REPUBLIC OF ESTONIA
MINISTRY OF ECONOMIC AFFAIRS AND COMMUNICATIONS

Cloud solutions: public cloud

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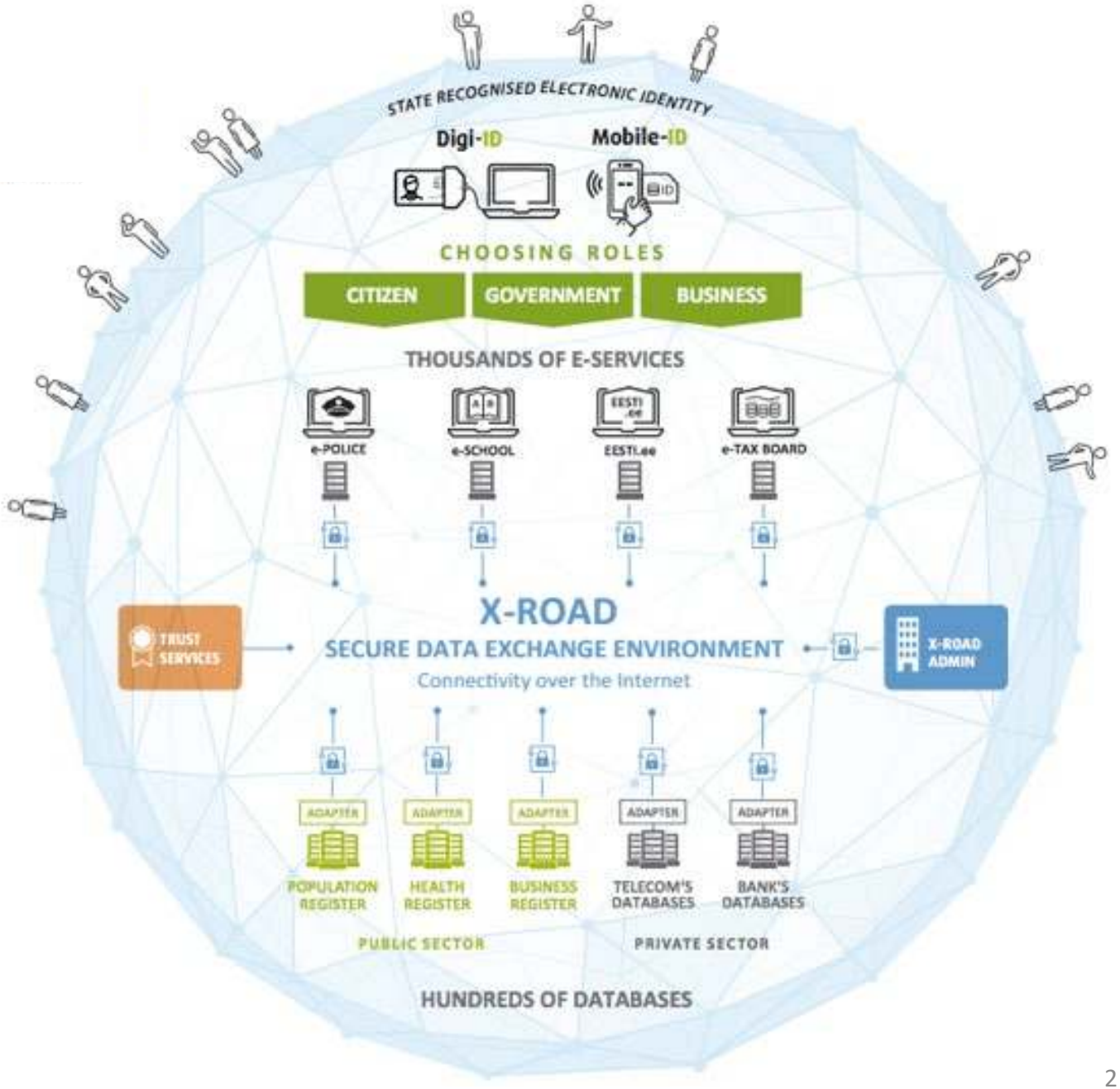


Protected assets

Data

- publicly accessible information
- restricted (for internal/official use), including personal data
- national and foreign secrets (classified data)

ICT systems

- commercial infrastructure, products and services
- state infrastructure, products and services
- external connections and global Internet

Trend:

towards the public cloud platforms (whether we want it or not)

Challenges (1/2)

The goal is to keep digital data and ICT systems protected – while using (public) cloud, this means solving aspects of:

1. **availability** – services need to be available
2. **integrity** – data needs to be correct
3. **confidentiality** – only authorised access to data
4. **continuity** – services need to be up and running during a disruption
5. **protection** – how third parties protect data and ICT systems

Challenges (2/2)

The goal is to keep digital data and ICT systems protected – while using (public) cloud, this means solving aspects of:

6. monitoring and logging – technical monitoring by CERT-EE
7. data location – EE gov entities are in EE, but larger cloud service providers might/do not store data in EE
8. data protection – rules and requirements of the General Data Protection Regulation (e.g. access to the cryptographic keys)
9. …

Current legislation (1/2)

- Estonian Public Information Act and our national information security standard ISKE allows to move to the public clouds.
- ISKE has divided information that is meant for internal/official use into different data classes:
  - S0 – public information (already cloud eligible), S1-S2 classified information and S3 – secret information;
  - S1 and S2 the cryptographic keys are in the sole possession of Client (GOV).
- additional requirements from the GDPR (e.g. access to cryptographic keys)

		K0	K1	K2	K3
T0	S0	L	L	M	H
	S1	L	L	M	H
	S2	M	M	M	H
	S3	H	H	H	H
T1	S0	L	L	M	H
	S1	L	L	M	H
	S2	M	M	M	H
	S3	H	H	H	H
T2	S0	M	M	M	H
	S1	M	M	M	H
	S2	M	M	M	H
	S3	H	H	H	H
T3	S0	H	H	H	H
	S1	H	H	H	H
	S2	H	H	H	H
	S3	H	H	H	H

Current legislation (2/2)

Problem:
only 5% of all information is public cloud eligible.

This means:
no motivation and/or real possiblity moving towards cloud

		K0	K1	K2	K3
T0	S0	L	L	M	H
	S1	L	L	M	H
	S2	M	M	M	H
	S3	H	H	H	H
T1	S0	L	L	M	H
	S1	L	L	M	H
	S2	M	M	M	H
	S3	H	H	H	H
T2	S0	M	M	M	H
	S1	M	M	M	H
	S2	M	M	M	H
	S3	H	H	H	H
T3	S0	H	H	H	H
	S1	H	H	H	H
	S2	H	H	H	H
	S3	H	H	H	H

Solution (1/2)

- ISKE is available until 31.12.2022
- ISKE shall be replaced with Estonian Information Security Standard (E-ITS)
- Draft legislation (regulation of the Government of the Republic) for using of public clouds:
  - expected entry into force: October 2022
  - requirements only for the public sector - listed in Estonian Cybersecurity Act § 3 (4)

Solution (2/2)

- Main requirements of draft legislation according to the draft that was on public consultation in May-June 2022:
  - evaluation the **trustworthiness** of the cloud service provider
  - prohibition to disseminate information meant for official/internal use that is related to maintaining national security to the cloud service provider (**encryption**)
  - duty of the client to use **alternative measures** or ICT systems for cloud systems that are important for the organisational continuity of the client
  - duty to follow specific measures in said regulation that are related the use of cloud computing services and sending or making available **logs** that are related to the use of cloud computing services to CERT-EE (e.g. client-side logs)

NB! said requirements may change due to received feedback

Concept of draft legislation - encryption

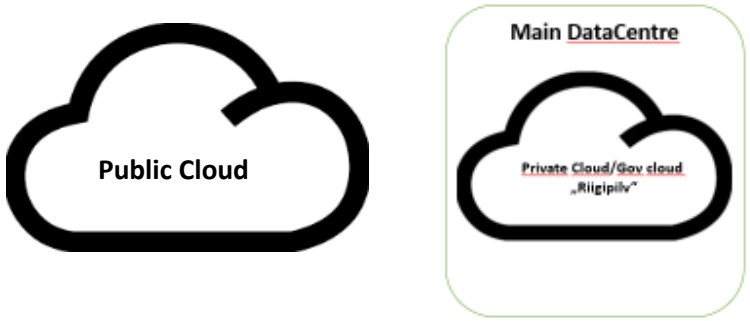
Public Information Act § 35

Entails legal grounds (descriptions) on when information is classified as internal/official use

90% of all information

„Light“ classified information

We encrypt the data with a key controlled by the cloud service provider.



10% of all information

„Hard“ classified information

The cloud service provider cannot decrypt the data (the key is in the sole possession of the customer)

Questions?

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Thank you!

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