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Smart Cards get into the real life: the Lombardy experience

Siemens Business Services



Agenda

- Project Background
- Project Objectives
- Project Figures
- Project Description
 - Services provided
 - Smart cards
 - Security issues
 - Applications
- Further Projects
 - Electronic ID card (CIE)
 - E-poll

Project Background

The Lombardy Regional Government has introduced, in recent years, a new organizational model for the health-care service, based on the freedom to choose between public and private facilities.

To ensure a smooth flow of information across all actors, Lombardy decided in September 2003 to implement a Smartcard-based health and social security information system for the entire region, the so called “Sistema Informativo Socio Sanitario” or SISS.

By late April 2005, eight million cards had been issued to citizens, physicians, pharmacies and people working in the healthcare field. By 2009, the total volume of cards (including new cards and replacements for lost cards) will reach 12 million.

Project Objectives

The main objective of the SISS is to improve quality and efficiency in health-care services with advantages for both the citizens and the administration

Citizens

- **Information sharing and exchange** among healthcare operators to improve quality of healthcare provision (reports consultation, prescription process, etc.).
- Improvement of services provided to Citizens (information, booking, etc.) through an **easy and secure access to the Healthcare System.**

Public Administration

- Information availability at analytical level to monitor healthcare quality and expenditure for a **better planning at Regional level.**
- **Simplification of administrative processes** (through electronic prescription and electronic signature) and reduction of circulating paper.

Project Figures

Stage I



- 306.500 Citizens
- 3.900 Operators
- 278 General Practitioners
- 88 Pharmacies
- 1 Local Healthcare Assistance
- 3 Public Healthcare Services Suppliers
- 58 Private Healthcare Services Suppliers

Stage II



- 9.200.000 Citizens
- 145.000 Operators
- 8.150 General Practitioners
- 2.500 Pharmacies
- 15 Local Healthcare Assistance
- 150 Public Healthcare Services Suppliers
- 2500+ Private Healthcare Services Suppliers



The original schedule was to deliver the cards during a period of 5 years. In October 2004, Lombardy Region decided to accelerate the roll-out phase to complete the delivery by April 2005

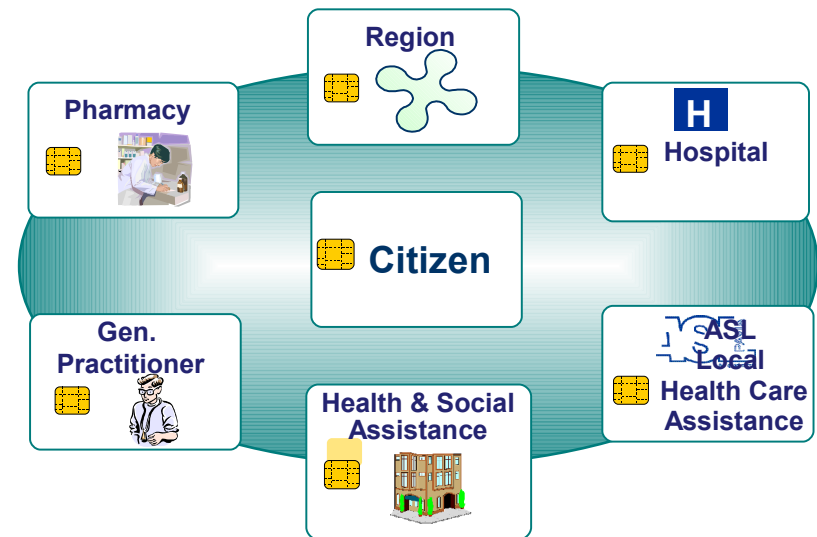
6.000.000 cards were delivered in 6 months, between Dec 2004 and Mar 2005

Project Overview

SISS is one of the most important Italian e-government projects in the healthcare sector.

Its core elements are:

The **Smartcard** equipped with a microprocessor chip, the so called “Carta Regionale dei Servizi”, or **CRS**.



The ‘**Healthcare Extranet**’, which links operators, social services, health organizations and citizens, tracking all the events occurring in the patient treatment (from prescription to administration) and making them available, providing therefore value added services.

Services provided: a storyboard

The services provided implement a unique e-health system

- Citizen Identification
- Support to General Practitioner and Pediatrician patient HR
- Prescription and Provision of Healthcare Services
- Booking Process
- Report consultation
- Clinical information exchange among operators
- Emergency data management

- Accounting information flow management

- Electronic signature

Two different smartcards for different actors ...



“Carta Regionale dei Servizi”, for citizens



Operator Smart Card, for healthcare professionals

... with different functionalities

**Citizen**

- Identification and authentication
- Storage of sensitive data (encrypted and protected) needed for emergency care (Netlink standard)
- Gaining access to Public Administration services
- Certification of the “presence” of the Citizen (in order to prevent unauthorized access to sensitive data)

**Operator**

- Identification and authentication
- Authorization to gain access to the System
- Electronic Signature

Additional Services of the CRS

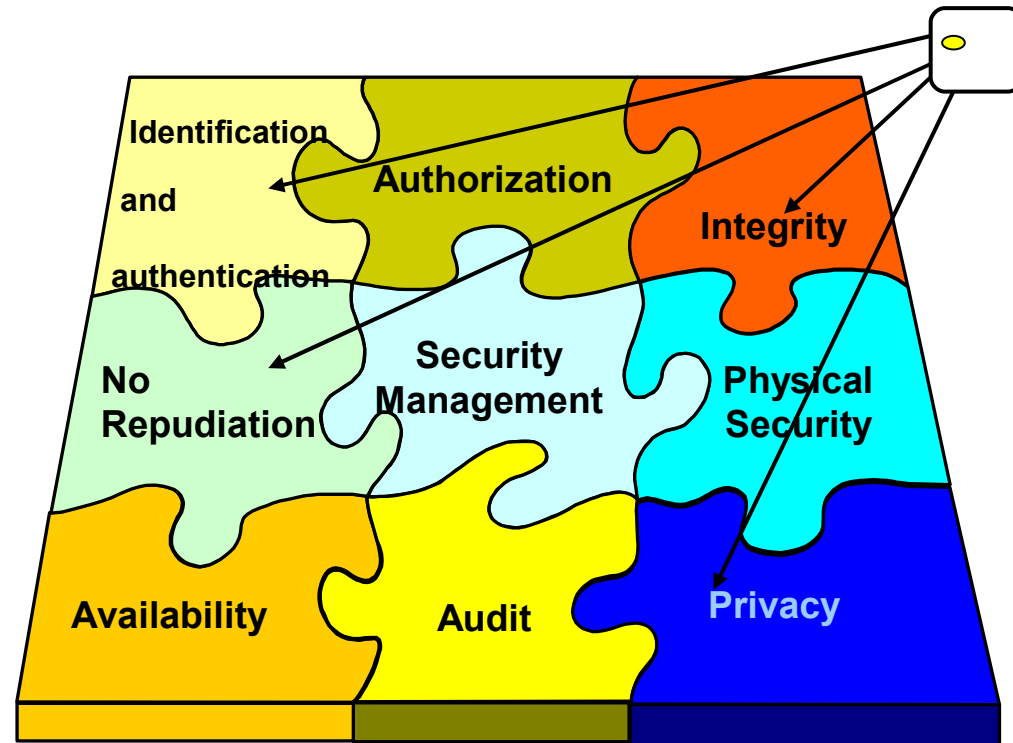
- Health Care Services
 - Includes the “Tessera Sanitaria Nazionale” ex art. 50 of Legge Finanziaria 2004
 - Replaces the paper based E111 form valid for health services in UE
- Additional services to the citizen:
 - Validates the fiscal code of the citizen
 - Can be activated for payments (Bank circuit)
 - It is compliant with CNS (National Services Card) and allows access to the services provided by all Public Administration.
 - Supports Digital Signature (subject to an agreement between Lombardy Region and a provider of this service)

Card Management and production

- The Card Management System manages the entire card lifecycle
 - production, issue, replacement, revocation (e.g. death)
 - It includes the design and implementation of the associated databases
 - It requires a well designed and optimized workflow for card production and distribution
- Design of the card file system; certification of the security environment
- Card personalisation
 - graphical (front and rear)
 - electric (file system initialisation and filling up)
 - packaging

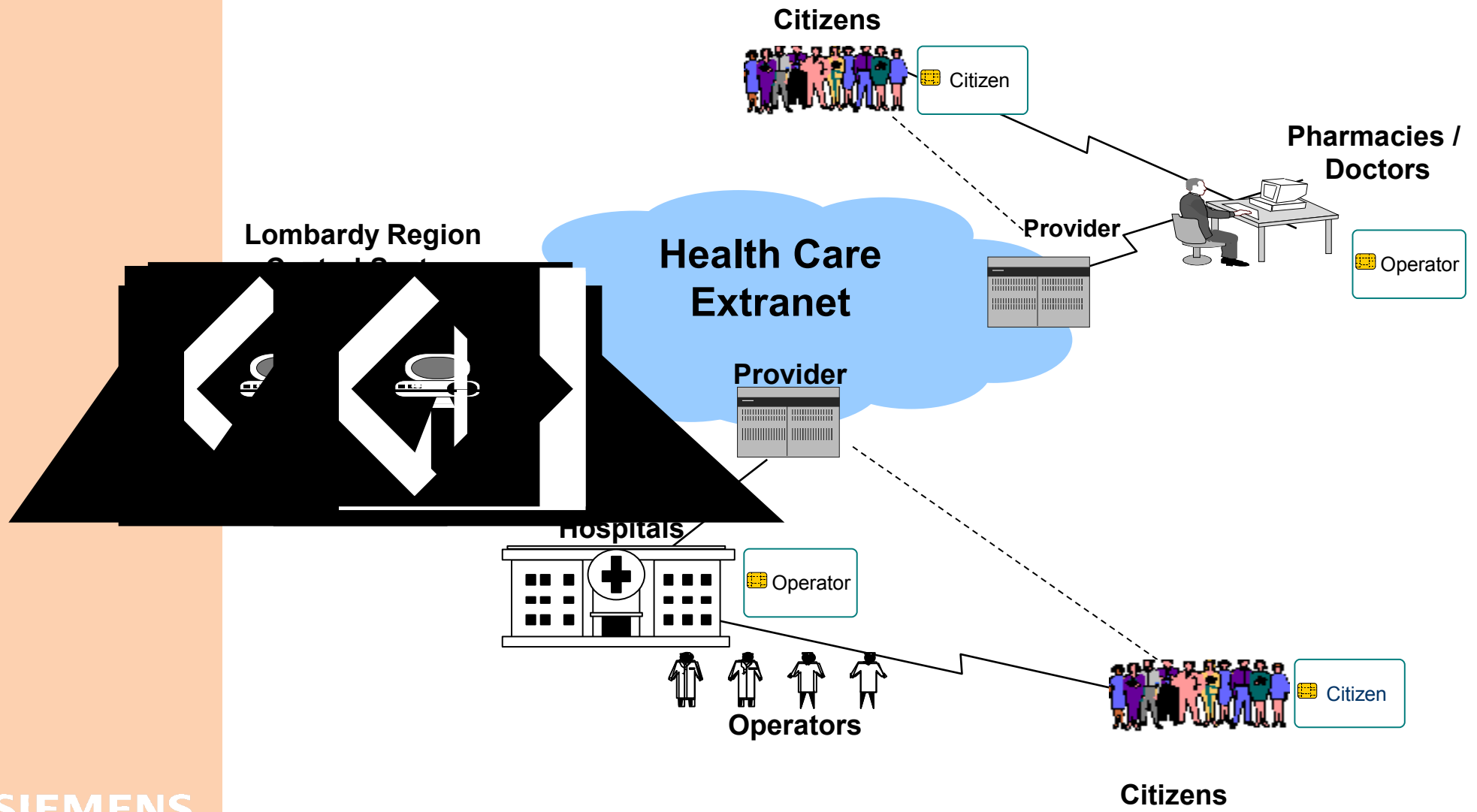
Security issues

- **Single Sign On and User Management** for operator Authentication and Authorization
- **Public Key Infrastructure (PKI)** for Authentication, data Privacy and Integrity, no Repudiation.
- **Privacy** guarantee through Netlink Keys
- **Smartcard** as a security device.



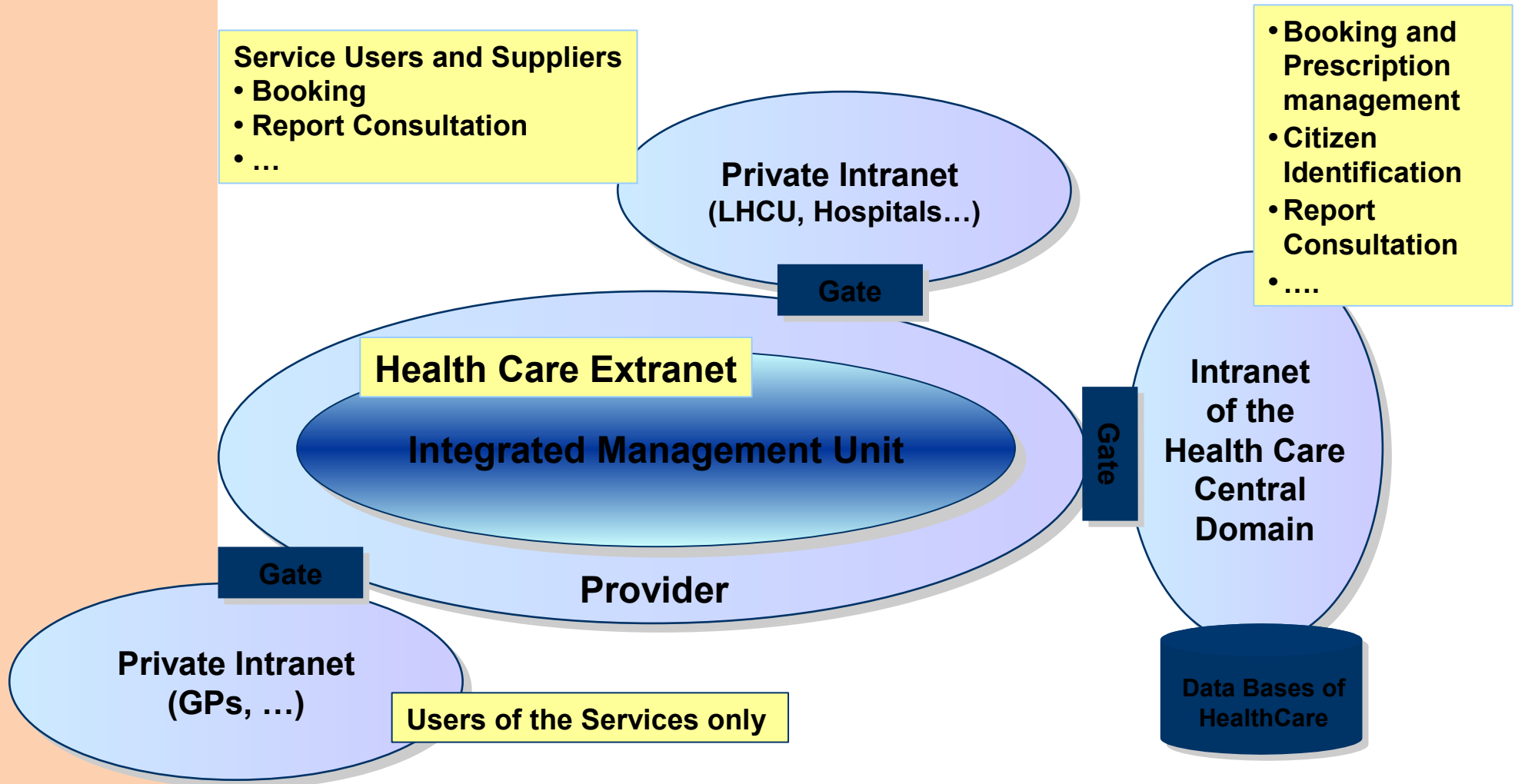
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Extranet Infrastructure



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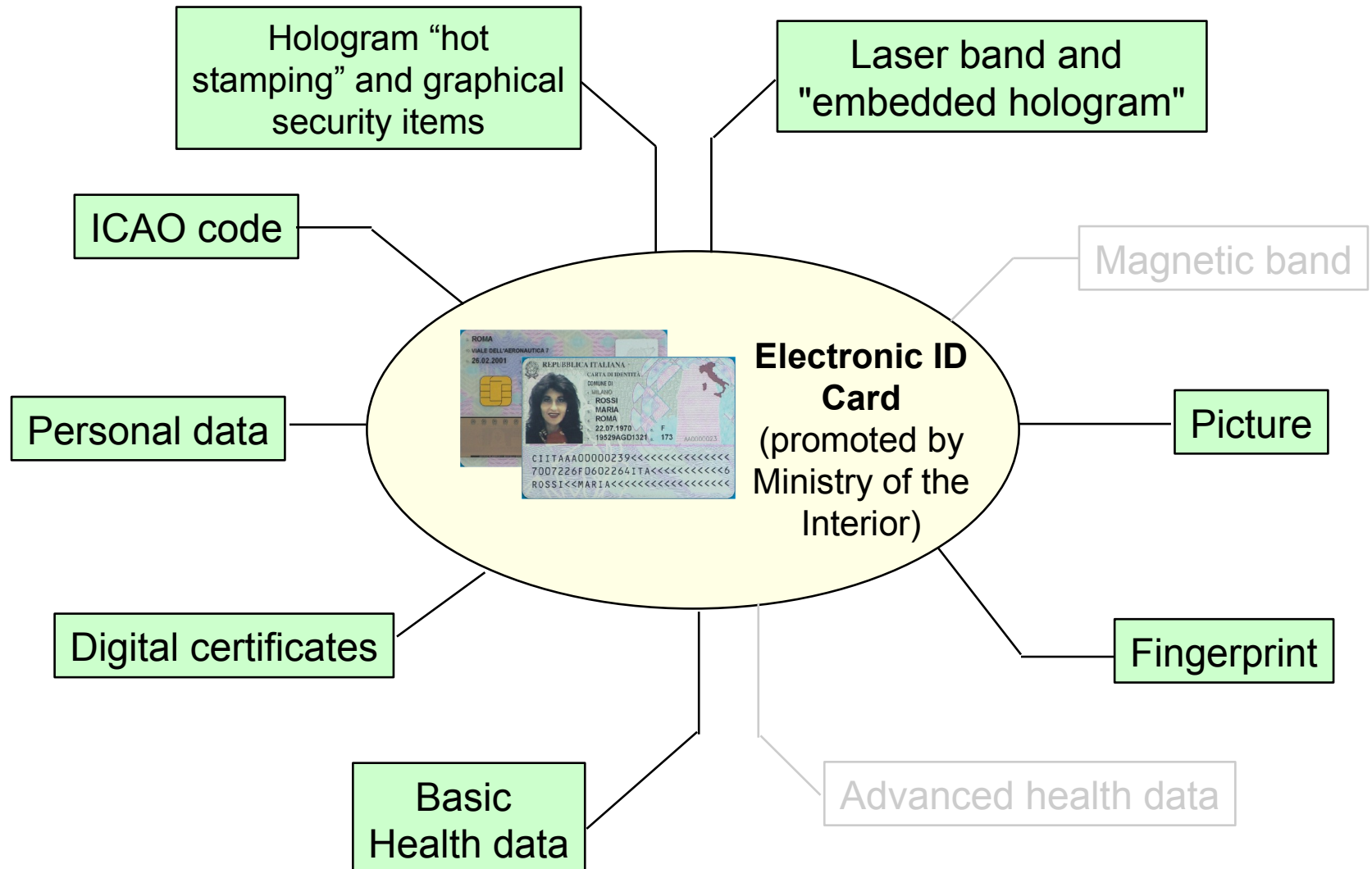
Application integration architecture



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More SMART CARDS projects ...

CIE project



E-poll project

- European Research and Development project, included on the IST program, co-financed by EU: Siemens Business Services as co-ordinator
- Electronic POLLing system for remote voting operation including:
 - Vote preparation
 - Voter identification and authorization
 - Vote transmission, vote counting
- The system is compliant with the security requirements of the institutional vote:
 - Democracy
 - Accuracy
 - Privacy
 - Verifiability
- The institutional vote is guaranteed by the voter fingerprint recognition supported by the smart card technology

