İSTANBUL BİLGİ UNIVERSITY
INFORMATION TECHNOLOGY LAW
RESEARCH CENTER

4.9.2007

Country Profile – Turkey

A. Terminology section

For the purposes of this Profile, the following terminology will be strictly adhered to:

- eIDM system: the organisational and technical infrastructure used for the definition, designation and administration of identity attributes of entities.

- Authentication[1]: the corroboration of the claimed identity of an entity and a set of its observed attributes.

- Unique identifiers: an attribute or a set of attributes of an entity which uniquely identifies the entity within a certain context. Examples may include national numbers, certificate numbers, etc.

B. General status and most significant eIDM systems

Turkey has implemented various eIDM systems in the conventional public services and e-government practices. In most of these systems as well as some private institutions, domestic and national official registers operate by verification through unique identifiers used together with authorization tools.

Most of such applications in Turkey use the unique identifiers in MERNIS database administered by Home Office. The unique number which is used as an authentication attribute by some agencies is printed on our National Identity Card. Many agencies, non-governmental offices (NGOs), and firms collect Identity Cards copies or all the information on it. Therefore, the unique number itself cannot be used as a secure authentication mechanism. For this reason;

[1] For the purposes of this Profile, the notion of authentication is considered to be synonymous with 'entity authentication', as opposed to 'data authentication'. The notion of 'identification should be avoided to avoid confusion.

Kurtulus Deresi Cad. No. 47 34440 Dolapdere/Istanbul-Turkey
Tel: +90 212 3115000 Fax: +90 212 361 5021
e-mail: info@bthukuku.bilgi.edu.tr
web: http:bthukuku.bilgi.edu.tr

unique identifiers are used not for the purpose of authentication but for the purpose of verification.

Turkey National Register Office announces Identity Sharing System (Kimlik Paylaşım Sistemi-KPS, MERNIS database) at the beginning of 2005. At the moment, the system contains 17 web services with different data sets such as personal info, family info and etc. which are accessible by agencies after signing protocols. More than; 100 institutions, public and private, establish communication infrastructures independently.

Identification information with regard to legal persons is primarily stored in the so called Maliye Bakanlığı Vergi Numarası, (Ministry of Finance Tax Number) which identifies legal persons (people – entrepreneurs had used Tax Number but since 2007 it is decided to use TC Identity Number) by the so called enterprise number.

Devlet Planlama Teşkilatı (State Planning Organization) has realized the security issues and also unnecessary communication investment. The need for a federal identity system was emerged in 2003. They prepared a RFP which defines the technical requirements of an eGovernment Gateway system which is intended to solve authorisation of entities by using single-sign-on solutions and a central share point for web services. Türksat is assigned as the responsible of the eGovernment Gateway project[2]. The Türksat team monitors and supports the development of the project. As a public institution, Türksat also focuses on the organizational and legal issues of the system with a ministerial level of encouragement.

The Act numbered 5070 on E-Signature provides the same legal effect as hand written signature. There are four actively operating certificate providers authorised by the Telecommunication Board.[3] As of February 2007 mobile e-signature infrastructure is completed and users can cocnlude legally binding e-signatures by their SIM cards.

Internal Processing Regime and Free Trade Zone Projects ran by The Foreign Trade Under-secretriat are the first e-signature applications in the public sector that mandate the usage of e-signature with the full legal effect. However there are other future projects that require the usage e-signature for the purpose of

[2] Official Gazzette, April 20, 2006, Number: 26145; http://www.bilgitoplumu.gov.tr/mevzuat/e-DevletKapisi_20060420.pdf.
[3] e-Guven www.e-guven.com, Turktrust www.turktrust.com, e-Tugra www.e-tugra.com, Kamu SM http://www.kamusm.gov.tr/

identification . After completion of the mobile e-signature infrastructure 5 major banks of Turkey have integrated e-signature int their IT systems. Mobi signature is used bıth for ID verification or for the aim of signature in transactions like money transfers.

From a practical perspective, usage and uptake can be summarised as follows:

eIDM system	Potential user base	Actual penetration	Actual use
Qualified Electronic Signatures	Estimated at 5 million (requires a token and card reader, now mobile eSignature is available)	Estimated at 10.000 (around 0,012% of the population, and around 0,2% of the potential user base)	No public statistics are available
eGovernment Gateway SSO Solution	Estimated at 30 million	Not being used yet since the project has not been implemented.	No public statistics are available

C. Background and traditional identity resources

C.1. eGovernment structure

The e-government structure in Turkey started to be formed, by separate implementation of various e-government projects by the related institutions. Within the Emergency Action Plan drawn up by the 58th Government, an e-Transformation Turkey Project is provided and Undersecretariat of State Planning Agency (DPT) is assigned for the co-ordination, observance, evaluation and orientation of the said Project. For the fulfilment of the said assignment; DPT has formed a Chamber of Information Society and the purpose, institutional structure and the implementation principles of e-Transformation Turkey Project are determined by virtue of the Circular of Prime Ministry no 2003/12, published on 27.02.2003.

Establishment of Chamber of Information Society (BDT) In March, 2003, is a significant development in terms of studies to be carried out for the determination of strategies regarding the steps that should be taken in the process of transformation into an information society and for the provision of coordination between the information and communication technology

investments of public institutions especially the coordination of e-Transformation Turkey Project.

The e-Transformation Turkey Project aims to carry out the process of transformation into an information society in a harmonious and integrated structure all over the society with all citizens, enterprises and public segments. General coordination of the Project has been assigned to the State Planning Organization and the e-Transformation Turkey Executive Board with the participation of the State Minister and Deputy Prime Minister, Minister of Transportation, Ministry of Industry and Trade, top-level bureaucrats and non-governmental organizations (NGOs), and the Advisory Council with the participation of public and private sectors and NGOs have been established.

In this process, "Turkey's Information Society Transformation Policy" which was prepared with the participation of all relevant parties, has been adopted by the e-Transformation Turkey Executive Board. The policy document states Turkey's vision of transformation into an information society as follows: "To be a country that has become a focal point in the production of science and technology, that uses information and technology as an effective tool, that produces more value with information-based decision-making processes and that is successful in global competition, with a high level of welfare".

Since the inception of e-Transformation Turkey Project, which was formulated with a participative approach, two action plans covering 2003- 2004 and 2005 periods were launched and implemented successfully. In conjunction with the short-term targets of the action plans, an initiative for preparation of Information Society Strategy covering 2006-2010 was also started in 2005 in an attempt to enable Turkey to benefit from ICT effectively and to identify the middle and long term strategies and targets for the realization of transformation.

In the Information Society Strategy, the current situation of main constituents of the society; citizens, public sector and businesses as well as the ICT sector and Turkey's potential for transformation into an information society by 2010 have been evaluated, and a range of targets for 2010 together with the required steps for accomplishment of those targets have been identified within the framework of the strategic priorities determined henceforth. Furthermore, R&D and Innovation strategies have been integrated based on Scientific and Technological Research Council of Turkey's (TÜBİTAK) "Vision 2023" studies and on the decisions of the Higher Council of Science and Technology; consequently, the integrity of the strategy has been ensured. On the other

hand, measurement criteria and methodologies have been introduced for monitoring and evaluation of the implementation, together with new structures to support the strategy implementation.

It is expected that the Information Society Strategy and its annexed Action Plan would be the basic reference document for citizens, the public sector, private sector and the NGOs, in short for all segments of the society, within the next five-year period, and will shed light onto future schemes.

In all e-government systems currently applied in Turkey, id verification systems based on user name and password are being used. Nevertheless; the studies for a national electronic id card as well as the requisite studies and improvements to ensure the current e-government applications to be implemented with electronic signature; are still being carried out.

C.2. National eGovernment cooperation and coordination

It is not absolutely possible to suggest that there is a complete coordination an cooperation between the current e-government applications in Turkey. In that sense; the most significant study is the e-Government Gateway Project by means of which, all e-government applications will be provided from the same portal and the e-government applications will become closer both among themselves and in terms of users, as mutual data traffic is also being planned.

Other than the above stated; numerous e-Government application and the private sector applications in electronic environment use the MERNIS Database and the Identity Sharing System as explained below in detail.

Realisation of e-Government Gateway

In order to ensure the provision of public services from one main portal and the access of citizens to governmental services form an electronic environment in a safe and fast manner; upon the correspondence of Deputy Prime Minister and Minister of State dated 13.03.2006, dated 856 based on the resolution of e-Transformation Executive Board[4]; in accordance with Article 1 of Code dated 08.01.2002, no:4736; the Council of Ministers decided on 24.03.2006 for the

[4] http://www.bilgitoplumu.gov.tr

enclosed Resolution concerning the establishment, operation and management of e-government portal to enter into force [5].

According to this Resolution concerning the establishment, operation and management of e-government Gateway (Portal, the duty and responsibility of establishing the e-Government Gateway (Portal) that will ensure the provision of public services in a common platform from a single portal and the access of the citizens to governmental services from the electronic environment in a safe and efficient manner, is granted to the Ministry of Transportation.

The Ministry of Transportation is entitled to establish work groups and permanent or temporary commissions for the fulfillment of the said duties and responsibilities. The Ministry exercises its duties and responsibilities concerning the establishment and operation of the e-government portal technical infrastructure by the mediation of Türksat Uydu Haberleşme ve Kablo TV İşletme A.Ş. The procedure and the principles regarding the fulfillment of the said duties including the service fee shall be determined by means of a protocol to be concluded by and between the Ministry and Türksat Uydu Haberleşme ve Kablo TV İşletme A.Ş. Under the scope of duty and responsibility regarding the establishment and operation of the e-government portal; the studies concerning the standards and requisite legal regulation related to the review of the operation process, content management and integration for the provision of public services in an electronic environment focused on the citizens; shall be coordinated by the Ministry of Transportation with the efficient participation of related public bodies and institutions. Within the application process of e-Government Portal Project; abidance with the goals, principles and policies that are set in the National Information Society Strategy carried on under the e-Transformation Turkey Project coordinated by the State Planning Agency is of essence.

C.3. Traditional identity resources

Republican Era

The development of identification started in 1923 together with establishment of the Turkish Republic and its continuing development is as follows:

[5] http://www.bilgitoplumu.gov.tr/mevzuat/e-DevletKapisi_20060420.pdf.

- The right of citizenship is based on a foundation upon the adoption of 1924 Constitution. Article 88 of the said Constitution, states that "The Community in Turkey is considered to be "Turkish" in terms citizenship, regardless of religion and race.".

- The Code of Turkish Citizenship no 1323, entered into force in 1928
- In 1928, upon the acceptance of Latin alphabet, Arabic letters and numbers are abandoned in writing of the registers. .
- In 1934, last names are granted to each family and individual whereas the appellations and cognomens were abolished.

As it can be seen, the above stated changes did not exactly bring a new system whereas on the other hand as it supported, simplified, predigested and updated the existing system.

Turkish Civil Code, Code for Last Names, Code of Citizenship and the regulations and by-laws indicating the application of the said Codes; which provided our social life to go through the westernization process and a new life style to be embraced in the Republican Era, have also brought significant changes in identity services in a broad sense.

Furthermore, as Turkey in 1953 became a member of the international Commission on Civil Status established in 1950, Bern, Switzerland; General Directorate of Population and Citizenship Affairs follows up the affairs of secretariat of Turkish National Section with regards to the said Commission. Accordingly, Turkey has an important role as the most proposing member of the Commission, which carries out studies in order to bring solutions to various problems with regards to civil status, family and nationality rights, and civil status problems arising between the member states and which draws up agreements concerning various matters. In that sense; Turkey has signed 22 international agreement out of 24 drawn up by the commission and these agreements are approved by the Turkish Grand National Assembly.

- Following the reform dated 27.05.1960, Article 54 of the 1961 Constitution adopted by the founder Assembly, states under the heading "political rights and duties" that: "Everyone that is related to State of Turkish Republic with a bond of citizenship, is Turkish

The child of a Turkish father and Turkish mother is Turkish. The citizenship status of a child whose father is a foreigner and yet whose mother is Turkish, shall be regulated by Law.

Citizenship is gained under the conditions set by the law and is lost merely in circumstances stipulated by the law.

No Turkish citizen shall be expatriated unless he/she commits and action that is in contradiction with the patriotism.

Legal remedies against the decisions and transactions regarding expatriation, shall not be closed."

- During the later years, the certificates of birth obtained the character of a valuable paper and was included within the scope of Code no:210 Concerning Valuable Papers in 1963.
- The Code no:403 Concerning Turkish Citizenship, which is still in force, was drawn up in 1964 in line with the dominant principle of 1961 Constitution.

- At the end of 1960'ies; a great scale of migration took place as a result of the fact that the need of Germany for labor is countervailed mostly from Turkey. As a consequence of both qualified and non-qualified workers migrating to foreign countries from Turkish industrial cities; this time a need for a new regulation concerning the domestic migrations to places that were abandoned by the aforementioned. For that reason; a new Population Code was prepared to take the place of Registered Population Code that was in force since 1913.

The Recent Period

Upon the Code no:1543 Concerning General Population Registration adopted by the Turkish Grand National Assembly on 24.02.1972 and the subsequent Population Code no: 1587; a phase has been reached where a leap could be taken for modernization in the related service.

Pursuant to the Code Concerning General Population Registration; all registration registries existing in the population administrations are renewed based on the essence of administrative unit (village and neighborhood) in a manner that they include standard information and in duplicate.

The Regulation Concerning the Establishment, Duties and Work Relating to Population Services entered into force upon the decision of the Council of

Ministers dated 08.03.1977, no:7/13269; as this Regulation was prepared in a manner that it covers all legislation concerning population, to enable transactions to be technically implemented in the population registries that are renewed and put into practice.

As the above mentioned Code and the Regulation; promotes the enhancement of the education levels of the personnel assigned in the population administration; the application of the separate budget and the establishment of the central archive; a new organizational structure is formed leading to a new approach to become dominant.

D. eIDM framework

D.1. Main eGovernment policies with regard to eIDM

D.1.1. CENTRAL POPULATION MANAGEMENT SYSTEM (MERNIS)[6]

MERNIS is a project which transfers all the identification information to electronic environment and it permits immediate updates and changes made in the identification information from 923 district centers in a secured way.

This project is one of the first e-government projects which inspires other projects in Turkey. In the scope of this project, the different numbers used by the public institutions which represent the citizens were made unique, and by this, usage of different numbers and signs in different institution's ended. Not only this project makes public work faster, it also becomes a gateway key to other electronic government projects. In this scope, "The Identification Information Sharing System" project, which is a continuous and extension part of MERNIS, provides secured, fast and efficient service by opening the information to other public institutions usage and it prevents unnecessary paperwork. The services which MERNIS provides:

[6] http://www.nvi.gov.tr/11,Ana_Sayfa_Mernis_Ingilizce.html.

Provides to build county population databases and modernization of the services, by transferring the population information to computer environment,

- Building central population database by integrating county population databases
- Providing an unique ID number to every Turkish Republic citizen
- By this unique ID numbers, getting and sending personal information online between the public and the private information systems projects on an infrastructure which identify the people uniquely
- More efficient information on statistics of population
- Making the service faster by sharing the information with other governmental institutions, and making it safer and provide citizens easier, faster and safer service.
- Decreasing bureaucracy, making the government and the citizen closer

Every Turkish Republic Citizen has been given a Turkish Republic Identification Number in 28 October 2000. It has 11 digits which doesn't include any information. The last two digits are used for conforming the accuracy. Turkish Republic Identification Numbers has been sent to 560 public institutions for those who are registered in these public institutions. In order to inform the citizens about the ID numbers, there is an internet site which has an ID number module.

MERNIS communication infrastructure is based on the hierarchal system throughout Turkey. This system works on a WAN network which includes the Population Administration Offices and the General Directorate. In this structure all the counties that are governed by a city connected the city center as a Frame Relay subscriber. These centers called as "concentration points" are connected over the server frame relay at The General Directorate. The connection between the Population Administration Offices and the General Directorate is over the star topology.

Within the scope of the project, the public organizations, instead of updating the individual information kept in their structure, will be using the updated information located in the MERNIS database. With the Republic of Turkey Identification number application, it will be possible to keep the individual records in one file and the errors originating from incorrect identification information will be removed. This will play an important role in having such records combined.

D.1.2. IDENTIFICATION SHARING SYSTEM PROJECT

It is possible to conduct query through the Identification Sharing System with two different methods. Ministry of Internal Affairs General Directorate of Population and Citizenship Affairs has transferred all dead and alive records in population registries before 28.10.2000 to the MERNIS DATABASE and Republic Of Turkey Identification number is granted to all records. Currently; the identification information of approximately 130 million Turkish Citizens is being kept in the MERNIS Center Population Database.

Following the implementation of the project; all personal data that are kept in all public bodies that were yet not trustworthy, have been unified and thus the data security is provided. In all transactions that are conducted in electronic environment, the identification verification can be made through KPS and the information that used to be obtained by means of correspondences with the General Directorate of Population and Citizenship Affairs can now be obtained from the electronic environment.

It is possible to conduct query through the Identification Sharing System with two different methods.

Web Sites

The corporate and institutional users may conduct queries in the KPS Web Sites. The basic queries that may be conducted are as follows:

- Inquiry of personal information with TC Identification Number: The related person's personal information in the open records are inquired with the TC Identification Number.
- Inquiry of TC Identification Number with the personal information:
  In return for the related person's information such as first name, last name, father's name, mother's name, date of birth, place of birth and sex, the TC Identification Number is inquired.
- Inquiry of identification information with the information of place where the related person is registered:
  In return for the district, province, book no, family sequence number, person sequence number; the personal information and TC Identification Number is inquired.
- Inquiry of Identification Records:

In return fort he TC Identification Number or the information of place where the related person is registered; The Identification Records with or without events can be inquired.

Web Services (XML Infrastructure)

Corporate and institutions can conduct inquiries by having access to KPS Web Services together with the annexes to be used in their own applications or the applications that they develop. They can view the data that they obtain from the KPS as a result of the inquiry or they can automatically update their own database with this information.

D.1.3. e-Government Gateway

Devlet Planlama Teşkilatı (State Planning Organization) has realized the security issues and also unnecessary communication investment. The need for a federal identity system was emerged in 2003. They prepared a RFP which defines the technical requirements of an eGovernment Gateway system which is intended to solve authorisation of entities by using single-sign-on solutions and a central share point for web services.

Türksat is assigned as the responsible of the eGovernment Gateway project. The Türksat team monitor and support the development of the project. As a public institution, Türksat also focus on the organizational and legal issues of the system with a ministerial level encouragement.

eGovernment Gateway natural persons' SSO solution has planned to develop 4 levels for authentication purposes:

Level	Registration citizen Identity	Authentication citizen identity	Applications
0	None	None	Public information and services
1	On line by entering the national register number, and personal information	By assigned user number in combination with a password chosen by the user	Information/services of limited sensitivity

2	Level 1 + a confirmation message that implies the USER LICENSE and send-out of an ENVELOPE with a PASSWORD to the address specified by citizens and may be checked with the one in the National Register	Level 1 + entering PASSWORD mentioned on the ENVELOPE(which contains xx sequences)	Information/services of average sensitivity
3	Physical identification at the commune for the acquisition of a qualified eSignature.	Authentication certificate on the eSignature + signature certificate on the eSignature + password per transaction	Services requiring an electronic signature

Thus, there are three levels of authentication above public access: basic username/password (after registration using official register numbers), use of PASSWORD printed and closed on an ENVELOPE via a strictly secure way then delivered by PTT personnel (being the governmental institution legally authorized to serve official communications and use of the eSignature card's signature and authentication.

D.1.4. Smart Health Card Project of Social Security Organisation[7]

One of the projects that Ministry of Labour and Social Security completed is Smart Health Card Project. Upon utilization of the new cards the old health certificates/identifications will be completely removed.
The new cards will contain identification information, signature and fingerprints by means of which doctors will be able to learn the card owner's last ten sickness and their treatment immediately.

Ministry of Internal Affairs Bureau of Population and Citizenship is included in the project in the last stage, thus identification information is incorporated with the card. The project will be initiated in pilot regions in July 2007. The card will contain four fingerprints. Accessing the information concerning the blood type,

[7] http://www.istehayat.net/tr/Aktuel/a.7500.html.

allergy, transplantation and disablement of the card owner with the same system is one of the objectives. With the disposition of Ministry of Health, card owner's last ten sickness and their treatment can be accessable with the card.

The new cards may be used with either fingerprints or PIN. Accordingly, the card owner's relatives will be authorized to use the PIN for buying medication with the permision of the Social Security Authority. Smart health Card Project was initiated to unite the social security cards with the health cards.

However, smart health cards are decided to be united with the identification cards; therefore the project has been held as "identification cards and social security cards" for the last one year.

The police may also take the advantage of the smart health cards. The cards are prepared with sufficent technical hardware even for cencus. The doctors and the pharmacists will be given similiar cards containing their fingerprints and medical competence. The smart cards can be used as prescription as well. The suggested medication will be processed into the cards, so there can be no external intervention, which is a precaution to stop medication and prescription frauds.

Sixteen countries are examined before the smart card project is formed. The most advanced example is known as Belgium. Turkish health card sistem will function with fingerprints as in the Belgium example.

D.1.5. e-Passport

The Electronic Passport Project, aims the production of electronic passports that are in conformity of ICAO standards. The Electronic Passport Project is a project that has been planned for a long time but that has not been completed yet due to the annulment of the procurements. Currently the process of procurement stil continues.

Following the completion of the Project; the use of electronic passports that work with RFID and that is in compliance with the document no:9309 of ICAO will be initiated.

D.1.6. Qualified Electronic Certificates

After the Electronic Signature Law no: 5070 has entered into force; the use of electronic signature that has the same legal effect as a hand written signature is initiated. Four electronic certificate service providers that have been authorized by the Telecommunication Authority, continue their activities. Under the scope of the Law[8] . Since the Law has entered into force, four electronic certificate service providers have sold approximately ten thousand qualified electronic certificates in total. This number definitely does not meet the expectations of both the sector and the administration. As a result of the experience gained with the electronic signature applications, it is observed that there is a direct connection between the number of qualified electronic certificates and the number of mandatory e-Government applications with electronic signature infrastructure. Therefore, various studies are being carried out in order to provide the electronic signature integration of e-Government applications and the improvement of e-Government applications with electronic signature infrastructure.

Aside from the improvement of electronic signature application; studies for facilitating and generalize the use of electronic signature are also being carried out. In that line, a mobile signature project is developed by a GSM operator and an electronic certificate service provider and the project is implemented as of March 2007. Within the mobile signature project, the GSM operator also functions with the capacity of the registration authority.

D.1.7 Other

Although the e-Government applications stated below are not systems of authentication on their own, they do have their own authentication systems within their own applications.

D.1.7.1. VEDOP[9]

Revenue Administration, accomplished an integrated information system in 22 provinces, 155 Tax administrations, 5 district treasurers and Revenue Administration Head Office, which enables computer aid for every proceeding taking place in tax administrations; and which establishes a decision making

[8] e-Guven www.e-guven.com, Turktrust www.turktrust.com, e-Tugra www.e-tugra.com, Kamu SM http://www.kamusm.gov.tr/

[9] http://www.maliye.gov.tr/kalite/kitap/bolum2_d3.pdf.

and management information system in the Data Processing Center of Revenue Administration.

The citizens will be able to file their tax returns electronically with ***e-Tax Return*** application feature of VEDOP. With this application, tax payers will no longer have to go to the tax administrations to file their tax returns, thus saving time and work and minimaizing costs. It is aimed to utilize the application in a way that all other services carried out in tax administrations will be also available in the electronic media. E-Tax Return application is implemented by means of encrypted data transfer, digital signature and Public Key Infrastructure (PKI) providing secure access through Internet. Nevertheless, what is explained here, is the use of PKI for secure communication, for authentication a username and password is used.

D.1.7.2. *NATIONAL JUDICIARY NETWORK PROJECT (UYAP)*[10]

General Information

UYAP (National Judicial Network Project) has been taken into operation in order to set up the "e-justice" system which will be one item of "e-state" system as a Ministry of Justice, by including the High Judicial Department of the State and also the institutions which can not be in a forgone feature in obtaining information, in a way of encompassing with the Centre Organization of the Ministry of Justice, all the Law Courts, Office of the Chief Public Prosecutors, Legal Medicine, Penitentiary and Detention Houses, and by including Enforcement Offices, National Judicial Network Project (UYAP) has been put into practice in the direction of aims such as setting up computer network thanks to this information business between Ministry Center and the Provinces Unites shall be transported to electronic environment, providing services to the citizens and solicitors on the internet, getting information from integration provided external units ready in desired time by the system, and as of 28.09.2006, applications have been taken into operation in 107 Courthouse Centers, in 107 Offices of the Chief Public Prosecutor, in Administrative and Tax courts in the structure of 21 District Administrative Tribunals, in 107 Execution Directorships and in 375 penitentiaries.

Main Objective of UYAP is, accelerating the speed of Judicial System by providing the Turkish Republic's Juridical System's process of reliability and correctness on the top level. When "the Supreme Court Information System"

[10] http://www.uyap.gov.tr

has been taken into the scope of UYAP, adjudication process which has started in courthouses has continued without encountering any interruption and without spending any time, in this way all the phases of adjudication are transported to electronic environment as one system. In other words; the main objective of UYAP is the project that all the activities performed in the structure of Ministry of Justice and its connected institution, and adjudication system together with the related functions will be put into automation in a complete integrated with the help of computer.

In this system, every kind of data and document flow will be fulfilled on the system. Thanks to the Information Bank, the laws, court's interpretation of law, circular, similar cases writing and similar information may be reached even during the hearing. With the Decision Support System, procedural mistakes which cause the cases to be unnecessarily prolonged, have been reduced to minimum and they continue to be reduced. Again with this system, law articles which will be applied are suggested to the person who implements it automatically, after the judge chooses the article he will implement, the Programme brings a short decision sample to the judge, a warning list concerned with the subjects that should be paid attention in the decision is constituted, while the judge performs these processes, he compares and he can observes the law articles he will implement with the information bank which works integrated together with present and changing states.

But all the same in the system, imaginary argument atmosphere within the judicial organization about jurisprudence, has been formed and it has been presented to the service of users. In this way, information sharing in all fields has been provided between our users.

It was planned to go into integration with the other related public institutions and organizations in the extent of project and in this extent first of all, integration was obtained with the MERNİS and Record of Convictions Data Base and it was made certain for our users to give opportunity of cross examination of identity and criminal records in seconds. These integration studies will continue with the Projects in the near future such as POLNET, TAKBİS. From now on thanks to UYAP, dates of hearing and other information which does not have objectionable features to be distributed to the internet can be followed on the internet.

Lawyer Portal[11]

[11] http://www.uyap.gov.tr/avukatport/avukat.htm.

Lawyer Portal is open only for certificated Lawyers. According to the present system put into action, lawyers can obtain information to see in which phase the cases are or to learn the date of hearing without going to the courthouse via Lawyer Portal. In the extent of the project, making the procedure of depositing fee, litigating suit from the bureau of solicitors, providing them reach their data and documents related to their dossiers to which they presented their proxy from their bureaus via Lawyer Portal.

Lawyers must identify themselves to the UYAP for any of the legal proceedings. In order to identify themselves when logging on the system, all lawyers are given a logon certificate by the Ministry of Justice. These certificates are sent to lawyers in a CD. Smart cards or tokens are not used. However, some of the services in Lawyer Portal are in the context of Electronic Signatre Act No: 5070. Therefore, every document that will be sent electronically must be electronically signed, otherwise they are not valid. After the declaration of the Ministry of Justice, some Bars demanded electronic certification service providers to load both the electronic signatures and the logon certificate given by the Ministry of Justice in the same smart card. In this way, software required for UYAP identification and software required for electronic signing will be available on the same hardware for practical convenience.

D.2. Legal framework

As there is no general use and application of electronic identification; there is no general legal regulation on the subject matter. Information regarding legal framework for the projects mentioned in this report are presented as follows:

- Republic Of Turkey Identity Number is started to be used upon the Circular of The Prime Ministry dated 20.06.2002[12].
- The Under Secretariat of State Planning Agency is assigned for the monitoring, coordination, evaluation and the direction of e-Transformation Turkey Project by the Circular dated 27.02.2003 and no:2003/12 which specifies the purpose, organizational structure and application principles of the e-Transformation Turkey Project[13].

[12] T.C. Kimlik Numarası, 2002/22 sayılı Başbakanlık Genelgesi
[13] 27 Şubat 2003 tarihli ve 2003/12 sayılı Başbakanlık Genelgesi

- By virtue of the Law that has entered into force in 23.07.2004 following its publication on the Official Gazette dated 23.01.2004, no:25355, the legal framework is set forth regarding the legal structure of the electronic signature, the activities of the electronic certificate service providers and transactions regarding the use of electronic signature in all fields. On the other hand, by virtue of Article 5 of the Law; it is provided that electronic signature has the exact same effect with the hand written signature[14].
- By virtue of the Circular of the Prime Ministry nı:2004/21, published in the Official Gazette dated 06.09.2004 and no:25575; it is decided to establish a Public Certification Structure in order to meet the needs of public bodies and institutions for corporate certificates ensuring the electronic signature applications to work in an interoperable and compatible manner in all public bodies and institutions[15].
- By virtue of the Decision of the Council of Ministers no:2006/10316, published in the Official Gazette dated 20.04.2005 and no: 26145; the establishment, operation and management of the e-Government Gateway is stipulated and the authorization thereof is granted to Türksat A.Ş[16].
- The Guide for Interoperability has entered into force upn the Circular of the Prime Ministry dated 04.08.2005 and no: 2005/20[17].

D.3. Technical aspects

D.3.1 Secure Electronic Signature and Qualified Electronic Certificates

According to Electronic Signature Law no:5070 and the by-laws; determine the criteria and the international standards, which the qualified electronic signatures to be used in the electronic signature application, the signature

[14] 15 Ocak 2004 tarihli ve 5070 sayılı Elektronik İmza Kanunu
[15] 6 Eylül 2004 tarihli ve 2004/21 sayılı Kamu Sertifikasyon Merkezi Oluşturulması Hakkında Başbakanlık Genelgesi
[16] 2006/10316 Sayılı Bakanlar Kurulu Kararı
[17] Birlikte Çalışabilirlik Rehberi

creation devices, the devices to be used and the security measures to be abided by the electronic certificate service providers, the processes of secure electronic signature creation and verification shall comply with.

Accordingly;

- ECSP shall adapt the following standards to its all operational phases;
  - ETSI TS 101 456 and
  - CWA 14167-1

- Qualified electronic certificates shall be generated in conformity with the following documents;
  - ETSI TS 101 862 and
  - ITU-T Rec. X.509 V.3

- Signature creation and verification data and hash algorithms shall be generated in conformity with ETSI TS 102 176-1 standard and the following algorithms and parameters;
  - Signature creation and verification data of signature owner
    - ≥ at least 1024 bits for RSA or
    - ≥ at least 1024 bits for DSA or
    - ≥ at least 163 bits for ECDSA
  - Signature creation and verification data of ECSP
    - ≥ at least 2048 bits for RSA or
    - ≥ at least 2048 bits for DSA or
    - ≥ at least 256 bits for ECDSA
  - Hash algorithms
    - RIPEMD-160 or
    - SHA-1 or
    - SHA-224 or
    - SHA-256 or
    - WHIRLPOOL
- ECSP shall prepare CP and CPS conformant to IETF RFC 3647.
- Secure signature creation devices shall be conformant to CWA 14169 or assured to EAL4+ in accordance to ISO/IEC 15408 (-1,-2,-3).
- Secure Signature Verification Devices (SSVD) supplied by an ECSP shall be conformant to CWA 14171 and ECSP shall also make a declaration of conformity for these SSVDs.
- ECSP shall adapt following standards for its security;

  - CWA 14167-1,
  - ETSI TS 101 456 and
  - ISO/IEC 17799
- ECSP shall meet the following requirements regarding time-stamps and time-stamping services;
  - CWA 14167-1 and
  - ETSI TS 101 861
- Time-stamp policy and time-stamping practice statement shall be prepared conformant to ETSI TS 102 023.
- ECSP shall be awarded the following certificate(s) obtained from authorized institutions or organizations;
  - TS ISO/IEC 27001 or ISO/IEC 27001, and
  - for its Secure Signature Creation Devices showing that they either;
    - Meet the requirements identified in FIPS PUB 140-1 or FIPS PUB 140-2 level 3 or higher, or
    - Meet the requirements identified in CWA 14167-2, or
    - Meet the requirements identified in CWA 14169 or assured to EAL4+ or
    - higher in accordance to ISO/IEC 15408 (-1,-2,-3)
- It is recommended by the Telecommunication Authority that the process of electronic signature creation shall comply with CWA 14170 document, whereas the electronic signature formats shall comply with ETSI TS 101733 and/or ETSI TS 101 903 documents.

The links regarding the root certificates and the repositories containing the certificate practice statements and certificate policies of the four electronic certificate service providers operating in Turkey, are as follows:

e-Guven http://www.e-guven.com/default.asp?ID=7

Turktrust http://www.turktrust.com.tr/

e-Tugra http://www.e-tugra.com/_eTugra/web/gozlem.aspx?sayfano=29

Kamu SM http://www.kamusm.gov.tr/tr/Bilgideposu/Bilgideposu/

Electronic certificate service providers publish the qualified electronic certificates by signing them with their own root certificates. It is not required for

the root certificates of the electronic certificate service providers to be signed by an authorized institution but it is stipulated that the electronic certificate service providers shall publish their root certificates on their own websites and announce the hash value of their root certificates by publishing it on the newspapers. So far, the existing electronic certificate service providers has not conducted cross certificates with other certification authorities neither domestic nor foreign and there is no existing bridge CA structure either.

D.4. Organizational aspects

With respect to e-Government applications in Turkey; each application manages its own electronic identity system. And as for the applications with electronic signature infrastructure, the qualified electronic certificates are provided by the electronic certificate service providers duly authorized by the Telecommunication authority. Upon the completion of the e-Government Gateway Project, the portal will be accessible both via electronic signature and via the usernames/passwords to be provided by Turksat A.Ş.

In the electronic signature application, electronic certificate service providers are responsible for the accuracy of the identity information placed in the qualified electronic certificates. As verifying the identity information, electronic service providers make a face to face identity control relying on official certificates and compare the identity information at hand with the MERNIS Database. According to Electronic Signature Law no:5070, upon the request of an individual who applies for qualified electronic certificate; information regarding the authority, role and profession shall be placed in the certificate, however since the electronic certificate service providers do not encounter such requests in practice, the existing certificates do not contain information in the aforementioned context. Issues such as how to regulate the information rarding role and authority, related diagrams and standardization studies have been discussed during the meetings of the National Electronic Signature Coordination Board, nevertheless no official study has been taken up yet.

Since the database in the MERNIS Project is formed by the Ministry of Internal Affairs General Directorate of Population and Citizenship Affairs based on the population information, a separate verification system is not being used as the accuracy of the said information falls under the responsibility of the administration. Most of the e-Government applications using their own eIDM Systems verify the identity information through the MERNIS database and the responsibility here again belongs to the Ministry of Internal Affairs.

E. Interoperability

It is not possible to say that there is a complete interoperability between the existing e-Government Applications in Turkey. Since each e-Government application use its own authentication mechanism, there is no interoperability between those mechanisms either. The only structure, where interoperability is provided, is electronic signature. However, it is aimed with the e-Government Gateway Project to provide interoperability between all e-Government applications in terms of authentication systems even to provide the use of a single authentication system. In addition; a Guide for Interoperability is prepared in order to provide interoperability between the e-Government applications in general. Despite in certain sections of the Guide authentication systems are mentioned; it is expected that the forthcoming versions of the Guide will be based essentially on the authentication systems.[18]

The Guide for Interoperability that was drawn up with a participative approach under the coordination of State Planning Agency , aims to provide benefits in terns of the efficiency of the public investments in information and communication technologies. The Guide was prepared within the frame of "determining the interoperability principles and publishing a guide thereof" as set forth by the e-Transformation Turkey Project Short Term Activity Plan (KDEP) and under the coordination of Undersecretariat of State Planning Agency with the maximum efforts to reach all concerned parties from private sector and the NGOs that may contribute. As it contains technical elements, it will improve, enlarge and comply with the changes in time and it has the character of a document, which is open to the contribution of all parts of the society.

As the principles that were drawn up, cover the technical aspect in terms of three dimensioned interoperability needs, they will reap benefits such as ensuring interoperability in application level by means of the minimum common standards to be abided by the institutions, setting the tools to be used in satisfying the needs in higher layers (such as conceptual and organizational needs), and determination of minimum common standards to be abided in the proposed investments.

[18] http://www.bilgitoplumu.gov.tr/yayin/2005BirlikteCalısabilirlikRehberi.pdf., August 2005.

Determination of the services to be provided and accessed from the common platform (e-Government Gateway Project), determination of the organizational needs, modeling of the business flows regarding these services and developing applications are not under the scope of this Guide which sets policies and standards shall be complied with by the corporations and institutions providing services. While setting forth the principles, the compliance with the studies of European Commission are respected and the studies that are carried out and the reports that are drawn up under the scope of Data Exchange Among Administrations Progmram (IDA), were taken as a reference.

F. eIDM Applications

As mentioned before in this Report, there is no general electronic identity system In Turkey as each application has its own electronic identity system. Merely the Inward Processing (DIR) Project and Free Zones Project[19] that are implemented by the Undersecretariat of Foreign Trade do not use their own electronic identity systems

DIR Automation Project ensures the implementation of the process from the stage of issuing Inward Processing Permission Documents to he stage where the commitment accounts are closed, through internet by means o a web based program

As for the Free Zones Project, it aims the transfer of activities conducted in free zones to the electronic environment, to form a healthy database regarding the zones and to monitor the free zone transactions, to provide integration between the Undersecretariat of Foreign Trade and the Directorates of Free Zone, Companies, Customs, Turkish Statistics Institution and other related institutions in a manner that will facilitate the data flow from the free zones and finally to ensure the implementation of the transactions with the use of electronic signature.

[19] https://edtm.dtm.gov.tr/basvuru/giris.jsp

G. Future trends/expectations

The action no:46 of Information Society Strategy has brought up the electronic identity cards project. In this respect; the Amendment of Act on Organization and Duties of Ministry of Internal Affairs has been accepted by Turkish Parliament's General Board[20]. With the amendment, the identification cards will be renewed in a period of five years. The amendment enabled smart identification cards which are in conformity western standards to take the place of the old cards, thus preventing every kind of imitation, falsification or fraud.

To form a database with the information acquired from the MERNIS Project - new identification cards project-; to improve the identification card distribution process controlled by the Bureau of Population and Citizenship; to provide a security in compliance with the international standards; to accelerate the data flow within public authorities; to overcome the extravagancy, loss of work power and time caused by the operational difficulties; provide the citizens with qualified and continuous service are also the objectives of the project. One of the features of the project is to get the citizenship registration copies from any place, from any citizenship administration. The identification card information will be legal and technical supervision, which in return will provide property safety and an nation-wide archive.

The new cards cannot be imitated or falsified. The laser printing system will be used, therefore, the visual elements processed on the cards may not be removed or changed without damaging the card itself. The card will have a chip on it, thus nobody but the card owner will access the information stored on the card.

H. Assessment

There are different and individual eIDM systems used in e-Government applications in Turkey. Furthermore; the legal framework concerning the electronic signature is completed and the application, albeit a limited one, has started. Individual smart cart based eIDM systems have either started or is

[20] http://www.turkpoint.com/e-yasam/mernise_akilli_kart_yolu_acildi.asp.

being planned to be used in several e-Government applications. Aside from the electronic signature, for the authentication in e-Government Gateway, user names and passwords will also be used and they will be distributed to citizens by Turksat A.Ş who is assigned with operation of the e-Government Gateway. As to the MERNIS database, which is the biggest electronic identity project in Turkey, is not for authentication but for the verification of the authentication conducted with other systems. Therefore, it is not possible to call MERNIS Project exactly as an e-IDM system. As it can be seen, there is neither a national eIDM system nor an eIDM policy yet within the existing structure in Turkey.

As the authentication systems of most of the existing e-Government applications are based on usernames/passwords; such systems fail to provide a solution that is secure and efficient enough and in case of any dispute there may be difficulties, since the serving of the data formed by such services as evidence before the courts and the responsibility structures are not settled yet (the contradiction between the users responsibility to protect his/her password and the service provider's responsibility to establish requisite security measures as well as the approval mechanisms) and since the courts keep their distance to the subject. Despite there are many lawsuits and disputes in the private sector due to the existing authentication systems; there are no disputes or lawsuits arising from the e-Government applications yet. Nevertheless, it is certain that such risk is likely to occur upon the widespread application of e-Government.

As mentioned above, merely the electronic signature and the national identity card, which is still being planned, can be deemed as eIDM systems. Electronic signature is not used in desired amount because the distribution channels are not wide spread and due to the lack of applications with electronic signature infrastructure. Users do not prefer electronic signature due to the procedural difficulties in obtaining electronic signature and lack of application, whereas on the other hand, the application developers fail to develop applications due to the low electronic certificate penetration. Electronic signature fails to become widespread in Turkey due to this double sided reservation. As a solution to this problem; studies are still being carried out by the administration in order to develop mandatory electronic signature applications

İSTANBUL BİLGİ UNIVERSITY
INFORMATION TECHNOLOGY LAW
RESEARCH CENTER

Prepared by:

Dr. Leyla Keser Berber
Tuğrul Sevim
Nurdan Çavdaroğlu
Erdem Akyazılı

İstanbul Bilgi University
Information Technology Law Research Centre
http://bthukuku.bilgi.edu.tr