OSCI
A common communications standard for eGovernment

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Outline

• Overview
• OSCI-Transport: secure Infrastructure for eGovernment
• OSCI-XMeld: Messages for Citizens registration process (Case Study)
• Standards and Products
• Lessons learned / Open Questions
**OSCI = Online Services Computer Interface**

- A two-layered protocol, developed within the German MEDIA@Komm Project
  - To build a secure and reliable infrastructure for highly automated processes especially for eGovernment
- Open Standard, available free of charge
- Major Part of the German eGovernment Strategy
  - Mandatory in Federal Governments “SAGA”-Paper
- Part of the IDA program of the European Commission
- **Up and running**
  - Implemented and used in about 100 eGovernment Applications in Germany

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**Two Layers of OSCI**

- **OSCI-Transport**
  - Application independent layer for secure message exchange
  - Common data structures for electronic signature and encryption
- **OSCI-X… (e.g. OSCI-XMeld)**
  - Application dependent layer for automated processing of messages
  - Specific data structures (e.g. citizen registration process)
- Both layers **together** brings the power for automated, secure and economic eGovernment solutions
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OSCI Transport Design Goals

• Application and Platform independent
  – Completely based on XML and international standards
  – Can be used for any kind of business process
  – Any kind of data, generated by any application
• Highly Scalable
  – Supports all levels of digital signature and encryption
  – Signature and encryption is not required
• Open user group
  – No registration required (useful in G2C scenario!)
• Sharing Resources will allow Economical Solutions
OSCI Transport Version 1.2

- Data structures for digital signed and encrypted messages
  - Based on W3C Standards XML digital signature and XML encryption
- Transport mechanism based on SOAP with Attachments
- Double-Envelope schema
  - Sharing resources without loss of confidentiality
  - Allows economic Implementation even for local Government

The double envelope scheme

- The inner ("message") envelope for content data
  - Written by authors for the readers
  - End-to-end encrypted with the readers public key
- The outer ("transport") envelope
  - Header and accounting data like address, timestamps and all certificates (authors and readers signature certificates, too!)
  - Constructed by the sender for the recipient
  - Encrypted with the recipients public key
- All relevant certificates can be found at the outer ("transport") envelope
  - Like an VPN between authors and readers
  - Allows centralised PKI Access and secure Mail boxes
OSCI Intermediary as eGovernment Portal

Portal - intermediary platform

Citizen
Professional
Enterprise

CA CA CA

other ...

finances

civil services

social services

financial clearinghouse

OSCI in European Commissions IDA Program

Formatted message SOAP 1.2
XML encrypt and signing (OSCI)

Catalogues

Web OSCI
eXML (future)
Adapters
For SHS
Urgatew
IDA eLink
Native OSCI

API

Messaging Services
Workflow
Plugin modules

DB

Basic Services

API

Logging, Stats&Admin,
Queues(in/out), Data Storage,
Publish/Subscribe, Archiving,
Billing, Notary

Dialog-, Catalogue-, Security-, Extension- & Transport Services

Apps

OSCI – Leitstelle, Bremen
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Citizens Registration process in Germany

• Citizens registration process is decentralised
  – More than 6,000 Registration Offices in Germany
  – Approx. 20 different Legacy Systems are used
  – Messages have to be exchange between Offices, each time people move or personal data has changed (marriage, birth or death, …)

• Customers are very interested in citizens data
  – Customers from inside the Government as well as private parties
  – Find people, who’s last known address is invalid
  – Validate citizens claimed data (TAX etc.)

• Optimising the data exchange has an enormous potential for cost-saving
OSCI-XMeld

- Platform independent data structures for citizens data
  - “person”, “house”, “address”, “identity paper”, …
  - Described in XML Schema
- Standardised Processes
  - Common understanding about actors, responsibilities and messages
- Makes use of the OSCI-Transport mechanisms
  - Integrity, authenticity, confidentiality, non-repudiation

Benefits of OSCI for citizens registration

- Message exchange between offices
  - Up to now: conventional letters, approx. 2.90 € each
  - With OSCI: approx. 0.38 € each
  - Saves approx. 5.5 Mio € each year between federal states
- Access to citizens personal data
  - About 40 Mio. Inquiries each year in Germany
  - Each inquiry is about 5€: 200 Mio € in total each year
  - Is done manually, takes up to 30 days
  - Private parties will become competitors
  - Access from Internet will reduce costs and save the Market!
- Will improve services in other offices
  - Because they have fast and reliable access to citizens personal data as a base for their own service
  - This will lead to new benefits
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Standards & Products

1. “The Standard is free, but different implementing products are commercially available
   • So we need a testbed for testing compatibility of these products with the standard
   • This will be costly and slow down the use of OSCI

2. “The Standard is free, and there is only one client library available free of charge. But there are different products for the centralised components.”
   …the Highlander principle for libraries…

3. “A secure Infrastructure is needed by everyone. So the Government should build, and pay, a complete one (and only one), and give free access to it for everyone …”
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Lessons learned

• eGovernment is similar to, but not the same as eBusiness
  – Different role model: It is not “Me and my Government”
• Always think from the Applications …
  – … but do a good generalisation before developing
  – You can learn a lot if you have a “leading project”
• Usually, Technology and Laws have to be improved
  – Politicians, Legislature and technicians have to work together
• There is a chicken-egg problem in eGovernment
Open questions

- Bottom up or top down: which approach is better?
- Is there a global Data Model for the whole Government?
  - How to identify and develop common data structures?
- How “national” are eGovernment applications?
  - Harmonisation of national laws is a precondition for cross-border eGovernment applications
  - Should we develop in the hope that this will happen in the next five years?
  - Or better accept the “as-is situation” to speed up development?

Proud to present

The company “bremen online services” has won the eEurope Award 2003 for eGovernment

Products, Applications and Services of this company are based on OSCI
Thank you

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