Basic functions and definitions for the TIP ecosystem

Introduction

This document describes the basic functions required for a mature and fully functioning ecosystem as described in the TIP[1] two-pager. Definitions of concepts necessary for understanding basic functions are given in the following chapter. This document leverages insights from the *Willeke paper*[2], *the Greenpaper*[3] and the *Business analysis and Experiments*[4] done in the context of Standard Business Reporting renewal. The basic functions as described in this document are to be implemented with qualified electronic trust services as described in the European eIDAS regulation[5] and the proposal for its amendment.[6]

Note: Comments on this document are appreciated via a message on our LinkedIn account.

Definitions of concepts

Basic concept	Description	Dutch
TIP-ecosystem	The whole of system agreements, standards and facilities that applies to all participants in Trusted Information Partners.	TIP-ecosysteem
Actor	An *Actor* can be a natural person, a legal person or a natural person with a (legally constituted) *Recognised profession.* Within the governance of TIP, it is determined which *Actors* are identified.	Actor
Recognised profession	A role that is occupied by an *Actor* and that is associated with such unique rights and obligations that it is desirable to be able to distinguish between the actions that this person performs from his or her profession and the other actions that this person performs. Think of a doctor, chartered accountant or judge. *Recognised professions* are determined within the governance of TIP.	Erkend beroep
Authorisation	A declaration by an *Actor*, provided to another *Actor*, on the basis of which the latter can perform a specified set of actions. An *Authorisation* has a lifecycle with a predetermined start	Machtiging

[1] TIP, March 2022, Eenvoudig en betrouwbaar online zaken doen. See link

[2] Dijkhuis, S., Van Wijk, R., Dorhout, H., & Bharosa, N., 2018, When Willeke can get rid of paperwork: A lean infrastructure for qualified information exchange based on trusted identities. See link

[3] Van Wijk, R., Van Oosterhout, R., Klimbie, R., Mulder, M., 2019-10-24, Greenpaper: Vertrouwd S2S Ecosysteem. Available on request

[4] SBR Verniewing, 04-05-2020Business analyse: toepassing van een Trusted Online Ecosysteem voor SBR & SBR Vernieuwing. Beproeven Trusted Online Ecosysteem in het kader van SBR Vernieuwing. Available on request.

[5] EU Regulation No. 910/2014. See link

[6] Proposal for amending Regulation (EU) No 910/2014. Version COM/2021/281 final. See link

	time and an optional end time. An *Authorisation* can be revoked.	
Mandate	A specific form of *Authorisation:* a declaration by the represented *Actor* or someone else authorised to do so (e.g. a judge), on the basis of which the representing *Actor* may perform a specified set of actions from the *Acting Space* of the represented *Actor*. These actions have legal effect only for the represented *Actor*.	Mandaat
Acting space	An *Acting space* is a system that enables one or more natural persons to perform actions with possible legal consequences for one specific *Actor*. This provides access to the *Basic functions* described in this document for a natural person. A natural person can configure an *Acting space* to perform certain action in an automated way. One *Actor* can use several *Acting spaces*.	Handelings-omgeving
Value-added service	Services that are offered, in many cases automated, via the *TIP-ecosystem* to record, enrich, provide or validate information with a predetermined level of assurance (e.g. querying authentic registers or services for validating or converting/consolidating messages).	Toegevoegde waarde dienst
Information chain	A linkage of *Actors* and *Added-value services* between which information is exchanged for one or more purposes (e.g. an *Information chain* for the purpose of applying for a mortgage loan).	Informatie-keten
Service or chain specifications	The description of an *Added-value service* or *Information chain* that is accessible via the *TIP-ecosystem*, including process, form, availability and quality requirements. The purpose of *Service or chain specifications* is, among other things, to guarantee legal certainty by informing *Actors* in advance about the way in which they can comply with certain obligations, agreements or requests in the *TIP-ecosystem*. *Service or chain specifications* can be publicly available or mutually agreed upon by *Actors*.	Dienst- of Ketenspeci-ficaties
Service or chain responsible	The *Actor* responsible for making and keeping a specific *Information chain* or *Added-value service* available in the *TIP-ecosystem*. This *Actor* draws up *the Service or chain specifications* and makes them (publicly) known. *A Chain responsible* can also act as an *Actor* in a self-defined information exchange process. For example, a government	Dienst - of Ketenverant-woordelijke

	party can set up electronic channels via the *TIP-ecosystem* for information that it wishes to receive from companies.	
Adapter service	An *Adapter service* provides the connection between the *TIP-ecosystem* and existing platforms for information exchange. *Adapter services* enable actors in the *TIP-ecosystem* and users of an existing platform to communicate with each other.	Koppeldienst
Wallet	An application that allows the *Actor* to store identity data, credentials and attributes linked to her/his identity, to provide them to relying parties on request via an *Acting space* and to use them for authentication in an *Acting space*, online and offline, and to create electronic signatures and seals. This application does not necessarily need to be an EUDI-Wallet[7], but must comply to the ARF.	Wallet

Basic functions

Basic functions	**Description**	**Frameworks to be used for completion**	**Dutch**
Exchanging data	This function facilitates the exchange of data between *Acting spaces,* while maintaining data integrity and confidentiality. This function also generates evidence of transaction completion, including evidence assuring dispatch from and delivery to the correct party at a certain point in time.	eIDAS trust service: • qualified Electronic Registered Delivery Service (qERDS) in accordance with four corner model as described in ETSI EN 319522. Technical standard for interface to be determined.	Uitwisselen gegevens
Signing data	Makes it possible, by means of electronic signatures, seals and timestamps, to obtain certainty about the authenticity of exchanged data, the existence of data at a certain point in time and	eIDAS trust service: • qualified Electronic Signature • qualified Electronic Seal • qualified Electronic Timestamp	Ondertekenen gegevens

[7] as defined in article 3 point (42) of the eIDAS2 regulation.

	the position of *actors* regarding this data.	Guideline for implementation: ETSI TR 119 100 Standard for signature policy: ETSI TS 119 172	
Validating signatures	Used to ensure the validity of an electronic signature, seal or time stamp.	eIDAS Trust Service: • qualified Validation Service for qualified Electronic Signatures	Valideren ondertekening
Attestation of attributes[8]	Enables *Actors* to identify themselves at a high assurance level by sharing one or more attributes (i.e. properties, characteristics or qualities of an *Actor* (e.g. age, name, diplomas obtained, etc.)).	eIDAS Trust Service: • qualified Attestation of Attributes	Bewijzen eigenschap
Archiving data	Facilitating the receipt, storage, deletion and transmission of electronic data or documents to preserve their integrity, correctness of origin and legal characteristics throughout their retention period. It is often used in combination with the *Signature preservation* function.	eIDAS Trust service: • qualified Electronic Archiving	Archiveren gegevens
Preserving signatures	Adding a qualified electronic timestamp and additional validation data[9] to a document before algorithms, keys and other cryptographic data, used in creating the original signature of this document, become weak or	eIDAS Trust service: • qualified Preservation Service for qualified Electronic Signatures (article 34)	Bewaren ondertekening

[8] The relationship with identification to use other basic functions needs further elaboration. This also applies to identification as referred to in H2 of eIDAS.

[9] See ETSI EN 319 102-1 V1.3.1 (2021-11) for explanation.

	associated certificates expire or are revoked. This proves that the document[10] existed at the time a new timestamp was applied, making it possible to prove the validity of the signatures over a longer period of time.		
Authorizing an *Actor*[11]	Functionality for recording, managing and using *Authorisations* (and therefore also *Mandates*), enabling *Actors* within the *TIP-ecosystem* to grant each other powers.	• Basic function *Signing of data* for recording an expression of will and guaranteeing authenticity. • Basic function *Exchange of data* for data exchange. • Best practice standards in the field of access control (eg XACML, t.b.d.).	Machtigen actor
Providing V*alue-added Services*	Functionality and standards that make it possible to unlock different types of *Added-value services* in the *TIP-ecosystem*. In principle, it is possible for any provider to develop services that can be purchased within the *TIP-ecosystem*, provided they comply with the standards established for this purpose. Different types of *Added-value services* can be identified, each based on its own standard. *Added-value services* are made accessible via an *Acting space* that is related to the *Service responsible*.	• Basic functions where possible (e.g. *Signing of data* to ensure authenticity and *Exchange of data* for data exchange). • Relevant best practices where possible if a functionality requires standardisation and cannot be replaced with a basic function (t.b.d.).	Ontsluiten toegevoegde waarde diensten
Publishing service or chain specifications	This functionality makes it possible for *a Service or chain responsible* to publish *Service or chain specifications*.	• *Service or chain specifications* will be documented in the form of a signature	Publiceren dienst- en ketenspecificaties

[10] For example, an agreement saved by an entrepreneur for a long term order with electronic signature of the customer

[11] TIP does not exclude the use of other (existing) authorization standards. These could be made available via an added value service within TIP, for example. This may have consequences for the support of such standards by *Operating Environments*.

Consulting service chain specifications	This functionality enables consulting (publicly) published *Service or chain specifications*. Includes a search function and a catalog function for creating an overview of the available *Added-value services* and *Information chains*.	policy in accordance with ETSI TS 119 172. • Other relevant best practices where possible (t.b.d.).	Raadplegen Dienst- en ketenspecificaties
Making Payments	Allows payments to be made within the context of the *TIP-ecosystem*. Payments may benefit TIP governance, providers of basic functions and *Actors* acting within the *TIP-ecosystem* (including providers of *Added-value services*).	• Relevant best practices where possible (t.b.d.).	Verrichten betaling

List of observations to be evaluated in next version

Nr	Title	Remarks
01		Er ontbreekt een duidelijke uitleg over de preceptie dat er een 'verplichting'is om binnen TIP alles op niveau hoog te moeten authentiseren/kwalificeren/beveiligen. Toevoegen dat ARF-compliant wallets op LOA high zijn (i.e. authenticatie op LOA high) en dat TIP-partners (relying parties) zelf mogen bepalen voor welke uitwisseling/transactie welk niveau van zekerheid/gekwalificeerdheid van attributen noodzakelijk is (dat wordt immers door vele kaders bepaald).
02		
03		
04		The qualified electronic signature allows for assurance about: • the identity of the certificate holder;

	• the integrity of information exchanged; • the existence of information at a certain point in time and; • the position in the information game that actors hold; • the validity of the certificate.
05	
06	
07	