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X-ROAD AND E-CITIZEN – CROSS INSTITUTIONAL APPLICATIONS IN ESTONIA

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I would like to introduce Uuno Vallner who is from our department as part of the development projects and development programmes. This topic of today's presentation is mainly two projects which are cross-government projects in Estonia and I would also like to give some idea of what is going on in Estonia in some specific fields related to infrastructure. We think that PKI and ID cards are part of infrastructure. Also, Internet Banks using identification mechanism, we are using for identification and authorisation of users, is partly related to their infrastructure questions. Questions which are relevant to all applications, many applications, on the government side.

Identity cards we have quite successful projects on ID cards in Estonia, we will have a brief description of the situation. Only one figure we have today; 295,000 ID cards issued; it is a smart card type of ID card and it is a little bit more than 20% of the population which is not a very big amount. Two important projects in Estonia: one project name Xroad or Crossroad; Uuno likes to say XMLroad but it is about state register, state databases. It is focusing on service layer of different databases and it is offering different services for citizens for public institutions and also big businesses. The second project is more focusing on document management type questions. Its name is e-Citizen and stored for e-services for central government, local government for citizens and also aid to encourage digital document, digital type document management for citizens and businesses. Usually it is good to start from political viewpoints, we are talking in Estonia about info-politics and it is mainly everything that relates to political aspects or general aspects of use of IT in public sector.

Most countries have the same opinion in that government has a basic role in the legal regulation of digital signatures and in 2000 we got a digital signature Act already and it is saying that digital signature made according to this law has the same value as handwritten signature and it was quite important because just now there are people who have started already to use digital signatures, all public institutions must accept this signature. Similarly as handwritten signature and it is very important because it is always a question of debating who is back office institutions. How is this document must be send and is it possible to do it in electronic and digital signed form. The second important things was decided to encourage the private sector to offer certification and stamps, time stamps, services. It means that it is a clear picture that it is a state in Estonia that we have so few only very small market we can not build our own CEAs in government side, but we encourage private businesses to offer this service and it was very important because we had to make them also some currency to sustain this business. One topic, of course, was also about ID cards because today issuing ID cards or certificates are bought from private sector.

One thing to provide means for digital signature means we keep certificates and the ID cards is a clear vision from government sites of ID cards is a good possibility to keep certificates. And, of course, encourage to start projects which have applied digital signatures and common identification mechanism for our of course government itself also to partner this building of this project. As in many other countries we had info-political expectations and one thing of

importance in the Digital Signature Act will bring around changes in society very fast. It has not happened, it starting to be happening just now only not two years ago when Digital Signature Act was enforced.

Other expectation from political side for ID cards been encouraged fast development of e-Services both in private and public sector. It is partly, but not totally, also a question about egg and hen: if we have lot of users who are using the same identification mechanism but not enough good applications it is a bad situation and opposite way is the same. Searching which was most part not true, what was not happening that it was expected that ID cards, for example, will reduce a number for other plastic cards. It is now happening in the public sector in Estonia; at the moment they are not issuing other cards and it is planned and you can use ID cards in some places to show who you are and what services you will have from healthcare.

A few words about ID cards. According to Estonian law and we had the situation, we got our passports a little bit more than ten years ago but most people have to change now their passports because they all expire. A decision was made in December 2001 by the government that ID card will be a compulsory document. There have been a lot of discussions in newspapers and parliament and government as to whether government can make this decision compulsory. One question was at this time also that perhaps to make two types of ID cards, one electronic, a smart card ID card and second an ordinary plastic card. Our opinion on it was the big question about digital device, and the decision was also to have one type of ID card which is smart card type, ID card and it is up to people whether they would like to use it for applications or not. We first issued the card in January of last year, and today we have quite many of these cards in practice, but still there are lots of discussions in newspapers that there are not enough good applications where you can use this ID card.

This is a picture of the ID card, and I do not have enough time to explain how it works except for a few important things. There are two certificates, one for identification of user, and in our projects we are using this certificate to enter the service layer of citizens and also for organisations for public institutions. The second certificate is for digital signature and it gives a digital signature. Both have different encodes also and it is very important because digital signature has a different Act simply to enter application. I will now talk very briefly about two projects where ID cards and PKI and also identification mechanisms are used in banks.

A few words only about banks: when we started the project, there were not enough ID cards in practice yet actually people are trusting internet bank, at least in Estonia. We have about 700,000 internet bank clients: it means more than half of the population are users of internet banking, and they are trust and confidence question: they trust internet bank identification. We agreed with the banks in Estonia, with the four banks that they are offering the identification services for our projects. Just now we had four contracts, we are not paying anything to the banks and they are happy to have advertisement to get more users.

One project was named X-Road: I told you about the importance of this project; because we have very many state registers, at the moment about 100. All the registers are starting to build inter-phrases, the initial and inter-phases to the citizens. It is starting to the so-called spaghetti effect. In state budget, it was a very big figure, a lot of money was needed and from the other side it was possible to co-ordinate the process any more. The second thing was that the most thing to access different databases in the register is very similar; you have to identify the users. In some cases you need to authorise then you will have access to the database, and can get some information on some services. This is in Estonia to make standard by identification and authorisation services, and use ID card for these purposes, and to build all the basic blocks which are like open software. It is available for all public institutions, we do not charge for them. They can download all this information, and the software and use them freely.

This is a picture which shows the basic idea, was to build a service layer to connect different databases, different registers which are normally on different platforms. In Estonia, you can go out in Informix or DB2 or Progress, etc. In the upper layer, you can see that it is a universal identification and authorisation mechanism. I will not stop in this architecture, the slideshow will be available on the internet also but it is simply one picture which shows that they have different kinds of users: we have citizens, the citizen portal is important. We have many information systems for small local governments who do not have information system in their offices so they can use this one for authorisation of their users. We have an X-Road centre which handle the basic data security aspects as well. In this picture, it simply shows that in every source of service level there are security servers that are working in the same way as they are working in the public infrastructure; they have certificates and they are changing certificates with each other. Different users and also different databases which are connected in the same way.

Another project is named e-Citizen which is offering different services to citizens. It means if I enter this system I can have all the information which is important for myself, it is also information as in the Singapore life cycle, starting from a young person until the elder one. Also, it is a situation layer – if you have some problems you can have information, also in downloadable forms. But what is important is that another part of this project, of this system, is a portal for citizens which is accessed to different services, which is only available for this certain person who is identified.

One interesting thing recorded there is also recorded in our ID card; every Estonian, everyone who has an Estonian ID card, also has a unique internet email address which means that forenames, surname and 'es.ee'; it is very good mechanism to offer different official services automatically for these people who are able to say that they have also another email address which is in the workplace, for example. So it is a virtual email address, it is not exactly post office. Now we have five minutes to show some pictures. It is a picture of e-Citizen, where you see the lifetime cycle of topics. Also you can see one part is in English, but the main part is in Estonian but we have also a Russian version. Now we can enter also different forms; you can download but it is quite often in many cases more difficult than I have seen in similar projects.

To enter the citizen's portal, identification is asked; you can use banks, it means there are four banks, you can use one bank but it takes a little bit of time because it goes to bank information and back but you can use also ID cards. We are showing Uuno's ID card with his agreement. Of course, the pin code is asked. This goes to a certification centre for some services. Another possibility is if the card is not working, there are different services. For example there is the service from Tartu City where you can apply a different service, for example children allowances you can get an on-line site form so if you apply you can get information on which level of handling of this application at this moment and normally there are four or five levels. Its up to the service providers for example we know that most of these services are from local Governments and it means in our case it is almost 80% of all services for citizens are made by local Government so it's a mechanism we can offer and for a local Government there is also tools to connect very easily to all the services.

Now it is an example for some services from Tartu City where you can get the information by the same means. One example here is that the connection tool with X-Road project where only you can see your personal data. Its one application actually which is very useful for police, they are reading very often this database to find out if this person is right and also we have an idea that these services can be used also in some other countries. For example in Sweden if police would like to know whether this person has a driving licence or if his car belongs to him. Everywhere you have access to the internet you can use this service and in this picture I simply wanted to show that it is possible for everyone who has access to this

citizen portal can say what is your real internet address. What are you using because this unique internet address which is recorded in the ID card can't be used as post office so it is a transfer mechanism and if you say that I accept that this is my right address then by principal all these official messages from Government can be done using this journal. You can there is no need to send me ordinary mail its enough to get this digital signed document to this internet address and it seems that we can show privately all these pictures later how it works on-line because internet access in WiFi network was disappearing somehow.

Thank you.