**Service Level Agreement
Base Service: Timestamping
Version 2016.01**

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eHealth platform

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Service Level Agreement

Base Service Timestamping

Between

Service provider

eHealth Platform

Quai de Willebroeck, 38

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To the attention of: the user community

Service customer

User Community

Author: Service Management
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1. Table of Content

2. Document management

2.1. Document history

Version	Date	Author	Description of changes / remarks
2015.01	May 2015	eHealth Service Management	Update

2.2. Document references

ID	Title	Version	Date	Author
	Master Service Agreement	1.0		

2.3. Purpose of the document

The objective of this document is to define the Service Level Agreement for the *Base Service Timestamping* proposed by the eHealth platform. It defines the minimum level of service offered on the eHealth platform, and provides eHealth's own understanding of service level offering, its measurement methods and its objectives in the long run.

This document contains a short description of the set of services offered by Timestamping. The eHealth Timestamping web service provides an irrefutable proof to stakeholders that a certain piece of information existed on a given date.

The eHealth Timestamping Service is comprised of 2 independent web services[1]:

- Timestamp Authority: takes an input document, obtains a timestamp according to RFC 3161 and returns the document with timestamp and electronic signature to the sender.

- Timestamp Consult: allows two actions, designed for auditing and controlling purposes:

  - retrieve a specific timestamped and electronically signed documents from the eHealth archive server, based on a specific sequence number,

  - perform checks for the completeness of a list of timestamps.

In addition, this document contains a short description of, or a link to a location where it can be found:

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[1] In order to use those web services, an interface needs to be built within the user application as described in the cookbooks. This interface is under the responsibility of the user application.

- some of the dependencies on technical and/or functional components needed and used by the Web Services,

- some technical and/or functional components on which the Web Services are dependent,

- measurements and KPIs intended to account for a certain number of performance indicators.

This document is a complement to the *Master Service Agreement (MSA)*. The information given in this document version takes precedence over the data regarding the same subjects given in former versions and in the MSA. Items described in the MSA include, for instance:

- a broad description of the business services offered by the eHealth platform to the applications which may want to make use of them,

- a description of cross-sectional services offered on the eHealth platform,

- a description of support services, including registering, managing and solving possible incidents with the Timestamping Base Service, managing changes, etc.

- performance indicators related to those services.

2.4. Validity of the Agreement

This document is valid as long as the *Base Service Timestamping* is being offered.

Once a year, the levels of service proposed will be reviewed and confirmed for the next year.

2.5. Service and Maintenance Windows

2.5.1. Service Windows

The timeframe, during which the eHealth services are offered to the client applications, is defined in terms of days and hours. Standard working days are all days of the year, except during the biannual maintenance periods and Bank Holidays.

The following table summarises the eHealth Service Windows.

Service Window							
	Day of the week (closing days of Service Provider = Sunday)						
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Day period	00:00 – 07:00							
	07:00 – 08:00							
	08:00 – 16:30							
	16:30 – 19:00							
	19:00 – 20:00							
	20:00 – 21:00							
	20:00 – 24:00							

Legend	
	Timeslots where the Service must be available according to the SLA and where corrective actions will be taken to resolve detected Incidents.
	Timeslots where the Service will be available provided there are no blocking Incidents. If these incidents do appear, no corrective action will be taken.
	Timeslots where unavailability can occur.

2.5.2. Support Window

Support Window							
	Day of the week (Closing days of Service Provider = Sunday)						
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Day period	00:00 – 07:00							
	07:00 – 08:00							
	08:00 – 16:30							
	16:30 – 19:00							
	19:00 – 20:00							
	20:00 – 21:00							
	20:00 – 24:00							

Legend	
	Timeslots for which the eHealth Call Center is available for the End-Users with a second line support for Infrastructure (HW, OS, Middleware and DB)
	Timeslots for which the eHealth Call Center is available for the End-Users with a second line support, including Application Support
	Timeslots for which the eHealth Call Center is unavailable for the End-Users. The End-User will have the possibility to record a voice message that will be treated on the next Workday.

2.5.3.   Maintenance Windows & Planned Interventions

eHealth will strive for limiting as much as possible the impact and duration of the planned interventions. Today, eHealth is committed to make efforts so planned unavailabilities do not exceed one to a few hours per year. In case of maintenance requiring support from users, or impacting them, eHealth will notify them at least one week ahead.

- Application Releases: maximum twice a year: interventions needed for installing new versions of timestamping software, other eHealth components or other eHealth Services involved in the provision of the Timestamping basic service.

Dynamic Runtime Updating: new user applications using the timestamping services can be added in a dynamic way so that the eHealth platform and the current services remain working as usual.
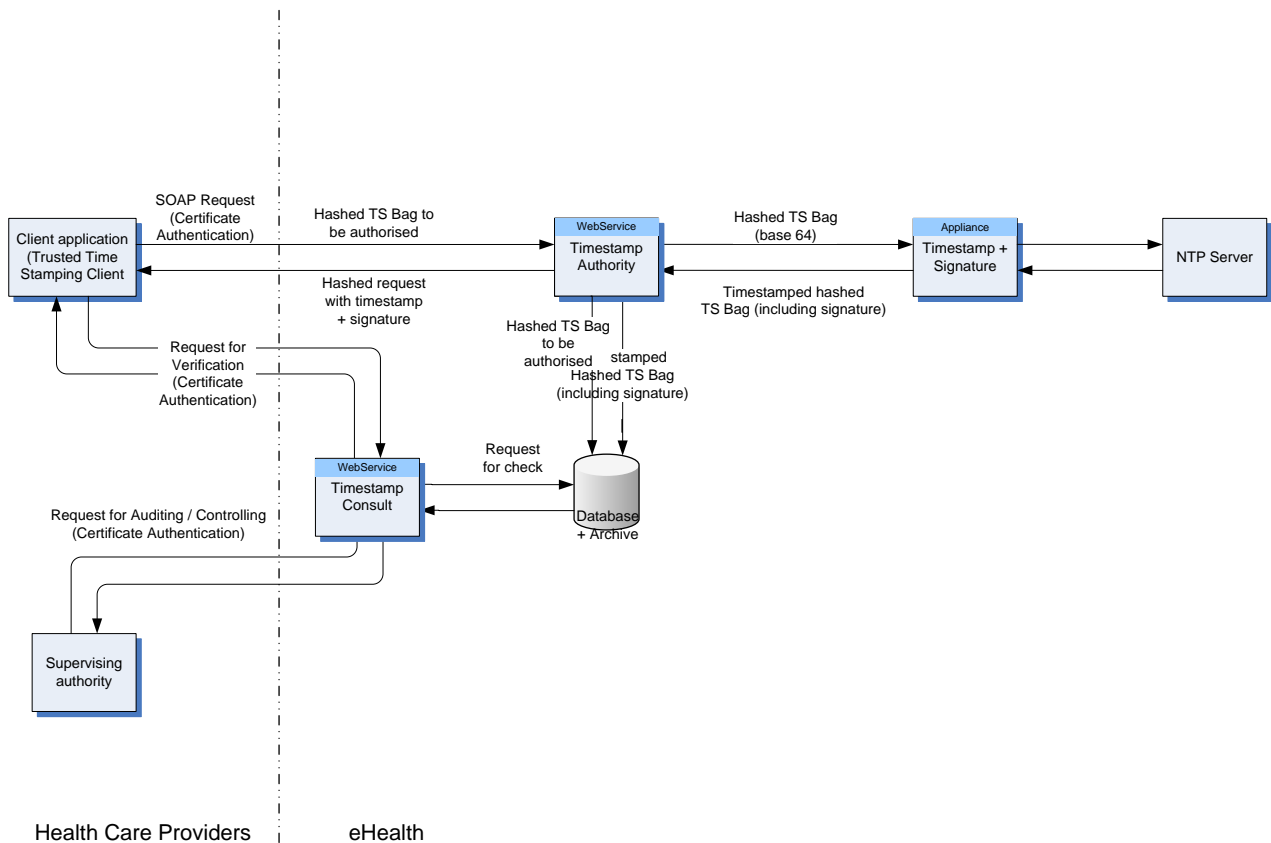
2.5.4.   Unplanned Interventions

Under exceptional circumstances, unplanned interventions may be needed in order to restore the service.

3. Service scope

3.1. eHealth Service

3.1.1. Architecture overview

3.1.2. Functionalities

This Service Level Agreement covers the basic service Timestamping, i.e. the set of services offered by the eHealth platform to perform electronic time stamping of documents. Currently this service is only offered to hospitals willing to switch over to a paperless procedure for submitting their medical prescriptions to the Supervising Authority (RIZIV – INAMI); part of this service is also offered to the Supervising Authority itself. The eHealth Timestamp service could benefit to other business services: for instance, it could be used in combination with other types of TAGs and documents than those related to the medical prescriptions.

The service provided by the basic service Timestamping is twofold:

- For Health Care Providers (currently only the hospitals) and their client applications, provide a proof that a certain document (set of medical prescriptions, wrapped in an envelope, called TS Bag[2]) has existed at a certain time with a definite, although undecipherable content,

- For the supervising authority (i.e. RIZIV – INAMI), in the framework of its audit and supervising functions.

From a business point of view, the Timestamping set of services currently offers:

- The Timestamp Authority web service which receives a TS Bag envelope, appends an electronic timestamp and an electronic signature to it according to RFC 3161, then returns the electronically signed and time stamped envelope to the submitter and archives it for auditing and control purposes,

- The Timestamp Consult web service, which queries the server archive of timestamped documents, in one of two versions: one for requests from the Client system, and another for requests from the Supervising Authority (RIZIV – INAMI). The Timestamp Consult web service allows to retrieve and compare a list of time stamped documents within a period of time and to retrieve a specific time stamped document, based on its sequence number.

From a technical point of view, the eHealth timestamp services are currently comprised of:

- two web services (Timestamp Authority, Timestamp Consult)

- a database to archive the original (hashed) envelope of medical prescriptions, its timestamp and the identity of its provider

- an appliance for timestamp and electronically signing of documents

- a connection to a reliable time source (NTP server) for time synchronisation.

[2] The eHealth Timestamp service could benefit to other business services: for instance, it could be used in combination with other types of TAGs and documents than those related to the medical prescriptions.

3.2. Business criticality

The business criticality of the Timestamp Authority is **Gold** as it supports mandatory business processes that should be processed synchronously and within some legal periods.

The business criticality of the Timestamp Consult is **Bronze** as it supports asynchronous processes mainly use by the user for daily checks. Nevertheless, the eHealth platform monitors the performance and availability of this service in order to react on any strange behaviour.

3.3. Interdependencies

The services covered by this Service Level Agreement are not functionally dependent upon application services offered by external partners.

The Timestamp web service depends on the Certification eHealth basic service to ensure that only authorised entities can have access to the service.

4. List of Service Levels

Service	Meting van	SL ID	Limit	Commited	Target	Calculation window	Criticality
Timestamp Authority	Availability of the Timestamp Authority webservice	TSA1	Monitoring	99,50%	99,90%	monthly	Gold
	Response time of the Timestamp Authority webservice	TSA2	1 s (TS Bag < 100kB)	98%	99%	monthly	Gold
Timestamp Consult	Availability of the Timestamp Consult webservice	TSC1	Monitoring	99,50%	99,90%	monthly	Bronze
	Response time of the Timestamp Consult webservice	TSC2	4h per request	99,50%	100%	monthly	Bronze

Table 1: List of key performance indicators (KPI) per functionality

5. Detailed Service Level per service

5.1. Timestamp Services: End-to-end Availability

5.1.1. End-to-end Availability: Timestamp Authority – Timestamp Consult

5.1.1.1. Definition(s)

Percentage of time the time stamping service has been available from a provider point of view (based on fictitious, simulated transactions).

5.1.1.2. KPI Objectives

Ensure that the time stamping web service is available every day, the clock round, on the eHealth platform, for requests coming from the Client Application over the Internet and reaching the Reverse Proxy.

The service is considered as available when it provides a successful response at each access. Successful responses are all Web Service responses which do not mention the unavailability of a component needed. Requests poorly formulated (e.g. bad TS Bag) which generate an error message, are considered as successful transactions whenever this error message is not related to a component failure.

5.1.1.3. Measurement method

A <u>hit</u> is an access to the time stamping Web Service of eHealth from the reverse proxy.

A <u>successful hit</u> is an access to the time stamping Web Service of eHealth from the reverse proxy with a response excluding any component unavailability.

Therefore, this KPI measures the availability of the querying service at the Front Web Service.

5.1.1.4. KPI Formula

TSA1, TSC1 = (Σ NSH / Σ NH) x 100

where

NSH = Number of Successful Hits

NH = Number of well-formed Hits received

TSA1 and TSC1 are the KPIs for respectively the Timestamp Authority service, and Timestamp Consult service.

5.1.1.5. Calculation window

Monthly (with a minimum of 100 hits per month).

5.2. Timestamp Services: Response Time

5.2.1. Response Time: Timestamp Authority – Timestamp Consult

5.2.1.1. Definition(s)

Time spent between receiving a request on the eHealth infrastructure and making the answer available to the client application.

5.2.1.2. KPI Objectives

Ensure that each request to the Timestamping Base Service handled through the eHealth platform is being processed within the response time limit (see Table 1). It ensures the follow-up of the web service performance.

5.2.1.3. Measurement method

The response time is the answering time registered for all successful requests, as obtained from logs of incoming and outgoing requests on the Reverse Proxies.

The key performance indicator measures the percentile corresponding to values below the response time limit.

5.2.1.4. KPI Formula

Compute the percentile corresponding to values below the agreed KPI for the response time

$$ \text{TSA2, TSC2} = \frac{\Sigma \text{ (successful requests with an answering time within the response time limit)}}{\Sigma \text{ (successful requests)}} \times 100 \text{ \%} $$

where

TSA2 is the response time for the Timestamp Authority web service,

TSC2 is the response time for the Timestamp Consult web service, for queries meant to check a list of time stamps in the server archive, within a certain period,

5.2.1.5. Calculation window

For TSC1, the calculation window covers a period of a month.

For TSC2 the calculation window should cover at least 50 requests or a period of 6 months.