CYBERNETICA

Unified eXchange Platform

World's leading e-Government interoperability ecosystem

Cybernetica

ESTABLISHED
Established in 1997 as a private limited company based on the applied R&D lab of the Institute of Cybernetics (est. 1960).

BUSINESS DOMAINS
Cybernetica is an R&D intensive ICT company that researches, develops and sells mission-critical software products and systems for governments and corporations in more than 35 countries. Cybernetica has developed pioneering maritime surveillance and radio communications technologies and critical e-Government systems, such as the Estonian X-Road, i-Voting, e-Customs, digital identity etc. Cybernetica's product offering includes UXP for interorganisational data exchange, SplitKey technology for digital identity and Sharemind for confidential data analysis.

CUSTOMERS
Governmental authorities (border guard, ICT-infrastructure agencies, maritime authorities, police administrations, security agencies, tax & customs authorities etc), financial institutions, telecom operators, port authorities, medical institutions and research labs, critical infrastructure operators etc.

CYBERNETICA

Cybernetica and UXP

World-renowned government interoperability platform, operating as the e-Government backbone in governments across 4 continents

Enabling e-Government services for over 35 million people

Ca 600 million transactions in 2015 in Estonia

Survived the first nation-wide cyberattack in Estonia in 2007

Estonia's X-Road has been operating since 2001 with no downtime

Contact us for more information

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| Secure data exchange over encrypted channels | Evidential value for all data transactions | Organic integration with existing services and registries |

Less is More

UXP means less paperwork, less bureaucracy, less time spent on futility. In Estonia, digital services save every citizen one work-week per year. What would you do with your week?

UXP is created by the authors of the world-renowned e-Government system of Estonia, the X-Road, which according to the World Bank Development Report is what allowed Estonia to become a truly digital society. UXP-based solutions have been implemented across four continents to enable running online government services for 35 million people from different countries and cultures. We make this possible by fitting our technology naturally into your existing ecosystem, with full integration support and minimal changes required.

✓ **AFFORDABLE.** UXP can be implemented into any ecosystem – be it a tiny country or a supranational association. With very low maintenance cost and marginal implementation investment, UXP is cost-effective and allows you to move ahead one step at a time.

✓ **RELIABLE.** Estonia's X-Road has been running without downtime since 2001, including surviving the first coordinated cyber conflict in the world in 2007.

✓ **SECURE.** We use extensive security measures to guarantee the protection and integrity of your data. UXP is secure-by-design, as its decentralized architecture has no single point-of-failure. All traffic is encrypted with 2048 bit keys. These are minimal requirements of the system – cryptographic algorithms can be altered to provide even stronger encryption at the request of our customers.

✓ **SCALABLE.** UXP is scalable to any size of infrastructure. Unlimited amount of security servers can be linked together, making it fit for local and international applications.

✓ **PRIVATE.** We use a distributed architecture, eliminating the creation of a superdatabase, which could be prone to exploitation. All transactions are signed and timestamped, making it possible to monitor all queries made by officials against private citizens.

Core components

UXP Security Server »
Forwards messages to the security server of another organisation over a cryptographically secure channel.

UXP Registry »
Maintains the list of UXP members and distributes it to security servers.

UXP Trust Services »
Issues certificates to UXP members and security servers and performs timestamping

REGISTRY

TRUST SERVICES

UXP SECURITY SERVER
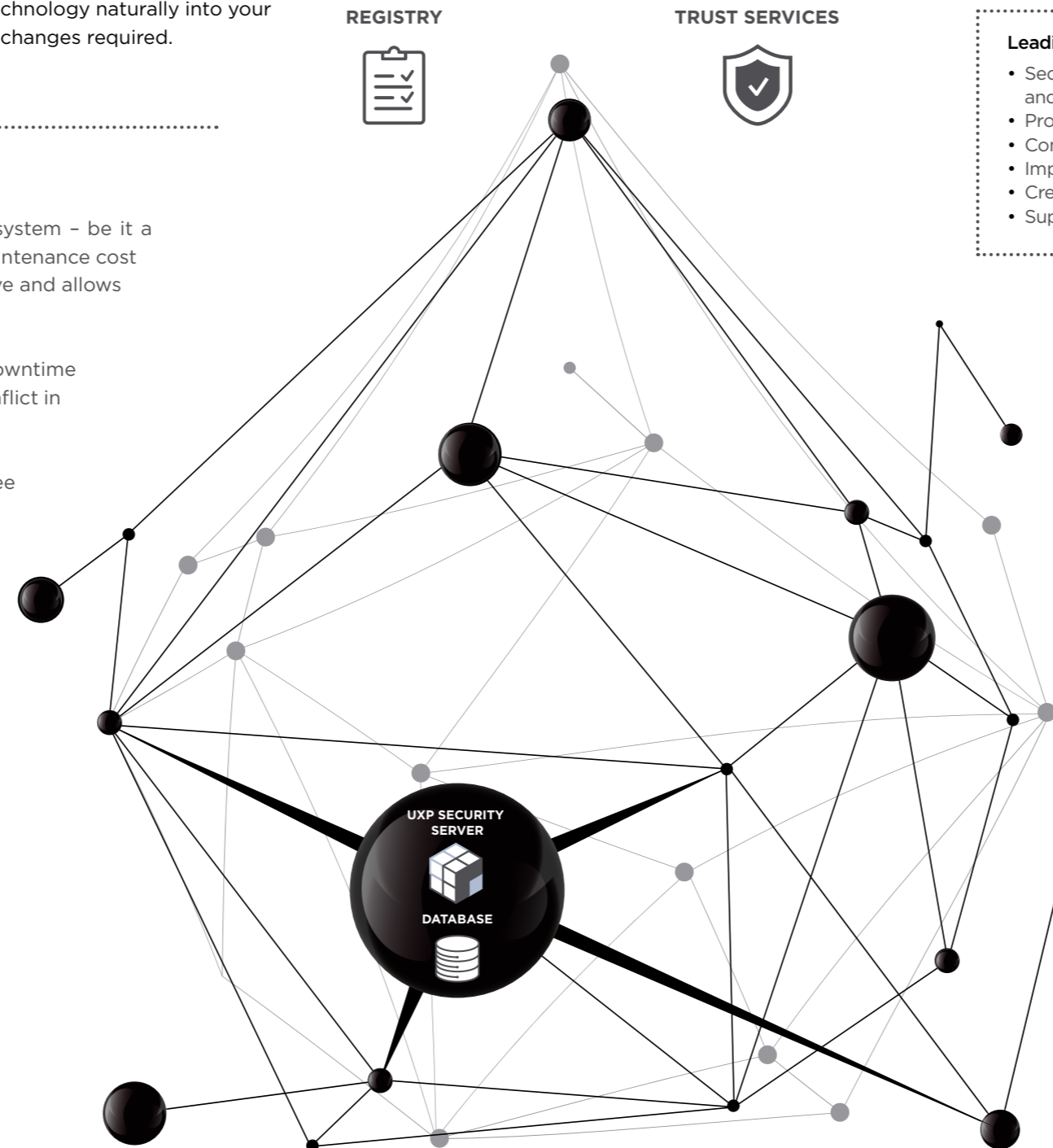
DATABASE

Leading interoperability solution in the world
- Securely exchange data between government institutions, organisations and private enterprises
- Provide and consume SOAP-based web services
- Connect existing databases, information systems and registries at your own pace
- Implement a core ecosystem for all your e-government services
- Create new services and connect new information systems at ease
- Support for REST web services

Security and Privacy
- TLS protocol with mutual certificate-based authentication
- Encryption with 2048-bit default key length, stronger available
- All queries digitally signed and timestamped, offering non-repudiation and evidential value
- Transaction logs prevent misuse or personal and sensitive data
- Access rules are defined by service owner organisation
- Blockchain compatible

ADDITIONAL COMPONENTS:

UXP Connector »
Simplifies implementation of services based on SQLdatabase.

UXP Portal »
Universal client with authentication and access control for UXP services

UXP Certificate Authority (CA) »
Issues certificates to UXP members and security servers.

UXP Timestamping Service »
Certifies creation time of the messages, thus ensuring their proof value.