

# Methodology of formation of transboundary trust environment and the requirements for its creation, functioning and development

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## 1 Main methodological approaches

A document exchange flow in a traditional paper form exists several millennia. A system of requisites of documents is an important part of legal admissibility of documents. This area of knowledge is developed by the institute of record management.

Public recognition of traditional paper documents is provided by the institute of notaries.

The international institute of apostille is used for the legalisation of foreign paper documents.

The courts and insurance companies accept paper documents as evidence.

And finally, the paper documents are the basis for accounting and regulatory activities of state authorities.

This institutional support for the paper document exchange flow developed naturally during a long period of time. It ensures the protection of rights and legitimate interests of citizens and organisations in the legal community in case of conflict events.

Transition of a document from paper into electronic form should not reduce the scope of use of the document. This is a fundamental thesis of this methodology. This would require appropriate institutional support. The only difference is the way of informational legally significant interaction between subjects of law. They move towards the use of modern ICT. Such a transition should be reflected in the national legislation.

Previously only the authorised performers from the state authorities, businesses or individuals themselves worked with the paper documents. They filled in the requisites, signed contracts, filed them to the court and engaged in other similar independent actions. Normally, the participation of the specialized operators of the trusted services was not required for the paper documents exchange flow. With a few exceptions. In special cases, in order to increase the security of the documents, the parties appealed to the national operators for stamping apostille, if the international recognition of the documents was needed.

To enhance the security of transmission of documents, the parties used special methods of delivery (by courier and registered mail). In other words, specialized operators were used only in exceptional, critically important cases.

While using the ICT, the situation becomes more complicated. The trust, which was formed due to the possibility of direct contact between the parties through the document “as a thing”, is now absent. Now there is a "black box" – information systems and not trusted Internet - between the parties.

At the national level, the issues of providing trust in electronic documents are successfully solved by technological methods, including cryptography. Basically, it is a mechanism of electronic (digital) signature (EDS). Common solutions to ensure trust in cross-border use of legally significant electronic documents do not yet exist.

The reason is that the issues of ensuring the legal force of electronic documents by cryptographic methods are usually set forth in the national legislations. More than 70 countries around the world have their own national cryptographic schools and legislations on the use of electronic (digital) signature. Now the international compatibility of digital signatures does not exist.

For the purposes of providing security in information interaction the trusted security services provided by the specialized providers can be used.

Trusted security services can perform the functions similar to the institutions of notaries, apostille and trusted delivery in paper documents exchange flow.

The operators of the trusted security services must be the trusted third parties (TTP) of the parties of information exchange. The activities of TTPs must be governed by the international law of the States-participants of the information interaction, or bilateral agreements of the parties of informational interaction.

Thus TTP is the electronic equivalent of notaries, apostille and trusted delivery institutions. TTP is not an entirely new institute, it continues the tradition of confirming the integrity and authenticity of the document.

From a legal point of view it is important that the function of assurance of the electronic document passes from the document owner to a third party - the operator of TTP. This is a key specificity of the informational interface.

The trust is supported by a warranty of authenticity of electronic documents, financial liability for the actuality of information contained in electronic documents. This is the basic principle, relevant for legally significant transboundary electronic document circulation, when the contractors are far apart from each other and in different jurisdictions.

This is a classic solution for providing secure transmission of information via non-trusted channel.

The development of a basic methodological principle to a full-scale TTE methodology must describe:

- legal support of creation, development and operation of the TTE;
- functional and technological and organisational architecture of TTE;
- judicial, insurance or other organisational support that the legally significant transactions carried out within TTE.

## **2 Legal support of creation, operation and improvement of TTE**

The approaches to the creation of electronic documents exchange flow should be built as a logical continuation of the long established practices of paper documents circulation. Only the method of information exchange is amended, so that the document becomes suitable for its automatic processing.

Thus, it is necessary to maintain the level of institutional support and to strengthen the security procedures. In this part the issue of transboundary electronic documents exchange flow has new aspects, which are to be described in international legal environment.

The parties of interaction must have their own internal practice of using electronic documents.

The TTE is currently being created within the following international formats:

- Under the Eurasian Economic Union Agreement;
- Under the REGULATION (EU) No 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC (hereinafter - Regulation)
- Under the draft ESCAP Regional Arrangement for the Facilitation of Cross-border Paperless Trade
- Under draft of Convention of the United Nations "On the transboundary trust environment in transboundary electronic interaction".

In all these documents the task of ensuring the legal significance of transboundary electronic documents is described. However, it is recognized that the solution to this problem is complex and requires further, more detailed regulation in the organisational and technical documents.

The main position of these international instruments is the development of the institutional mechanisms that should ensure the elaboration and adoption of organisational and technical documents of the second and subsequent levels. Such mechanisms may be named differently: the Coordinating Council Advisory Committee, Council for Paperless trade, the standing Committee, etc. The regulations of their activities may also vary.

The European Union has not introduced any specific mechanism to ensure decision-making to lower levels. The EU has a universal mechanism for all areas of regulation – the European Commission. The European Commission has adopted a number of organisational and technical documents to ensure the validity of the Regulation. It is essential that such an institutional mechanism should act in the international legal environment.

In terms of methodology at the level of international law it is necessary and sufficient to conclude between the parties of interaction a single top level document in the form of a Treaty, Agreement, Convention or Regulations.

This legal act should describe the main aspects of international relations, resulting from changes in the way of interaction of information from paper to electronic form. It should also define a new or existing method, which is intended for the development and adoption of organisational and technical documents of the second and subsequent levels.

The top-level document should take into account regional, global or functional specificity. The top-level document may be amended from time to time, as it happens in practice at the present moment with the Treaty on the Eurasian Economic Union. The flexibility of the top level document is provided by the adoption and modification of regulations at the international and national levels.

It seems appropriate to use these methodological provisions as a guidance in the preparation of new international legal instruments on the formation of the TTE.

### **3 Functional-technological and organisational architecture of TTE**

#### **3.1 Institutional sources for the development of trusted electronic services**

As noted above, the emergence of problem of formation of the TTE in order to ensure cross-border electronic document circulation does not lead to the formation of new spheres of social relations. Paper documents are replaced with electronic, the means of delivery of documents change, the use of electronic documents expands. Technologies become available both for businesses and for state authorities. In this regard, it becomes possible to identify the institutional sources for the correct transition to a set of trusted electronic services, similar in function to traditional institutions of paper documents exchange flow.

While addressing the issue of integration to TTE at the national level the States should take into account the following conditions.

The legal relations arising in the course of electronic document exchange flow in the framework of international cooperation, including the framework of the TTE, are divided into two levels: national and international.

At the national level, the following issues must be resolved:

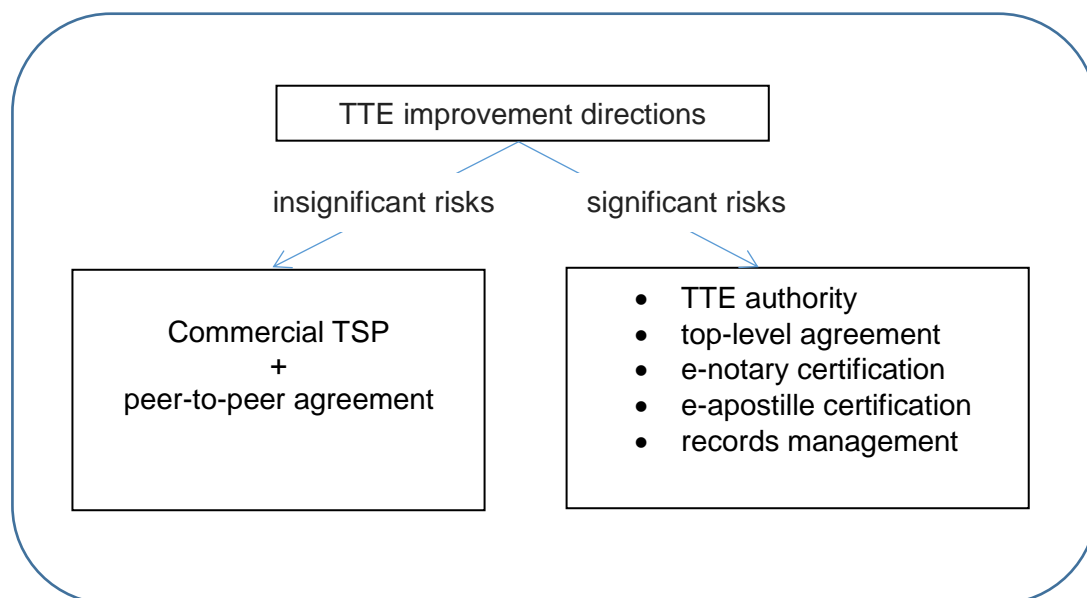
- legislative definition of an electronic document with an electronic signature as its mandatory attribute;
- legislative regulation of the use of electronic signature and electronic signature tools;
- legislative regulation of the activity of the certification authorities.
- legislative determination of an organization (a state authority, a collective body, or otherwise), authorised to regulate the issues of use of electronic signature at the national level.

If a country decides to participate in the international exchange of electronic documents with regard to the principle of digital sovereignty, at the national level the organization (state authority or other collective body) responsible for regulation in the implementation of TTE (TTE Authority) should be determined.

TTE Authority is the guarantor of a unified approach to the creation and improvement of TTE and international recognition of electronic documents. TTE Authority may partially delegate its powers to other organisations, state authorities and collective bodies.

For example, it may be allowed to delegate the powers of legally significant transfer of electronic documents into a paper form in the framework of judicial proceedings in cases where one of the parties is not a party of the bilateral or multilateral agreements on TTE.

As a recommended approach we propose to consider two directions of TTE improvement (Scheme 1):



Scheme 1

The first one is the creation of local agreements, simplifying documents exchange flow between the parties of electronic interaction. This approach implements the transition to electronic document exchange flow in cases that do not require notarization and apostille. This electronic

document exchange flow is aimed on acceleration and simplification of document exchange flow and simplification of the business environment.

It is necessary to use the best global practices in the field of technical and financial support of the subjects of informational interaction. In particular, the questions of financial liability of trust services providers (TSP) should be settled.

The requirements for TSP should be the following:

- TSP has the absolute credibility among the information exchange participants;
- TSP uses the mechanisms of evaluation and compensation of damages;
- TSP uses the methods of conflict resolution;
- TSP provides the necessary guarantees.

The various national and international requirements to the Certification Authorities may be considered as an analogy.

The second - while creating the legal framework for TTE in sensitive areas of government regulation and businesses, it is needed to incorporate the use of trusted certification of significance of documents - apostille certification, record management and notaries.

Detailed TTE operation, formats and types of electronic documents and implemented technology are provided in the regulations "Requirements for the formation of TTE», developed during the creation of TTE and coordinated with the TTE Authority in the relevant state.

### **3.2 The typical architecture of a trusted electronic service and security issues**

The proposed institutional sources have identified a set of trusted electronic services that can provide properties of electronic documents similar to paper documents (including notary certification and apostille). Then it is possible to move forward to the typical architecture of each individual trusted electronic service, to identify the risks and information security threats.

Each trusted electronic services can be presented as a complex that includes technical and organisational components, staff and users. Thus, each service can be conventionally represented as a set of following components:

- software and hardware (server equipment and workstations, system-wide and specialized software, data protection, data storage systems, and other specialized components, depending on the type of proxy service). For convenience, we name all of these components as software and hardware complex (SHC);
- channels (telecommunication equipment and means of access to networks and data transfer channels);
- managing and operating staff;
- organisational and administrative documentation;
- operational documentation;
- users.

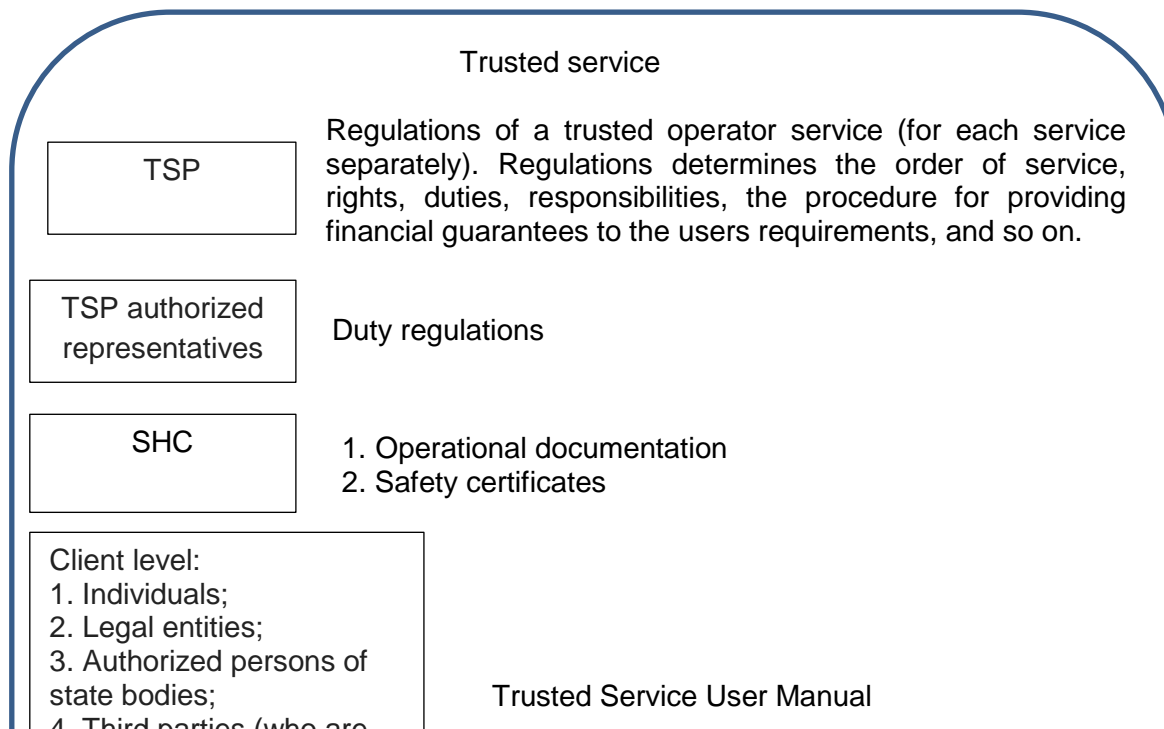
Requirements to information security should be provided to all architectural elements of the transboundary trust environment, based on the current model of information security threats, i.e. formalized presentation of the properties or characteristics of the actual information security threats.

It is necessary to give special consideration to a set of organisational and administrative and operational documentation. This is a set of organisational and technological documents for each of trusted electronic services. The development and approval of these documents should be the authority of TTE. The following documents may be given as an example:

- technical requirements for the SHC of trusted service;
- regulations for the operator of the trusted service and its authorised persons;
- rules for connecting clients to use a trusted service;
- procedure for issuance and use of access equipment;
- TSP audit Regulations;
- other organisational and technical documents.

This set of documents will allow to determine the TTE as a set of legal, organisational and technical conditions, agreed by the Member States in order to ensure trust in the transboundary exchange of data and electronic documents.

The subjects of transboundary exchange of data and electronic documents are state authorities, individuals or legal entities that interact in the preparation, sending, transmission, receipt, storage and use of electronic documents (Scheme 2).



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