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CONSULTING SERVICES

National Electronic ID System

e-ID is the central system for the identification and authentication of citizens in electronic administration.

Highlights

National e-ID system for government and citizens

Removes the burden of citizen user account manage-ment and enables govern-ment bodies to create e-services.

Enables citizens to use one set of credentials to access all government e-services

Compatible with EU STORK project for cross-border e-ID interoperability

Built in line with open technological standards (SAML 2.0)

Easy for government organizations to implement in new e-services or to integrate in existing e-services

Citizens only need a standard web browser on any device (PC, tablet, smartphone, etc.)

e-Government and on-line citizen authentication

On-line authentication enables citizens and government bodies to have confidence in the identity of the other parties participating in on-line transactions. In electronic administration particular attention is paid to the function of exchanging electronic messages in which **each participant must** at all times **be able to unambiguously establish the identity** of the other participants **in the electronic communication**. Therefore, authentication is becoming a necessary infrastructure component in achieving the objectives of e-government.

At the same time, e-government services are provided to citizens whose identity can no longer be determined by using existing methods (e.g. an ID card, passport etc.) and it is **necessary to establish electronic authentication systems**. The introduction of such new ways and methods of confirming the identity of a citizen who uses electronic services becomes a precondition imposed both by the government bodies who build the e-services and the citizens who are using them. In doing so, establishing an **integrated authentication system becomes an indispensable infrastructure component** which is driving development of new e-
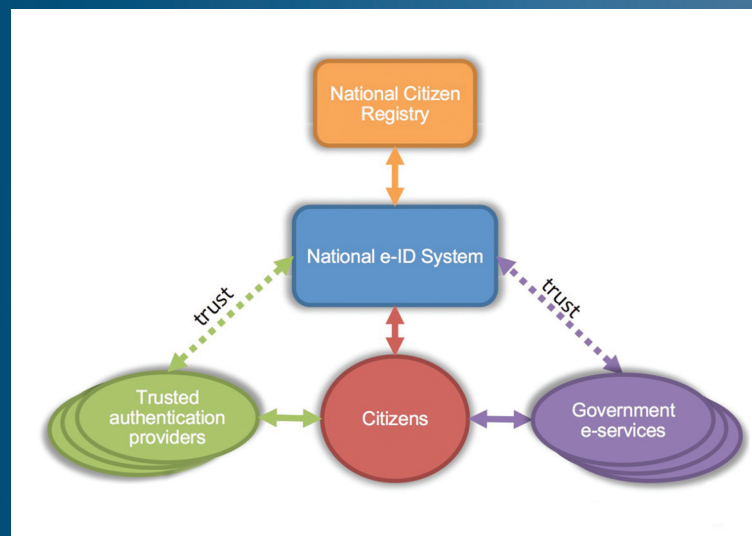

Figure 1. Main participants in electronic government transactions

Product Sheet

government services. Establishing such a system for each individual government body is inefficient and expensive – the only efficient solution is to establish such a system on the national level to be available for all government bodies, government e-services and all citizens.

Electronic ID system (e-ID)

e-ID is the central system for the identification and authentication of citizens in electronic administration. It is established as an integrated electronic identity system which provides adequate interfaces to all government e-services, to enable them to effectively identify and verify the identity of the citizen who is using them.

e-ID **enables management of a citizen's electronic identity** by creating a unified authentication system in an electronic environment, with no physical communication needed between the citizen and government bodies. The e-ID system, with electronic identity and a single sign-on mechanism, **allows citizens to safely and conveniently use government e-services** whilst, at the same time, **releaving government bodies from having to manage an expensive user authentication infrastructure**.

Benefits for citizens

There are many advantages for citizens using e-ID as a means of authentication when using government e-services. Without a central e-ID system, citizens must go through the registration process for each government e-service, including a physical visit to each government organization, to give personal information to that organization, as well as an arbitrary selection of user names and passwords. Given that today a large number of e-services require registration, users must remember many different ID's, which often end up on paper or unprotected computer files, or else they use the same ID for access to several e-service sites. **e-ID is designed** to maintain a sufficient level of security and data protection, whilst also **ensuring simplicity of citizen registration and authentication**.

Support for the **single sign-on** authentication protocol enables citizens to submit their credentials only once per session and to authenticate themselves to all government e-services. This means that citizens who are successfully authenticated by e-ID for one service will be automatically authenticated on all e-services integrated with the e-ID system.
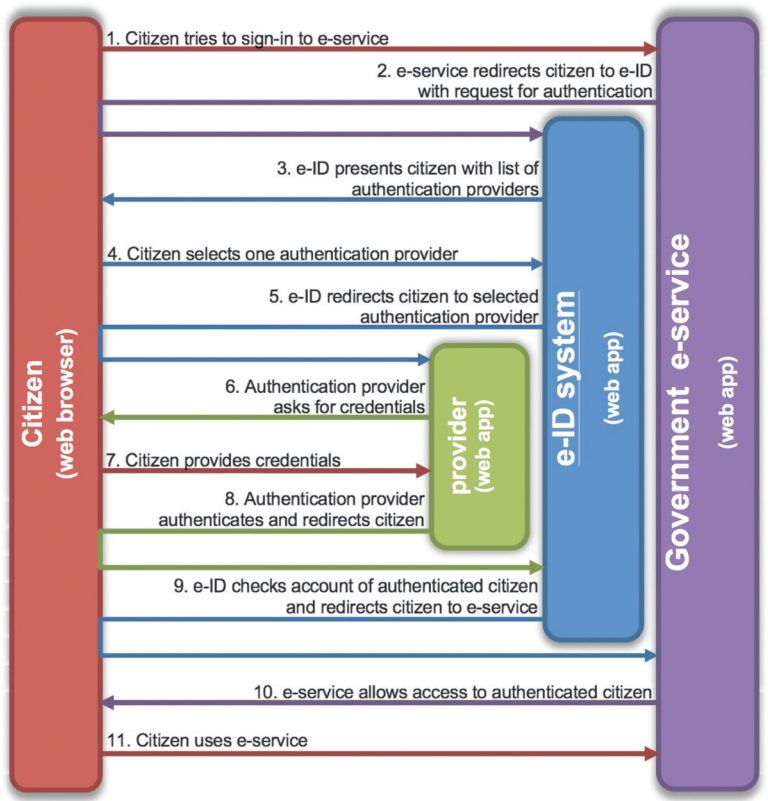

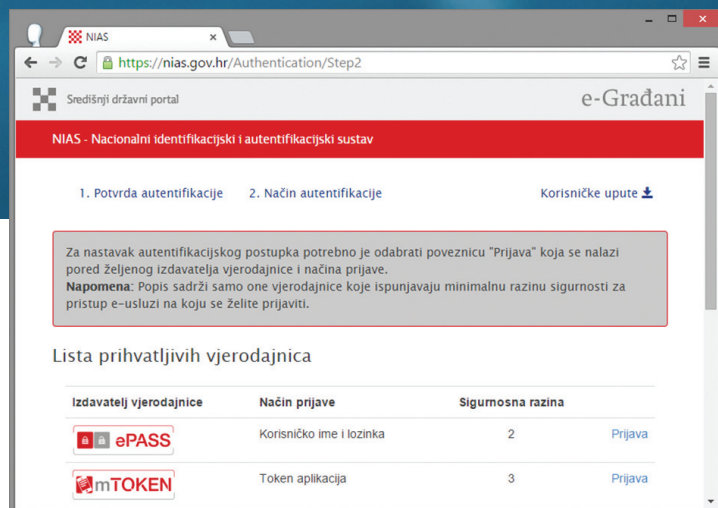Figure 2. e-ID citizen authentication protocol - streamlined authentication process

Figure 3. Sign-in process - selection of credentials

An additional advantage is that, when a citizen logs-out of a specific e-service which is integrated with e-ID, the system will **automatically log the user out from all e-services** to which he/she is currently signed-in, with the **single log-out** mechanism (although an option does exist to log-out from just one service). For systems not integrated with e-ID, a citizen must visit each e-service and repeat the log-out process for every e-service for which they signed-in. Thus, the citizen can never be sure of which e-services they signed-out and of which they remain signed-in, which could pose a security risk if the computer is later used by another person, or in the event that the computer is stolen.

There are also several **authentication security levels** implemented in the e-ID system, depending on the method of authentication. For example, using **user name and password** credentials for authentication is categorized as a lower security level than using **one-time password**. Authentication security levels enable e-services to provide different functionality, based on the security level of the credentials provided.

Benefits for e-service providers

Management of citizens' accounts is not the primary role of the government body providing e-services, and, as such, a much better solution is to leave this task to the e-ID system whose only purpose is to manage user identities and take care of their security. This enables the e-service provider to devote more time to the implementation and management of e-services.

The only task of the service provider, when it comes to authentication, is to integrate with the e-ID system.

Open technologies and protocols

The e-ID system is based on open technologies, thus enabling integration of various e-service providers and authentication providers, regardless of the technology they use. The protocol for communication, i.e. exchanging authentication and authorisation data between security domains, is **Security Assertion Markup**

Language 2.0 (SAML 2.0). SAML 2.0 is an XML-based protocol that uses security tokens containing assertions to pass information about a citizen between an identity provider and an e-service provider. SAML 2.0 enables web-based authentication and authorization scenarios including cross-domain **single sign-on** (SSO) and **single log-out** (SLO), which helps **reduce the administrative overhead** of distributing multiple authentication tokens to the user.

The e-ID system is also built as a web application and is accessible within any modern web browser, both on PCs and mobile devices. The e-ID system comes with a **citizen-oriented web application for managing citizen e-ID profiles,** such as: managing e-mail notifications to increase security, managing available authentication providers which citizens may want to use, and viewing history of sign-ins to various e-services.

Case study

The e-ID system was implemented in Croatia, on a national level, in 2014 as part of the e-Citizen project. This project was launched by the Croatian Government in order to modernise, simplify and speed up communication between citizens and public administration, and to increase the transparency of the public sector in providing public services.

Figure 4. Sign-in process - providing the credentials

The e-Citizens system consists of:

- Central Government Portal,
- Personal User Mailbox,
- **National e-ID system**.

Before the e-ID system was implemented there were few electronic services available for citizens at the national level, e.g. the Pension Service allowed citizens to verify the amount of contributions paid into the second pillar Pension Insurance and the Croatian Employment Service allowed citizens to register as potential employees.

Once the national e-ID system was implemented, **over 10 new e-services were implemented by various government bodies within less than one year**. These included: the ability to request electronic extracts from the register of births and marriages; verifying registration to vote in the electoral register; enabling parents to find out about their child's
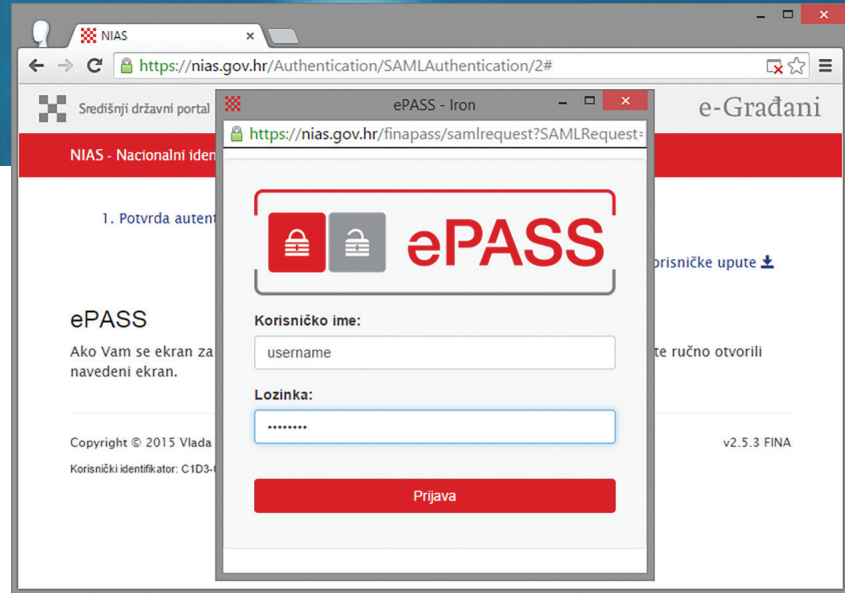
grades at school on-line; checking your tax account card; finding out how much pension you can expect to receive, etc. There was no longer the need for government bodies to deal with citizen user account management and they were free to implement e-services.

Currently, the system is **integrated with several authentication providers,** such as ePass - username and password based authentication; mToken – one

time password solution; and a smart card solution – based on digital certificates.

The **project was extremely successful** and gave results almost immediately. The implementation of a national e-ID system has had a very positive influence on the development of new e-services in Croatia.

Figure 5. Signed-in to the electronic service

Contact us

If you would like to find out more about Electronic ID System (e-ID) and how to implement it, please contact us.

Teched
CONSULTING SERVICES

Capraška ulica 6/VI
10 000 Zagreb, Croatia
Phone: +385 1 4697 600
Fax: +385 1 4697 615
E-mail: teched@teched.hr
Web: www.teched.eu