

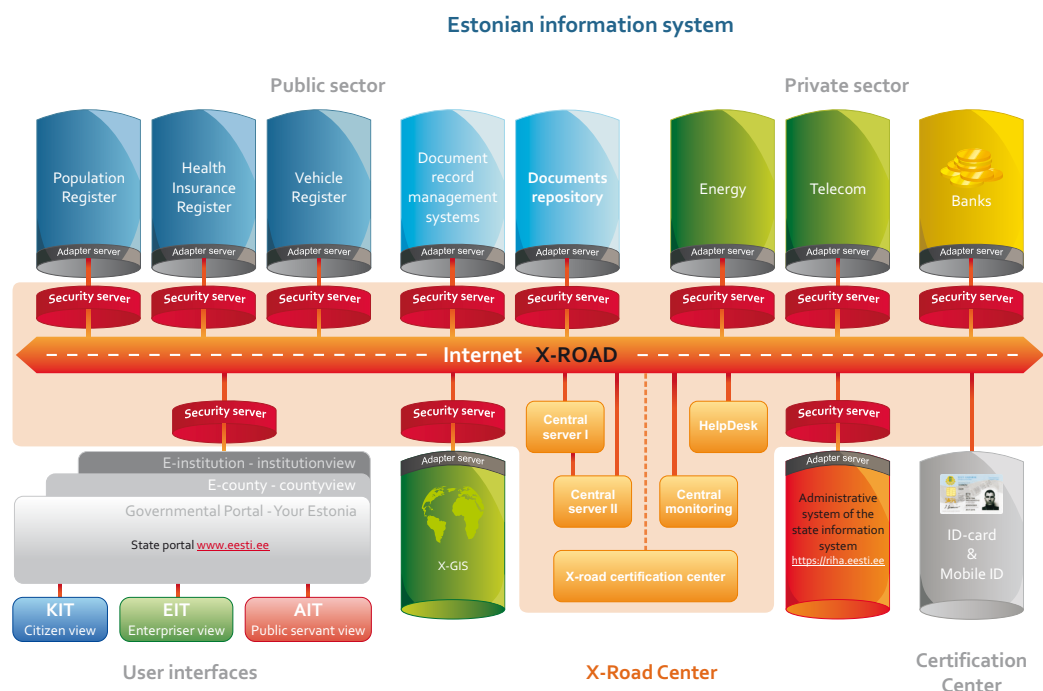
X-Road

Service/solution

X-Road is middleware solution for secure message exchange between public or private organizations. The main concern of the solution is all aspects of security.

The goal of X-Road is to improve the availability of databases without endangering their confidentiality and integrity and with ensuring their accountability.

The implementation of X-Road-like solution needs handling of great number of aspects: legislative environment, organizational procedures, mechanisms of identification and authentication among the others. Implementation of X-Road will start with study of situation and preliminary analysis. These should be done with local support. The first steps will show roadmap for implementing full-featured X-Road solution.



Benefits

Organization which is connected to X-Road can be sure that messages sent or received on X-Road are valid. These messages are legally binding for sender and receiver and could be used as evidence in court.

- **Maximum scalability** – X-Road can easily scale up to any number of connected databases or services.
- **Customizable and extendable** – X-Road can be customized to support the corporate branding and tailored to meet your business challenges.

- **Platform Independency** – connecting your service to X-Road does not depend on enterprise's operational system, database platform or web server.
- **Evidentiary value** – all outgoing messages are signed and all incoming messages are logged. The message log is cryptographically protected.
- **Confidentiality** – SSL protocol is used as a defense mechanism against external attackers. Two level access rights control mechanism is used as a defense mechanism against internal attackers.

References

X-Road is by now the main way of interconnecting government agencies in Estonia. Majority of all available electronic services are based on using of X-Road.

History, Facts and Future Development

The root of X-Road system lies in Estonian data exchange system X-Road. Estonian X-Road project was started in 2001 and rapidly developed to most essential component of eGovernment infrastructure. X-Road intermediates in year 2008 hundreds of services per each citizen. X-Road is further development of X-Road principles taking into account international market and cross border services.

Technologies

Linux, C++, Java, XML, SOAP, WSDL, XForms, WS-BPEL, PHP

Budget and Price

The system depends on each country local conditions like legislation or identification of citizens. Preliminary analysis of situation is needed to define the price.

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Republic of Estonia

Population – 1,34 million

Area – 45,228 km²

