
- Privacy related activities in 2011
- Findings and issues to be further addressed

About ENISA

(European Network and Information Security Agency)

- Created in 2004
- Located in Heraklion / Greece
- Around 30 Experts
  - Centre of expertise
- Supports
  - EU institutions and
  - Member States
- Facilitator of information exchange
  - EU institutions,
  - public sector &
  - private sector
- Has an advisory role
  - the focus is
    - on prevention and preparedness
  - for NIS topics

Context of the work

- ENISA work programme 2010
  - PA1: Identity, accountability and trust in the future Internet
    - ➢ New topic
      - Preparatory Action, extended activities in future year(s)
  - Two parts
    - ➢ WPK PA1.1: Stock taking of authentication and privacy mechanisms
      - Studies on management of multiple identities and on existing practices in data breach notification (DBN) in various sectors
    - ➢ WPK PA1.2: Stock taking of security models supporting electronic services
      - Focus on privacy, accountability and trust
      - Survey of current service models and recommendations
        - Survey of accountability, trust, consent, tracking, security and privacy mechanisms in online environments
        - Privacy, Accountability and Trust –Challenges and Opportunities
        - Bittersweet cookies. Some security and privacy considerations

Data Breach Notification study

- PA 1.1 Study on existing practices in data breach notification (DBN) in various sectors
  - Policy context
    - ➢ Review of ePrivacy Directive (2002/58/EC), Article 4
  - Target and aims
    - Public authorities/private bodies
    - Support those lacking experience
    - Tool for improvement
    - Basis for discussions
  - Follow up
    - ➢ ENISA workshop - 24 January 2011 –"DBN. The way forward"

Survey of mechanisms in online environments (I)

- Survey of accountability, trust, consent, tracking, security and privacy mechanisms in online environments
  - Catalogue of current service models, topics covered in questions
    - ➢ Online service provided, accountability, trust, consent, tracking, security, privacy
  - Objective – 20 companies, 18 responses used for the study
    - ➢ About 200 companies contacted

	Baseline distinction	Stepping in social interactivity	Non-exhaustive examples of organisations operating with these online service models
Simplified Online Service Model taxonomy	Commercial	Platform	Social Networking Sites (SNS), E-Auction, "Internet of things", Online collaboration, ...
		Service	Infomediaries, E-Banking, Media storage, ...
		Product	E-tailer (eg. Electronics), E-bookshop, ...
	Non-commercial	Platform	Knowledge sharing, E-Procurement, Hospitality networks, Donation gathering, ...
		Service	Open Source Software (OSS), National news service, E-health / E-government, ...
		Product	Social housing, Public transportation, ...

Survey of mechanisms in online environments. Remarks (I)

- Privacy in online environment; defining personal data given current context of data mining
  - Clear privacy principles and personal data definitions valid in an evolving online environment should be promoted
  - Privacy enhancing technologies and a user centric approach to privacy need to be encouraged. Best practice studies should be prepared and disseminated
- Consent and privacy policies
  - More transparency by organizations on how they handle personal data is needed
  - The way privacy policies are displayed and the issues regarding the changes of policies need further consideration; alternatives to lengthy privacy policies should be available to inform the user
  - Consent provided for a certain privacy policy must not be transferred to another (changed) version of privacy policy without clear understanding and acceptance of the user

Survey of mechanisms in online environments. Remarks (II)

- Profiling and tracking
  - Data retention time. Data should not be stored forever
    - Data minimization
- Personal data as a commercial asset; transfer of personal data between providers and outside EU
  - In line with the EU approach, ENISA considers privacy to be a basic Human Right
  - Economic effects of the use of personal data on both consumers and providers
    - and these effects should be analyzed
    - better understanding the effects and the risks could allow for solutions for protecting consumers' privacy
  - The legal framework in 27 EU MS regarding the transfer of personal data should be surveyed; differences in legislation can encourage transfer of personal data to countries where the legal requirements allow for less privacy protection
  - The legal framework for transfer of personal data outside EU should be also analysed; equal treatment and same enforcement should exist for EU users' personal data independent of the location of controllers/processors inside or outside EU

Privacy, Accountability and Trust – Challenges and Opportunities

- covering
  - Business & user perspective
    - Service value chain in Future internet
    - Behavioural tracking and profiling on the internet
    - On monetizing privacy
    - Transparency enhancing tools
    - HCI interaction for policy display and informed consent
  - Architecture side
    - Architecture and privacy
    - Identity management and privacy
    - Information accountability
    - Trust frameworks
    - Privacy preserving architectures

Privacy, Accountability and Trust study. Findings (I)

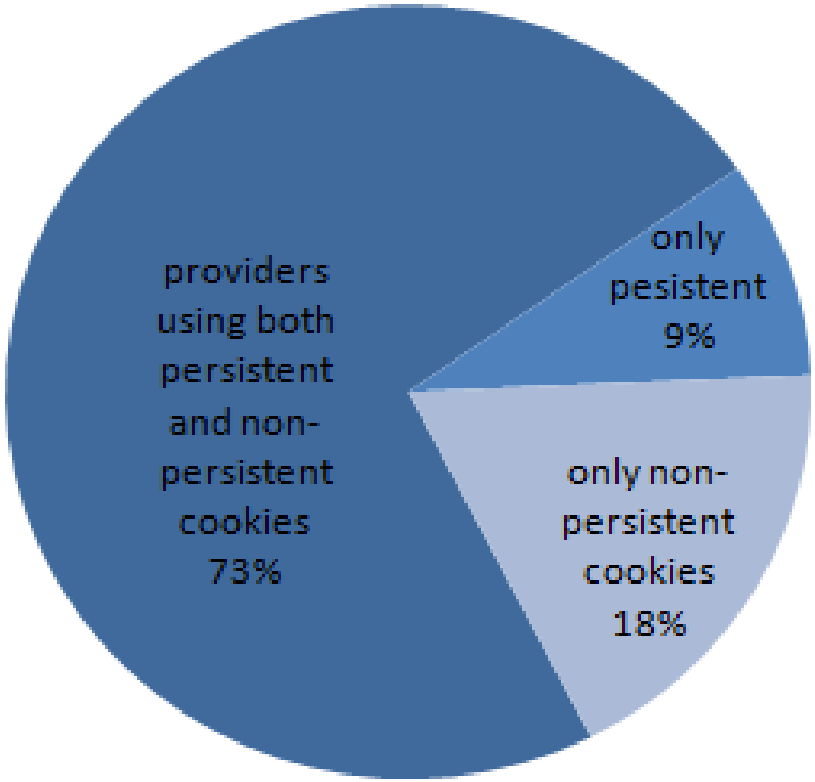
- Promote technologies and initiatives addressing privacy
  - Data minimization, privacy enhancing technologies and privacy by design concepts should be well understood and promoted in an effort to prevent rather than cure
    - evaluation of existing targeted (constructed on certain assumptions) solutions in the real environment
    - supporting the uptake of research result in the operational environment
  - Research on information accountability technology should be promoted, aimed at the technical ability to hold information processors accountable for their storage, use and dissemination of third-party data
  - Supporting informed user consent in a transparent and user friendly manner i.e. using transparent privacy policies with icons

Privacy, Accountability and Trust study. Findings (II)

- Raise the level of awareness and education regarding privacy
  - Concepts such as privacy certification could be supported; this would allow labeling sites and services according to their profiling activity
  - the risks associated to profiling and tracking, i.e. from economic perspective, should be assessed (dissemination of such studies should be supported)
- Support policy initiatives in the field and the revision process of Data protection directive
  - Clear legal provisions limiting behavior tracking and profiling should be promoted.
  - Promoting clear definitions and guidelines in the field, by raise awareness on the data mining techniques and their possibilities to de-anonymize data and profiles (linking this way information that initially are not considered personal data).

Cookies. Some security and privacy considerations

- Collection of data from cookies
  - 78% in ENISA survey



- Cookies
  - Useful in the stateless browser – server HTTP interaction to keep the state
  - Extensively used
  - New type of cookies
    - ie. .lsd (local stored data)
    - Stored outside the browser
    - Able to regenerate deleted cookies
- Privacy concerns
  - Ability to indentify and track users
- Security concerns
  - Vulnerabilities i.e. due to setting
- Legal framework
  - Allows for interpretation
    - i.e. Consent by default

Topics for the panel discussions

- More work is needed
  - Clear definitions and guidelines
    - ➢ Legal framework and best practices
  - Understanding the economic aspect of personal data protection and disclosure
  - Aligning research to policy initiatives
  - Moving research results in operational environment
    - ➢ Focus on the entire picture
      - i.e. not only at application level

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