A Secure Extranet supporting Medical Data Exchange between Organisations

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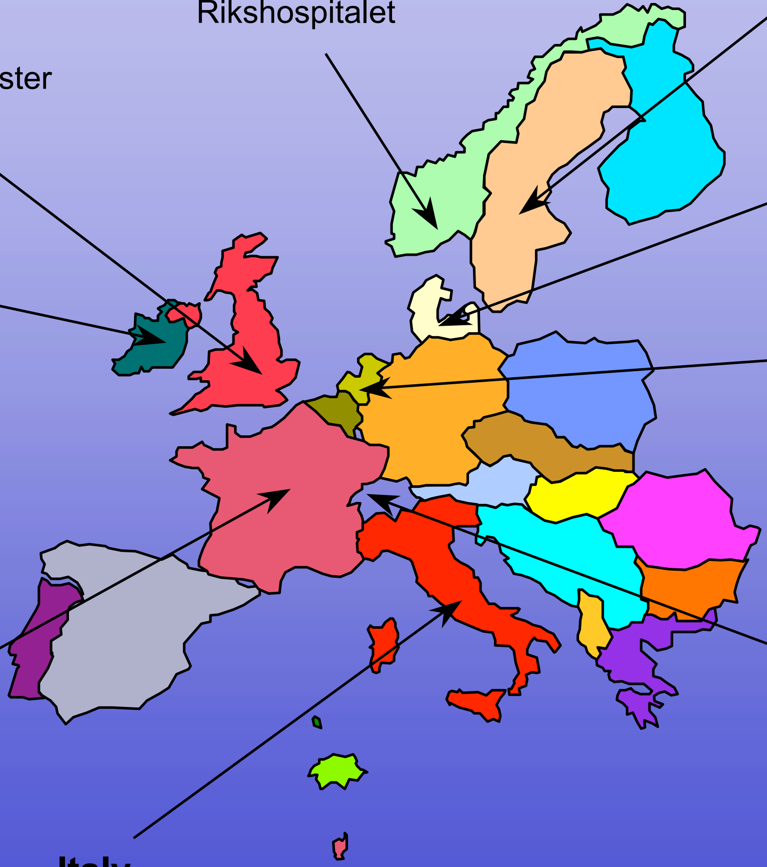
Dr. Sc. Stéphane Spahni
Health on the Net Foundation &
Medical Informatics Division / University Hospitals of Geneva

The "Synex" European Project

- Promote shared and distributed healthcare records
- Provide tools to share information across large organisation-wide networks and between organisations
- *Produce a set of products that are generic, modular and re-usable*
- *Define industry-led standards*

Synex Partners



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Geneva Demonstrator

- Secured Extranet between the Hospitals and the GPs

➢ Access to patient records

➢ Electronic transfer of documents from the hospitals to the GPs (e.g. discharge letter)

Security Requirements

- Needs for:
  - Encryption of the transmission
  - Authentication of the users
  - Closed users groups
  - User profiles
  - Client software independence

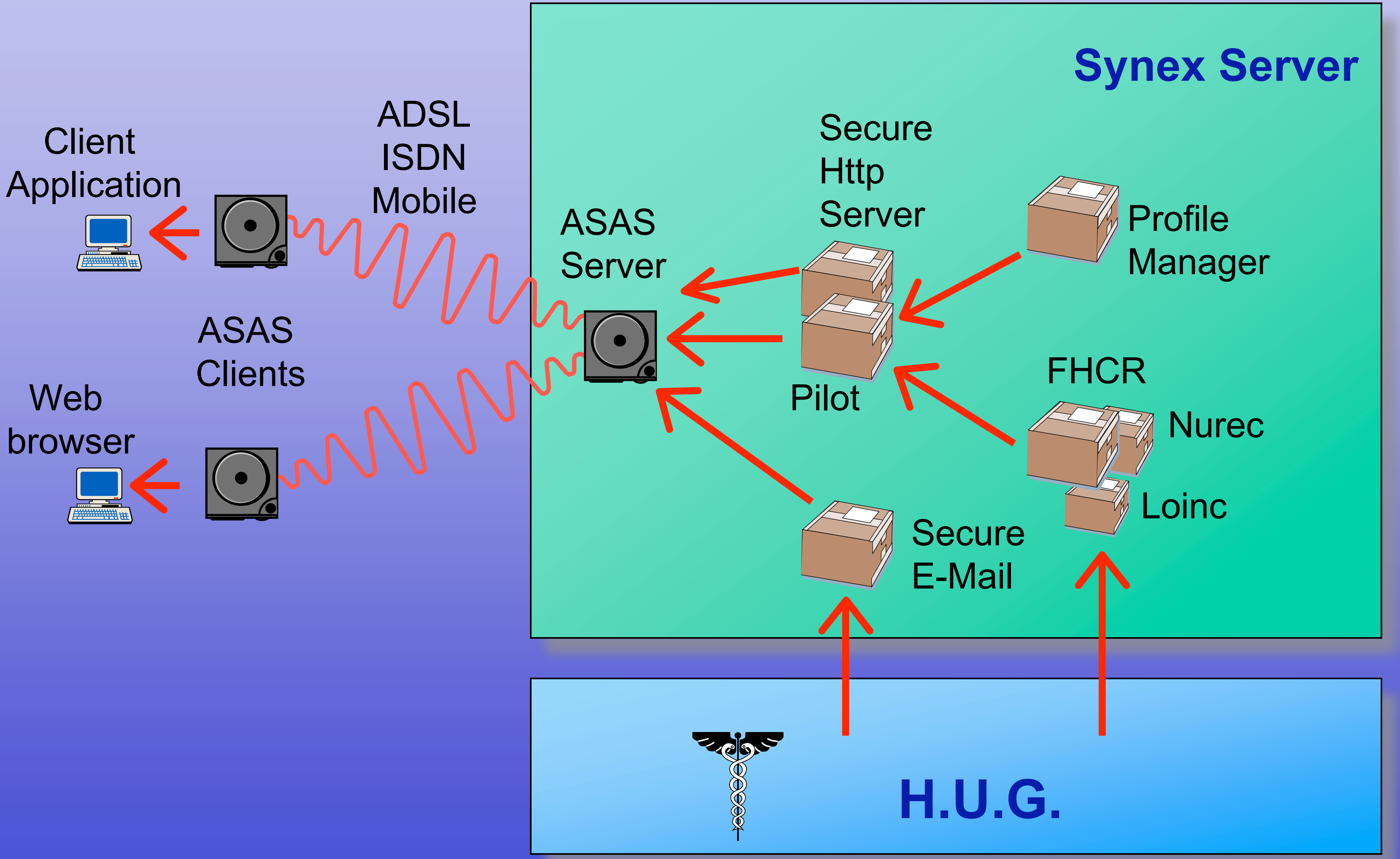
➢ Public-Key Infrastructure

➢ Profile Management

PKI Infrastructure

- Based on the ASAS Security Toolkit
- Private Certification Authority
- Implementation using the main standards: RSA, 3-DES, X.509 certificates, SSL
- Supports HTTPS, S/MIME

Communication Infrastructure



Benefits

- Private PKI Infrastructure available and recognized at a national level (FMH)
- Infrastructure based on existing standards
- Independence against the mail agent
- Available for any single-socket application

Known problems

- Multiple (incompatible) platforms exist
  - Need for coordination & harmonization (e.g. X.509 attributes)
  - Not easy for the user (*n* PKI infrastructures)
- CA not recognized automatically by common software (e.g. Messenger, Outlook)
- Exploitation still in preliminary phase
  - Organisational tasks (e.g. renewal of certificates)
  - Distributed authentication servers

Using a general purpose PKI ?

- Advantages:
  - Faster kick-off
  - Existing experience
  - One certificate for many different uses
- Disadvantages:
  - Does not solve the access control problem (Closed users groups)
  - Control of the CA (notion of « community »)