Estonian example of integration e-government services

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Content

I Introduction

eGovernment in Estonia got started by developing a functional architecture that includes:
- secure data transport backbone X-Road,
- distributed information systems functionality and
- different hardware and software components like portals, elements of public key infrastructure (PKI), governmental databases and information systems.

This is the very basis of hundreds of services that have been created today. The recent success with eGoverment services and the common architecture of eGovernment will be given in our presentation.

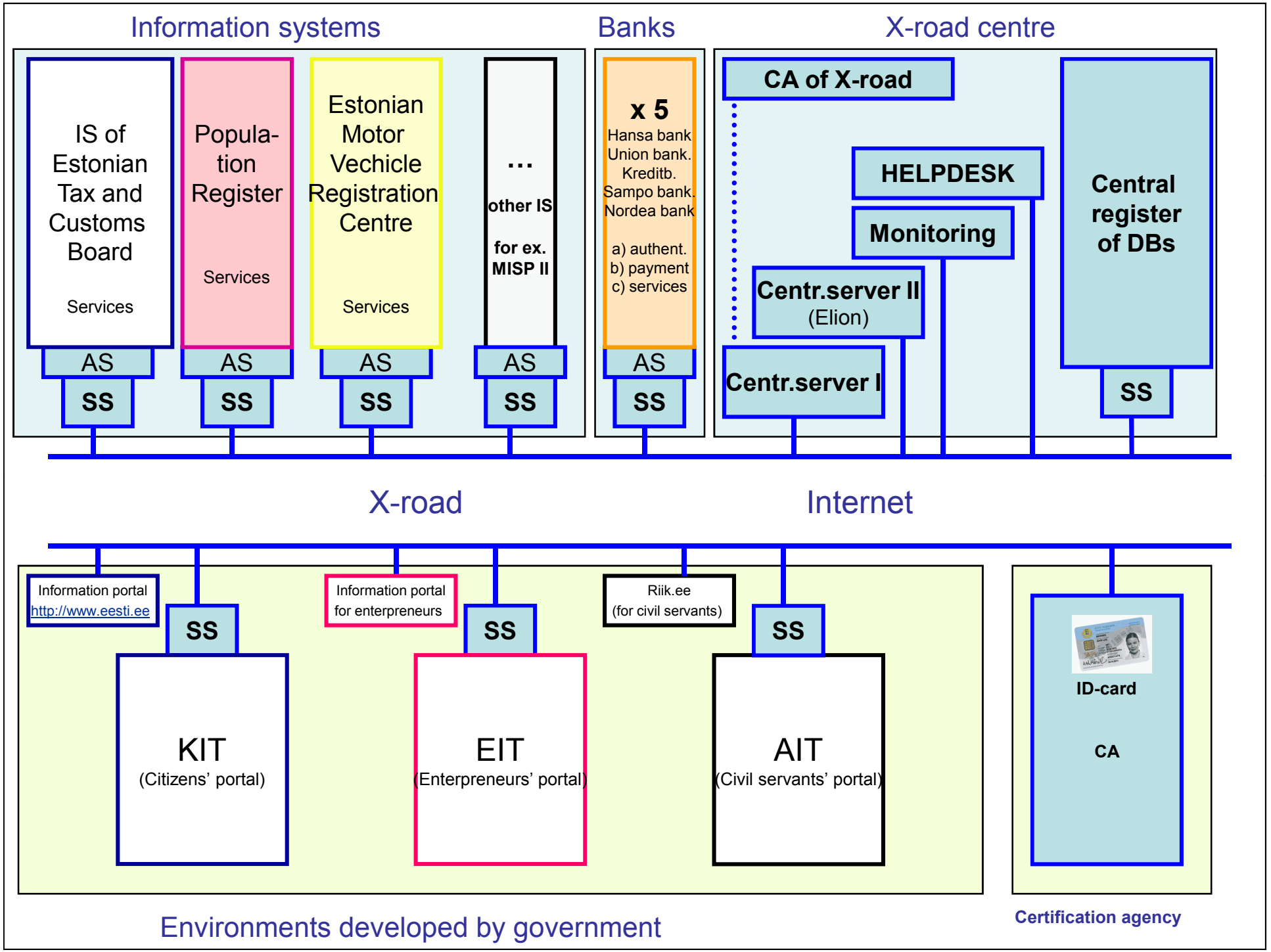
II The general architecture of eGovernment environment in Estonia

The architecture of eGovernment was developed in the framework of the X-Road project.

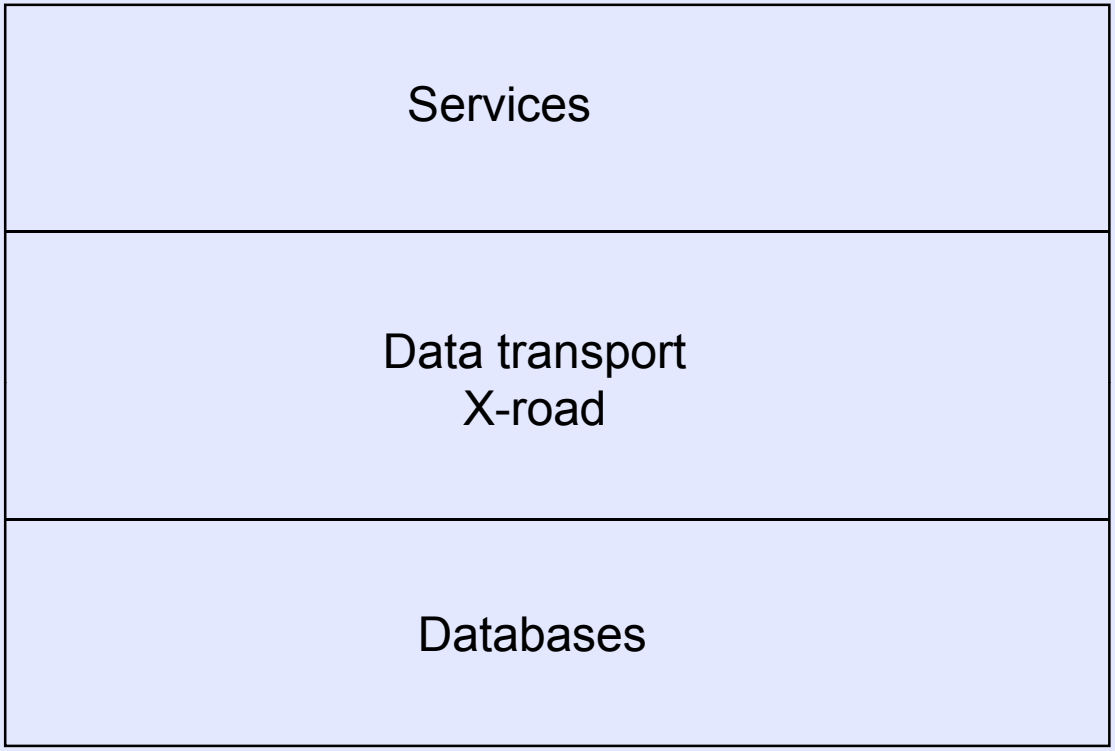
X-Road project was preliminarily initiated for interconnecting Estonian governmental databases to the common data resource accessible over the Internet.

After the successful start of sending database queries and answers over the Internet, the X-Road environment was expanded to send all kinds of XML-format electronic documents securely over the Internet.

At the same time the X-Road started to become a skeleton of all the eGovernment services.


Information systems
Banks
X-road centre
IS of Estonian Tax and Customs Board
Services
Popula-tion Register
Services
Estonian Motor Vechicle Registration Centre
Services
...
other IS
for ex. MISP II
x 5
Hansa bank
Union bank.
Kreditb.
Sampo bank.
Nordea bank
a) authent.
b) payment
c) services
CA of X-road
HELPDESK
Monitoring
Centr.server II
(Elion)
Centr.server I
Central register of DBs
AS
SS
X-road
Internet
Information portal
http://www.eesti.ee
Information portal
for enterpreneurs
Riik.ee
(for civil servants)
KIT
(Citizens' portal)
EIT
(Enterpreneurs' portal)
AIT
(Civil servants' portal)
ID-card
CA
Environments developed by government
Certification agency

3-layers architecture I



3-layers architecture II

	Technology		Components
III layer	WSDL UDDI	Services	Parential benefit My vehicles My penalties …
II layer	SOAP XML RPC LDAP …	Data traffic X-road	Security server Central server MISP Citizen portal …
I layer	Oracle Progres MySQL …	Databases	Traffic register Population register Passports register …

III Results of Estonian eGovernment projects

During the last 3-4 years we have finished different IT projects for implementing eGovernment architecture in the public sector of Estonia. As the result of the mentioned projects, the following service portals, environments and frameworks are now available in Estonia:

- Special citizens web portal with db-services. Portal has won an award **Finalist with Honourable Mentions** of the **eEurope awards for eGovernment 2003**. The portals eServices will step-by-step be added to the citizen portal (KIT) in the nearest future;
- Framework of the facilities for using Estonian ID-card (over 70% of Estonian population has already an electronic ID-card) with PKI technology for identification, authorization and digital signature operations;
- Citizens, civil servants and entrepreneurs web portals with almost 700 different eServices from different Estonian central and local governments.

Later we will describe some of these environments projects more precisely.

IV Special citizens web portal with db-services

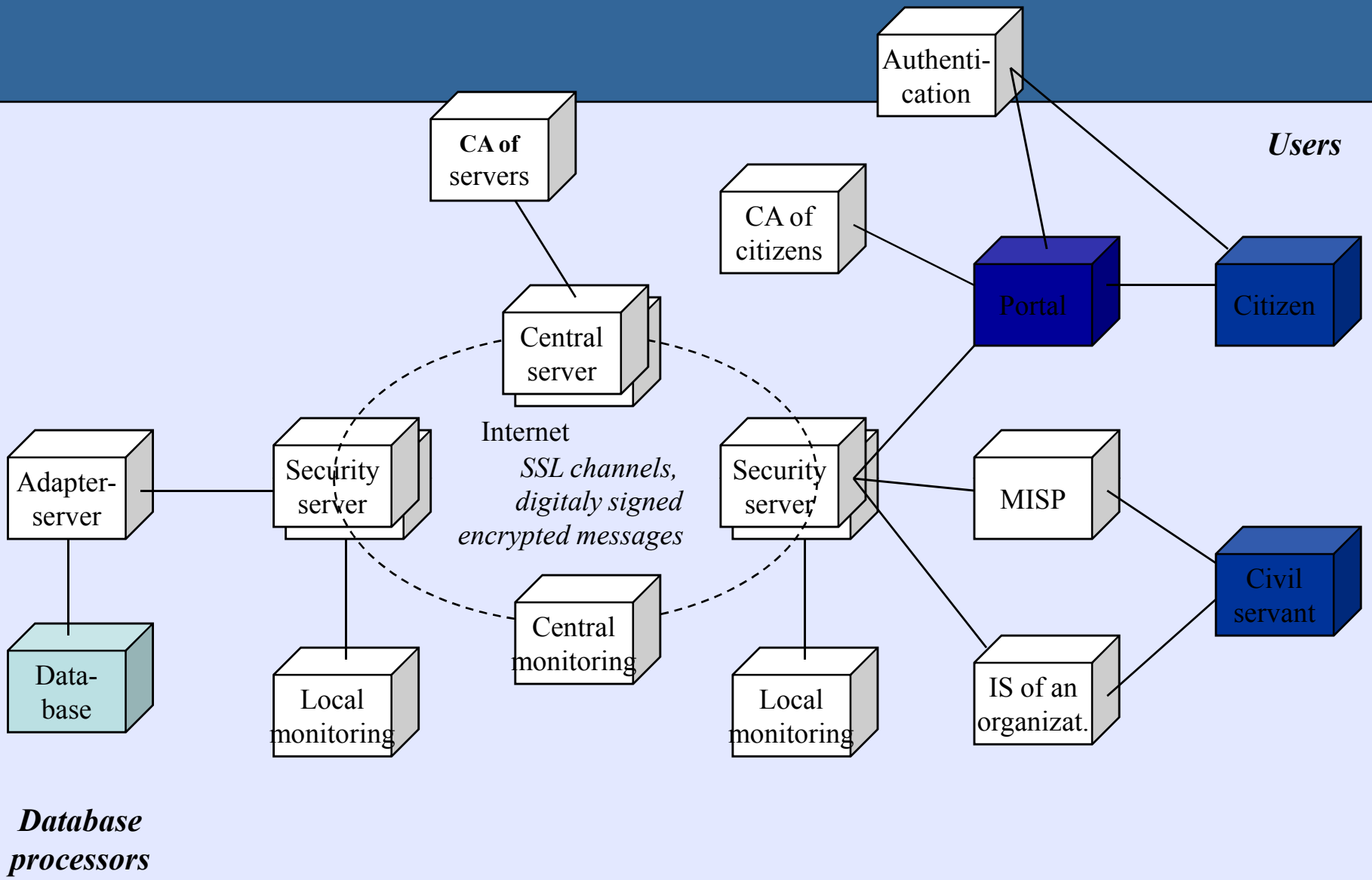
All services available through the citizen's portal have a common user interface, which is not dependent on a database management system for back office.

A standard authentication system for all citizens has been developed as well.

The set of standard services available include typical queries, such as:

"give me my data" from the population register;

"give me my data" from the motor vehicles register.



Functional scheme

V Estonian ID card and PKI infrastructure

The purpose of Estonian ID-card project was to use nation-wide electronic identity and develop a new personal identification card that would be a generally acceptable identification document and contain both visually and electronically accessible information.

The Estonian ID-card facilities:

- The certificate inserted in the ID-card includes the personal identification code, which enables to identify the individual at once.

- A certificate, which enables to sign documents according to the Digital Signatures Act, is inserted in the ID-card chip.

There exists a lot of similar projects in other countries (Belgium, Finland, Italy etc.), but using of ID-card services at large you can find in Estonia as in pilot country.

Estonian ID card

VI eServices

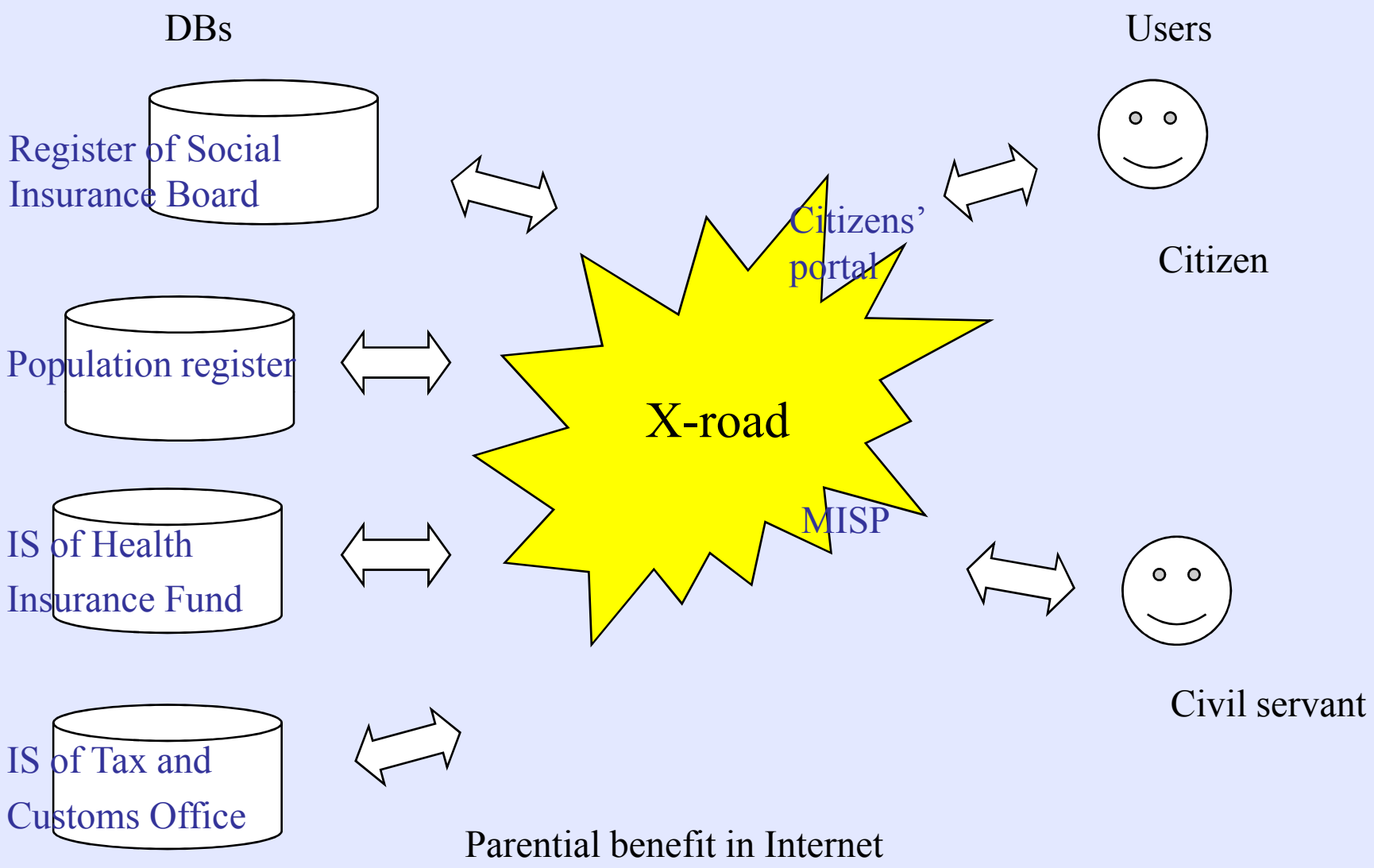
The set of facilities for the IS, which are joined to the X-Road environment:

- Authentication (ID-card + 5 Internet bank services);
- Authorization;
- MISP (Mini Info System Portal) portal services;
- Simple queries to Estonian national databases;
- The facilities for developing complex business model queries (queries to different databases and registers);
- The writing operation into databases;
- The facility to send large amount of data (over 10Mb) from database to database over the Internet;
- Secure data exchange, logs storing;
- Queries surveillance possibility;
- The integration with citizen portal for adding new services;
- The integration with entrepreneurs portal for adding new services;
- Central and local monitoring;
- The special database for storing services WSDL descriptions.

VII Best practice

- Parential benefit in Internet

- 5 information systems interact the data
  - Citizens' portal
  - Register of Social Insurance Board (+MISP)
  - Population register
  - IS of Health Insurance Fund
  - IS of Tax and Customs Office


DBs
Users
Register of Social Insurance Board
Population register
IS of Health Insurance Fund
IS of Tax and Customs Office
Citizens' portal
X-road
MISP
Citizen
Civil servant
Parential benefit in Internet

eServices

- ePolice
- eHealth
- eElections
- …
- Internet-banking

Best practice for citizen

- Citizen can give applications over the Internet
- Citizen does not give data, which the IS knows anyway about the citizen
- Citizen does not fill long application documents and run from door to door
- A good example how the state has simplified the payment system

Best practice for civil servant

- Civil servant is free from revising mountains of paper documents (7)
- Civil servant is free from inputting the data from paper documents
- Civil servant is free from checking data in different databases
- Civil servant can start the process by inputting only the personal code of client
- There does not exist any paper applications at all

VIII Statistics

At the moment we have following clients:

- Organizations: Number of agreements – ~366

Databases/Service providers:

- All service providers: 69

Security servers:

- Number of agreements for SS: 80

Statistics

Services:

- The number services from all the X-road service providers ~700

The statistics of usage:

- During the year 2003, the total number of X-road queries was: 590 000.
- Number of queries made via the X-road in 2004: over 7.75 million
- Daily record of queries in 2004: 118 000 queries per day
- Number of queries made via the X-road in 2005: over 13.45 million

IX Conclusions

We are sure that our projects for eGovernment framework development and portals are making significant contributions to the process of moving towards the information society. Our environment represents Estonian and European best practice in the application and usage of new technologies in order to provide eServices to citizens, to civil servants and to entrepreneurs.


Minu teenusteportaal - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address https://www.eesti.ee/portaal/portaal.sisene?level=3&loc=
Links Customize Links Free Hotmail Windows Windows Marketplace Windows Media
Favorites
Add... Organize...
Links
MSN.com
Radio Station Guide
EIPA - eEurope Awards
-- WWW Wärav -- Siit alga...
6th International Baltic Co...
A&A online
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DELFI
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SITRA - Alasivusto käyttölii...
Sonera Plaza
Minu teenusteportaal
Tallinna Tehnikaülikool
Tampereen teknillinen yliop...
Teabeportaal Esileht
+ abc | - abc | Printer
Teabeportaal
Kodanikuportaal
Tere tulemast!
Neljapäev, 21. juuli 2005
Esilehele
Kodanikuportaali sisenemine
Valitud teenus(t)e kasutamiseks on vajalik autentimine panga kaudu või ID kaardiga.
Sisenemisega aktsepteerite Kodanikuportaali kasutamistingimusi.
Sisenen ID kaardiga
KAART
ID kaardiga sisenemiseks peab kasutajal olema ID kaart, arvutil küljes ID kaardi lugeja ja installeeritud vajalik tarkvara, mis ühendab omavahel eelnimetatud vahendid ja tagab ID kaardi kasutamise erinevates isiku tuvastamist vajavates internetikeskkondades.
ID kaardiga tuvastatud kasutaja saab kasutada järgmisi Kodanikuportaali teenuseid:
Digitaalne allkiri - siin saate saata ja vaadata Teile saadetud digitaalselt allkirjastatud dokumente ning kontrollida allkirja kehtivust
Ametlikud vormid - siin saate täita ja saata erinevate riigiasutuste blankette
Registrite teenused - siin saate vaadata Teie kohta erinevatesse riiklikesse registritesse kogutud andmeid ja esitada erinevaid taotlusi, näiteks taotleda peretoetusi (Pensionikindlustuse register), EL ravikindlustuskaarti (Haigekassa andmekogu), vaadata riigieksamite tulemusi.
Lingimärkmiku teenus - lingimärkmik on mõeldud linkide säilitamiseks ja kasutamiseks ka siis, kui kodu- või tööarvuti linkide nimekiri pole kättesaadav, samuti saab lingimärkmiku abil tellida ametlikule e-posti aadressile teavituse selle kohta, kas viidatud lehekülg on viimase 24 tunni jooksul muutunud
Ametliku e-posti (@eesti.ee) suunamise teenus - siin saate korraldada oma @eesti.ee postiaadressi ümbersuunamise
Teavitusteenus - teavitusteenus võimaldab tellida asutuste või ettevõtete poolt edastatavaid teateid, mis puudutavad konkreetset aadressi või asukohta
Sisenen panga kaudu
Panga kaudu sisenemiseks peab kodanik olema internetipanga klient. Internetipanga vahendusel pakuvad isiku tuvastamise teenust järgmised pangad:
Hansapank, SEB Eesti Ühispank, Krediidipank, Sampo Pank, Nordea Pank.
Panga vahendusel tuvastatud kasutaja saab kasutada järgmisi Kodanikuportaali teenuseid:
Digitaalne allkiri - siin saate vaadata Teile saadetud digitaalselt allkirjastatud dokumente ning kontrollida allkirja kehtivust
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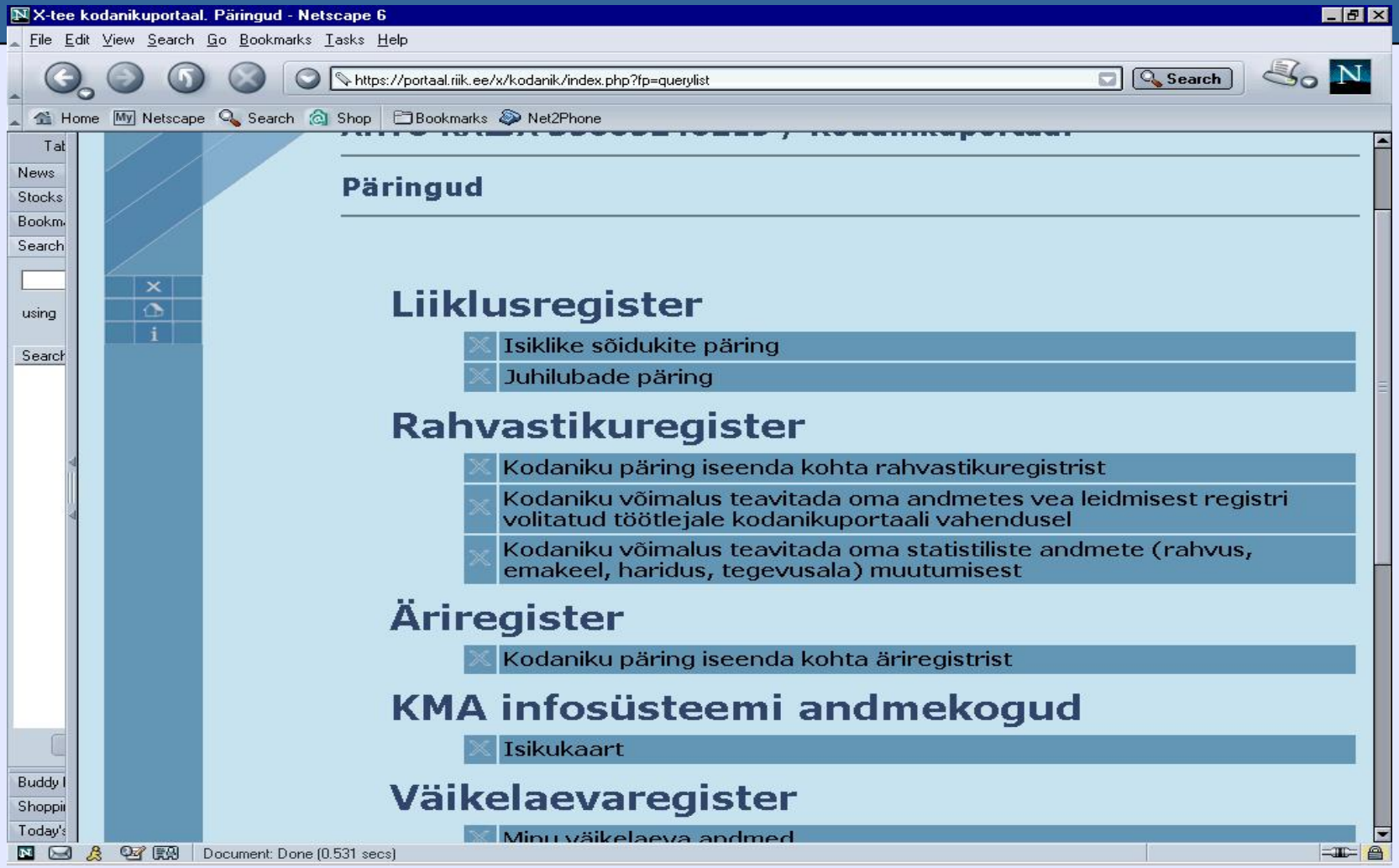
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Rahvastikuregister
Kodaniku päring iseenda kohta rahvastikuregistrist
Kodaniku võimalus teavitada oma andmetes vea leidmisest registri volitatud töötlejale kodanikuportaali vahendusel
Kodaniku võimalus teavitada oma statistiliste andmete (rahvus, emakeel, haridus, tegevusala) muutumisest
Äriregister
Kodaniku päring iseenda kohta äriregistrist
KMA infosüsteemi andmekogud
Isikukaart
Väikelaevaregister
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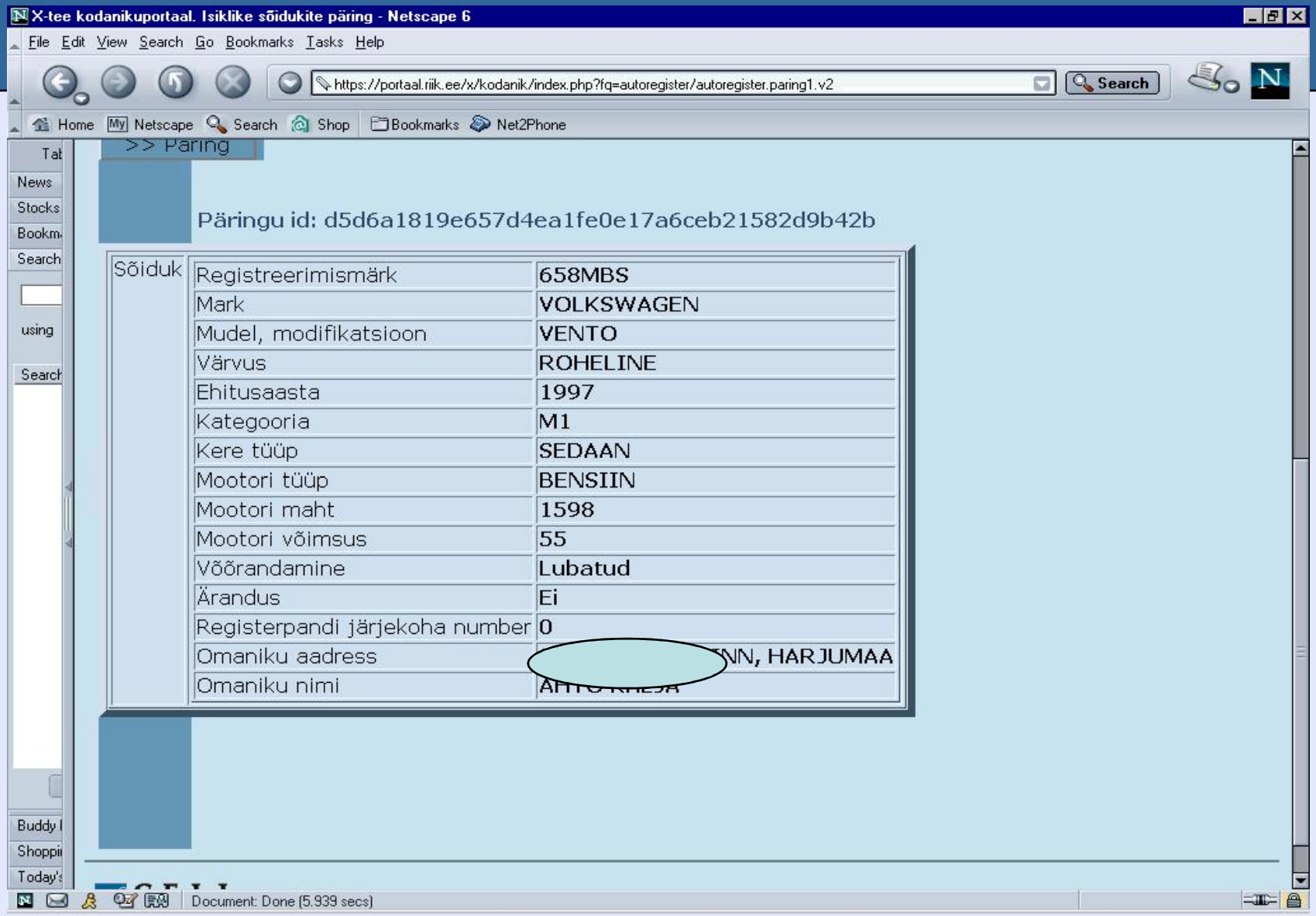
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Search
Home Netscape Search Shop Bookmarks Net2Phone
>> Päring
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Sõiduk
Registreerimismärk 658MBS
Mark VOLKSWAGEN
Mudel, modifikatsioon VENTO
Värvus ROHELINE
Ehitusaasta 1997
Kategooria M1
Kere tüüp SEDAAN
Mootori tüüp BENSIIN
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Mootori võimsus 55
Võõrandamine Lubatud
Ärandus Ei
Registerpandi järjekoha number 0
Omaniku aadress
NN, HARJUMAA
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Document: Done (5.939 secs)

Thank you!