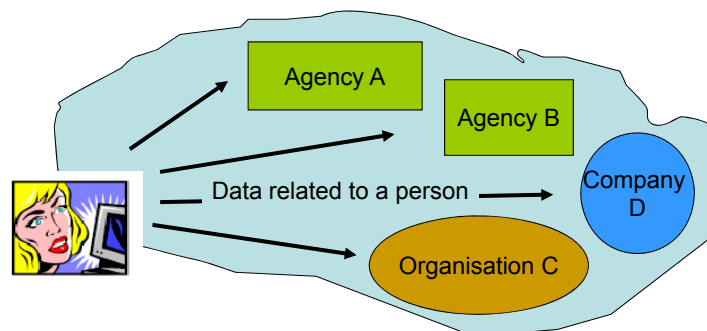


Digital Delegation of Rights

Prof. Dr. Reinhard Riedl
Bern University of Applied Sciences

Digital Identity = Union of all data
related to a person



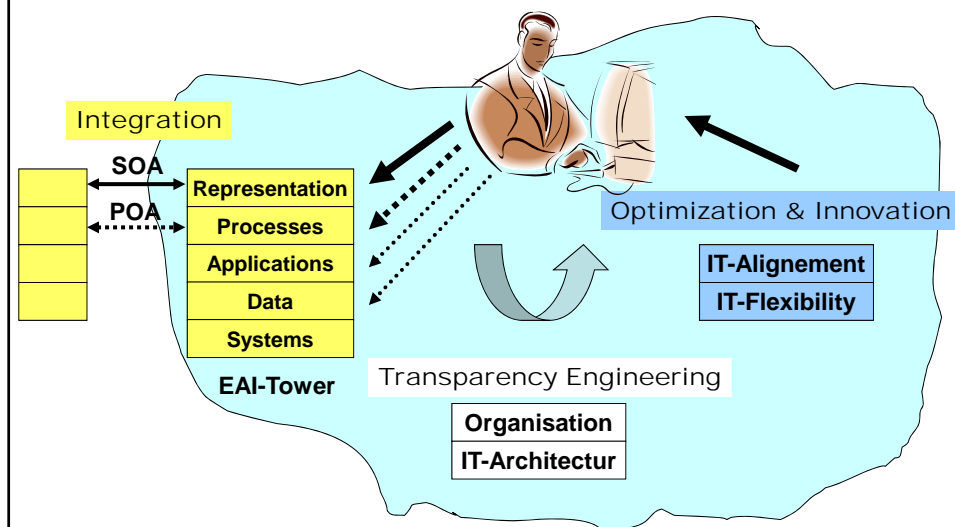
Conflict of interest

- Citizen: data control & free usage
- State/Company: data integration & control of usage

4-Qualities of Digital Identity

- Global & universal usage
- Coverage of all rights and duties
- Guaranteed transparency
- Support for business models

Big Picture: Systemic Development



Holistic Goal

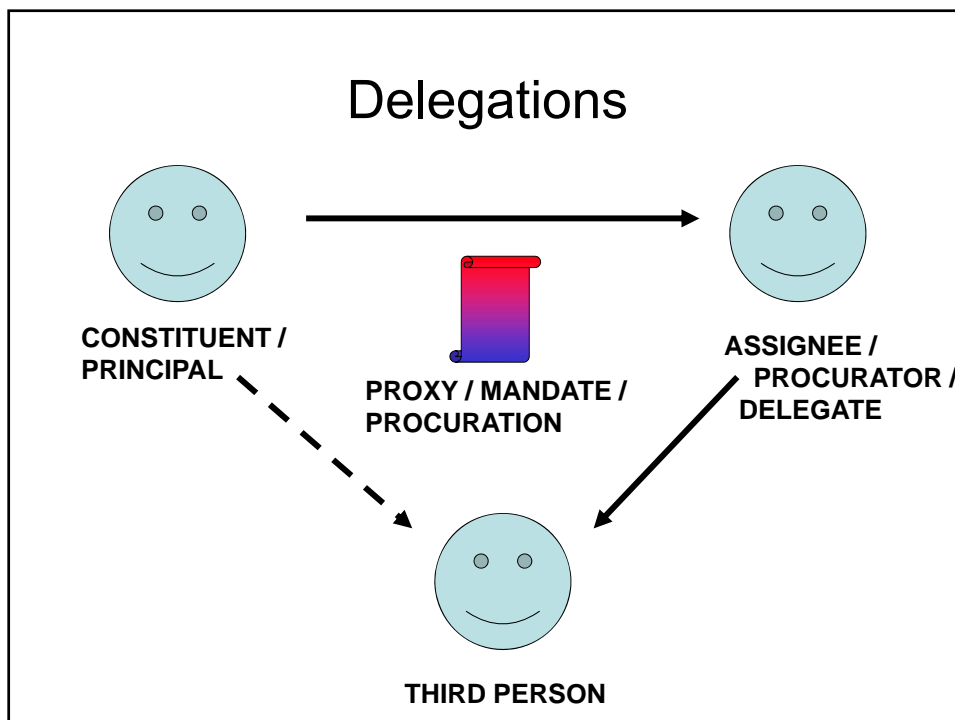
- Enabled information orientation through transparent resource integration
 - Individually → Digital Identity
 - Representation layer → Portals & SOA
 - Process layer → POA
 - Application- and data layer → EAI-Kernel
- Sustainable solutions today and tomorrow, which do not create a legacy for the day after tomorrow

General Requirements

- Conceptual unification
 - Role concepts
 - Differing life-cycles
 - Trustworthy anonymity
- Openness
 - Mapping to different legal contexts
 - Integration with other communication channels
 - Sufficient capabilities for control

General Requirements II

- Feasibility
 - Benefits for all stakeholders
 - Low costs & low requirements for devices
 - Interoperable with existing security and identity management systems
- Usefulness
 - Non-repudiation and revocation
 - Fair distribution of risks & clear allocation of tasks
 - Guaranteed security & privacy
 - Online and offline usage
 - Failure tolerance



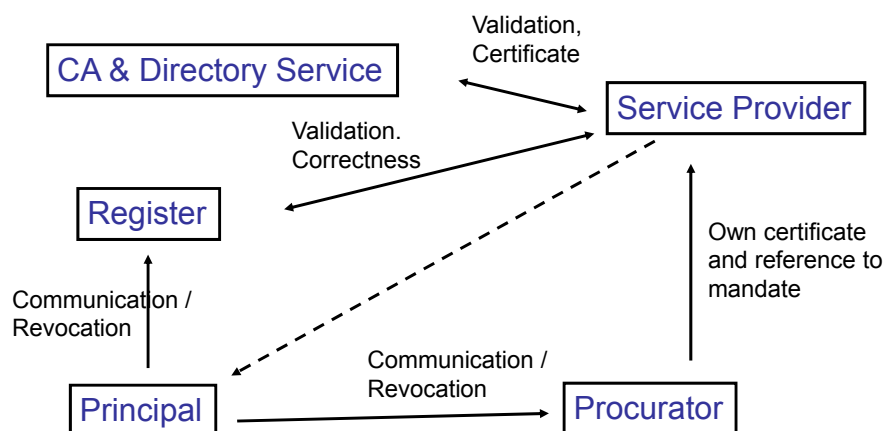
Criteria

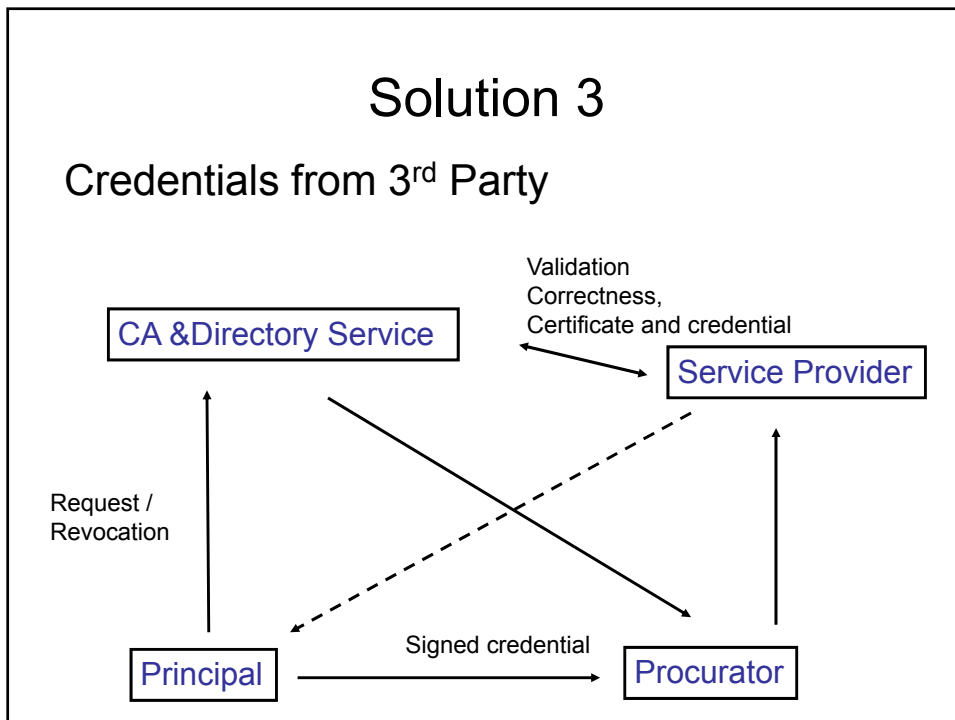
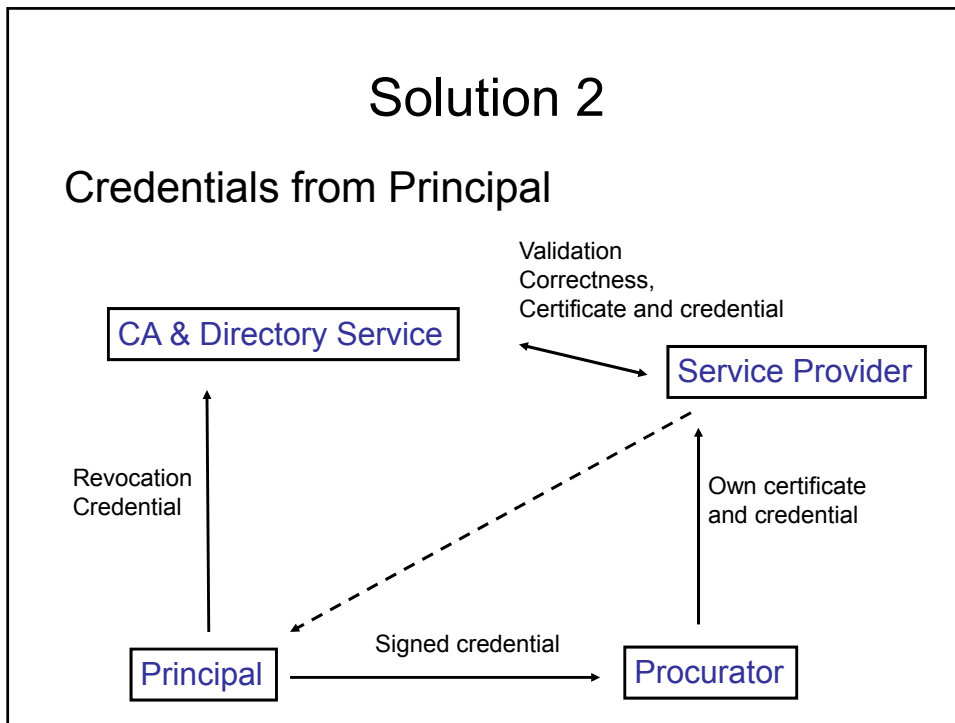
Raffael Schweizer, Beat Perjes, Monika Weber, Reinhard Riedl

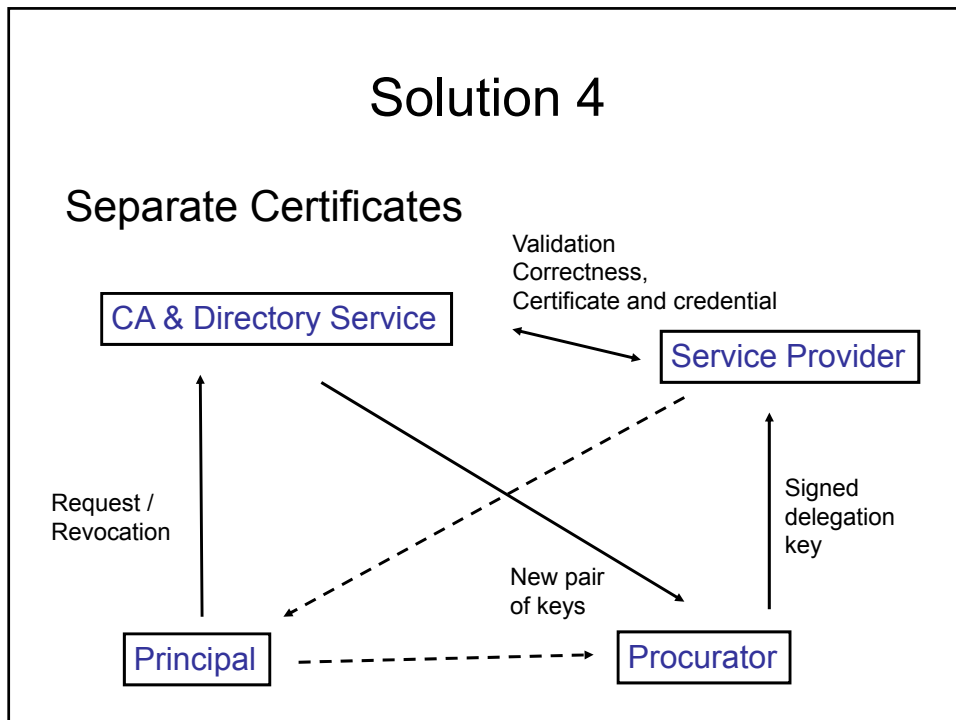
- **Solution Architecture**
 - Technological independence, extensibility / adaptability, integration with existing systems, distribution of tasks, performance, scalability, security, privacy protection, offline usability
- **Functionality**
 - Compliance (issuing and control), possibility for fine-grained restrictions, transfer, anonymity, non-repudiation
- **Economic Aspects / Maintenance**
 - Costs, availability, risks

Solution 1

Electronic Register







Evaluation

Raffael Schweizer, Beat Perjes, Monika Weber, Reinhard Riedl

	Register	Credentials from Principal	Credentials from 3 rd Party	Separate PK-Certificates
Compliance	OK	NOT	OK	OK
Sophisticated Rights	OK	OK	OK	NOT
Revocation	OK	Part. OK	OK	OK
Anonymity	Part. OK	OK	OK	OK
Transfer	OK	NOT	OK	OK
N-times Usage	Part. OK	Part. OK	Part. OK	NOT
Automated Transfer	OK	NOT	OK	OK
Technological Feasibility	Part. OK	Part. OK	Part. OK	NOT
Economic Feasibility	OK	Part. OK	OK	Part. OK
User acceptance / Usability	Part. OK	Part. OK	Part. OK	NOT

Case Study

Raffael Schweizer, Beat Perjes, Monika Weber, Reinhard Riedl

- Usage of credentials from 3rd party for e-banking and tax counselors
 - Feasible
 - Many special cases
 - E.g. accounts across multiple identities, restriction of actions, late execution, anonymous procurators, OFX, mandates beyond death, etc..
 - E.g. joint declaration by a married couple, correspondence, failure management during processes, automated and real-time processing, certification of tax-office, etc.

Conclusion

- Systematic problem classification missing
- No knowledge about non-trivial applications
- No “best” solution
- Electronic registers and credentials from 3rd parties work quite well
- Design decisions have considerable implications
 - as far as e-government is concerned, the people should have the possibility to vote on these decisions (Swiss opinion)