

Citizen eIdentities Token Usability and Mobility

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INTRODUCTION

Various eID solutions have been presented; smartcard based, mobile-phone based, using biometric data and so on. All of which are location bound when it comes to the usage of the identity itself. This means that a citizen would require a PC with a card/token reader for instance.

Technical debates on IdM technologies and protocols have been going on for years with numerous projects being delivered. The US and many European nations including Nordic countries have also delivered their national eID solutions using an array of technologies for tokens and supporting infrastructures, while various efforts have been made to make such systems interoperate.

But what about the citizen? Given that the citizen is central to any eID implementation, it is important that a socio-psychological analysis is made in the pre-design stages. Would citizens feel safe with a 'new way' to identify themselves? Is the digital divide a main barrier for eID success? What type of eID token is acceptable and why? Using a bottom-up approach, what would the citizens understand by the term electronic identity and what would the citizen want/need to make an electronic identity acceptable, usable and one which provides confidence in the technology and its provider/s?

By nature, human beings are constantly moving almost haphazardly across geographical, political and also technological borders. How can eID tokens provide true mobility given the above borders while providing the highest security for the citizen? Furthermore which infrastructure should be adopted in support to the chosen eID token and what services could be provided in an electronic way. An equally important issue is to identify any limiting factors keeping the provision of more diverse services at bay.

Citizen eIdentity



What is a Citizen eID? The digital counterpart of the traditional identity card which helps in authenticating a citizen digitally during the request/consumption of electronic services.

eIDs may be represented in a number of ways, using various technologies; smart card, USB, software-based, SIM and mobile based tokens amongst others. A number of eID implementers (e.g. Maltese national eID) distribute eIDs as soft-tokens in their initial phases, with various rollouts later on throughout the years.



What is an eService? An innovative or traditional service delivered over electronic means. It is generally accepted that Service Providers (e.g. Social Justice Ministry) deliver their eServices over the Internet using a browser as the main client interface.

Digital Divide

A big issue in deploying electronic identity solutions and infrastructures is citizen education and access to resources.

1) Internet Access: Currently the majority of eServices are browser based requiring a broadband internet connection. This causes a two-fold problem: Citizens (students to grandparents) have to obtain access to an internet enabled terminal and secondly they have to know how to use it!

Connection Type	2004	2005	2006	2007
Narrowband	-	26	18	14
Broadband	14	23	30	42

Table 1. EU27 Households having access to the Internet, by type of connection (%). Source: Eurostat

Number of Tasks	EU27	Sweden	Romania
1-2	29	45	16
3-4	23	25	10
5-6	8	8	2

Table 2. Individuals' level of Internet skills on a number of generic internet tasks (e.g. sending email with attachment or using a search engine) (% of individuals aged 16 to 74). Source: Eurostat

2) Security and Education: Even though Eurostat estimates a total expenditure of €552914.1 million on public education in EU27 countries, it was found that amongst 28% of ICT professionals aged between 19-30 do not know what a digital certificate is. From the remaining 72%, only 15% have ever owned and used a personal digital certificate. Several nations have already launched their national eID strategy with millions of citizens owning a personal digital certificate.

eID Tokens

Electronic identities may take up various shapes while implementing various technologies, including:



1) Soft Token: Including qualified and non-qualified digital certificates used for signing or authentication



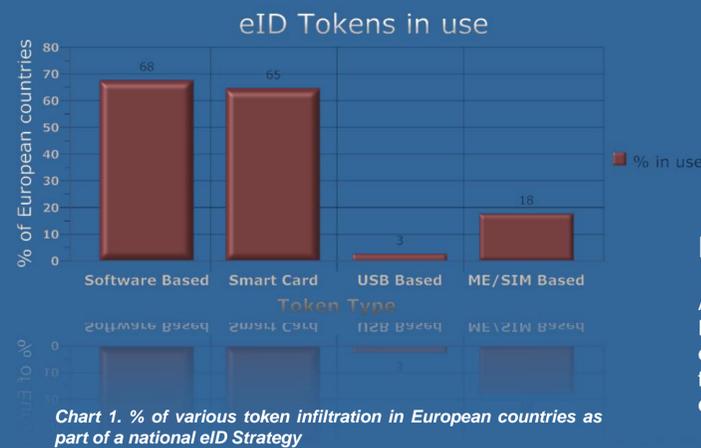
2) Smart Cards: Any variation of Smart Card technology supporting the storage of certificates and/or biometric information, holding applications and digital signing facilities (crypto-enabled).



3) ME/SIM Token: Any mobile-oriented solution capitalizing from the SIM as a secure data-store with the Mobile Equipment itself acting as the card reader.



4) USB Token: USB based hard-token enabling two-factor authentication to any resource, including browser based services.



Research Question

Are eID tokens used within the EU the result of citizen-oriented R&D efforts or the forced output of technology-driven investments?

eID Tokens and eServices

An eID token has the following impact on eServices :

- Determines the **service delivery and security channels**, hence
- Determines or **limits the nature and extent** of eServices which can be offered
- Determines the citizen's and **citizen's eID mobility capabilities**
- Determines the **usability of an eID strategy**, hence its applications such as an eGovernment and eServices delivered through such
- Determines the **user acceptance** of the system in general

Development of innovative eServices can only be done through truly mobile, usable a token design. Public Kiosk, Over the Counter, Access Control Mechanisms and many others may be alternative eService delivery channels as part of a wider eGovernment architecture.

Citizen-Oriented eID Token Design Methodology

Any design effort must meet both the needs and expectations of the product user and also of its commissioning entity. It is useless to have a 'skilful and creative' designer when there is no information and clear knowledge on the system's potential users. The problem domain must also be clearly defined while its constraints thoroughly analyzed in order to reach a set of pre-defined goals. Without this in mind, chances for success are limited!

- 1 Subject Matter Experts (SME) Interviewing
- 2 Contextual/Individual User Interviewing
- 3 Build Personas
- 4 Carry out Task Analysis
- 5 Conduct Use Case Analysis
- 6 Iterative Design and Prototyping
- 7 Conduct Usability Testing

Way forward: A new design?

"Achieving eID Mobility while enhancing Usability" This is the principal aim of this research area. A new paradigm may be an option where 'traditional' tokens are replaced with new alternative/s, designed for the citizen by the citizen through a citizen-oriented methodology.



For more information...

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