

Trust



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Trust



- Objective:
 - **“any network, any device, with relevant content and context in a secure and trustworthy manner”.**



Related concepts



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- Reliability
 - Dependability
 - Security
 - Privacy
 - Trust
 - Confidence
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...but what does 'trust' mean?



- the firm belief in the competence of an entity to act dependably, securely and reliably within a specified context

T Grandison and M Sloman, A Survey of Trust in Internet Applications, IEEE Communications Surveys and Tutorials, 2000

<http://www.comsoc.org/livepubs/surveys/public/2000/dec/grandison.html>



Requirements for trust eMobility

- Users should be able to choose to use a single trusted entity for charging, privacy management, etc (e.g. a trusted brand).
 - Dynamic trust establishment should be possible
 - Use of networks should be possible with no prior trust relationship
 - Network context information should contain information enabling its trustworthiness to be evaluated
 - Authentication via a trusted third party should be possible
 - Anonymity of users should be supported where appropriate
 - Certification processes should exist so that users can know whether services are approved for use by trusted entities
 - Audit and lawful interception should be possible
 - WWI White Paper on Trust, N. Edwards et al, 2004
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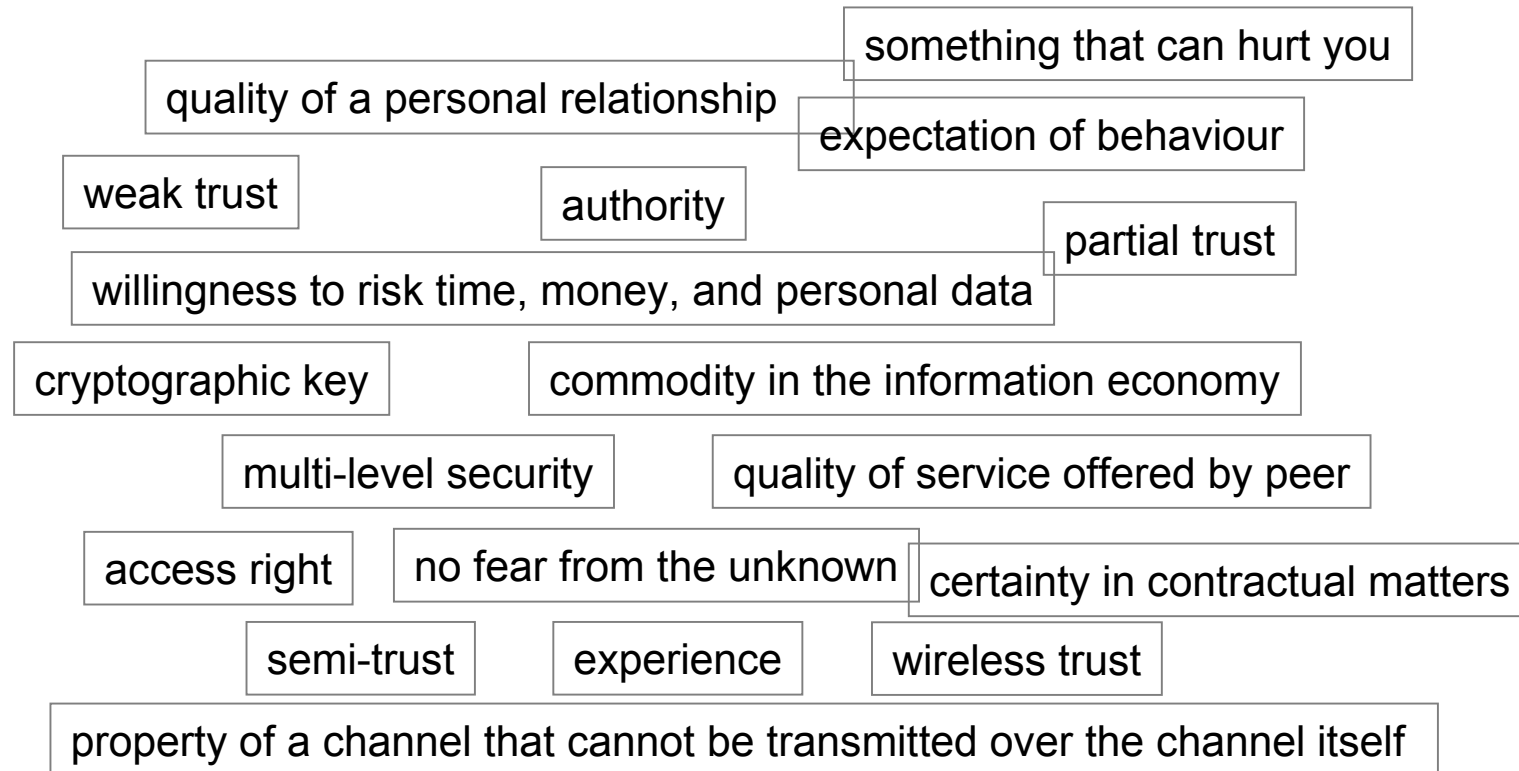


...but beware!



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- ‘Trust’ has many definitions and uses
 - Defining the real problem is difficult
 - What do you mean by ‘trust’?
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Some examples



- As identified by Prof. Dieter Gollmann (TU Hamburg-Harburg)

Research challenges identified in SRA



- ❑ Secure data management, and synchronization and private exchange of user profile and context information
- ❑ Efficient encryption and cryptographic mechanisms and algorithms suitable for different types of devices and networks
- ❑ Identity management & privacy
- ❑ Secure and dependable network protocols and applications enabling a simple-to-use trusted transaction environment
- ❑ Unified Digital Rights Management
- ❑ Transparent and flexible Service Level Agreements

Trust



- Combined multi-layered mobility support and authentication/authorization across diverse networks and support of simultaneous use of multiple access technologies.
- Secure software and execution environment including O/S
- Device and network protection (against virus, trojan, DoS attacks) and intrusion detection
- Safe and secure software download and device re-configurability

Conclusion



- Trust and associated concepts are critical to the success of future mobile networks and services
- Even establishing clear definitions of the problems is difficult
- More contributions are needed to establish a real 'agenda'