eH2eBox
Cookbook
Version 1.9

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eHealth platform

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To the attention of: “IT expert” willing to integrate this web service.

1. Document management

1.1 Document history

Version	Date	Author	Description of changes / remarks
1.0	15/09/2017	eHealth platform	Initial
1.1	19/04/2018	eHealth platform	Lay-out and updated links
1.2	19/03/2019	eHealth platform	Correction Par 5.2.1.1 (ContentContextCustomMeta)
1.3	27/11/2019	eHealth platform	Extra validations on document and annex mimeType and file extensions
1.4	20/04/2020	eHealth platform	§ 5.1.3 WS-I Org compliance
1.5	11/03/2021	eHealth platform	§ 5.1.4 Tracing
1.6	11/03/2022	eHealth platform	Correction (lay-out)
1.7	30/06/2022	eHealth platform	§ 3.2 Status (added) § 5.1.4 Tracing (updated)
1.8	20/07/2022	eHealth platform	§ 2.3 eHealth platform document references (updated)
1.9	07/12/2022	eHealth platform	§ 5.1.4 Tracing § 5.2.1.1 SendMessageRequest (delete limit of five recipient, only one is authorized) § 5.2.1.2.1 Status (add new status from 846 to 861)

2. Introduction

2.1 Goal of the service

The eH2eBox is a web service (WS) allowing professionals to send messages to the Social Security eBox via the eHealthBox interface.

The eH2eBox sends messages, according to an analog message structure of the eHealthBox, and translates them so they are compatible with the Social Security eBox. More technically: the incoming request to send a message, coming from the end user, is translated at the level of the eHealth platform and sent to the parallel request on the eBox backend. Depending on the sender, this is the enterprise or citizen backend.

2.2 Goal of the document

This document is not a development or programming guide for internal applications. Instead, it provides functional and technical information and allows an organization to integrate and use the eHealth platform service.

However, in order to interact in a smooth, homogeneous and risk controlled way with a maximum of partners, these partners must commit to comply with the requirements of specifications, data format and release processes of the eHealth platform as described in this document.

Technical and business requirements must be met in order to allow the integration and validation of the eHealth platform service in the client application.

2.3 eHealth platform document references

On the portal of the eHealth platform, you can find all the referenced documents.[1]. These versions or any following versions can be used for the eHealth platform service.

ID	Title	Version	Date	Author
1	Glossary		DD/MM/YYYY	eHealth platform
2	eHealth certificates		p.m.	eHealth platform
3	Secure Token Service (STS) – Cookbook	1.5	13/07/2022	eHealth platform
4	eHealthBox Publication WS - Cookbook	3.12	20/09/2022	eHealth platform

2.4 External document references

All documents can be found through the internet. They are available to the public, but not supported by the eHealth platform.

ID	Title	Source	Date	Author
1	Basic Profile Version 1.1	***http://www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html***	24/08/2004	Web Services Interoperability Organization

[1] ***www.ehealth.fgov.be/ehealthplatform***

3. Support

3.1 Helpdesk eHealth platform

3.1.1 Certificates

In order to access the secured eHealth platform environment you have to obtain an eHealth platform certificate, used to identify the initiator of the request. In case you do not have one, please consult the chapter about the eHealth Certificates on the portal of the eHealth platform

- ***https://www.ehealth.fgov.be/ehealthplatform/nl/ehealth-certificaten***
- ***https://www.ehealth.fgov.be/ehealthplatform/fr/certificats-ehealth***

For technical issues regarding eHealth platform certificates

- Acceptance: ***acceptance-certificates@ehealth.fgov.be***
- Production: ***support@ehealth.fgov.be***

3.1.2 For issues in production

eHealth platform contact centre:

- Phone: 02 788 51 55 (on working days from 7 am till 8 pm)
- Mail: ***support@ehealth.fgov.be***
- *Contact Form :*
  - ***https://www.ehealth.fgov.be/ehealthplatform/nl/contact*** (Dutch)
  - ***https://www.ehealth.fgov.be/ehealthplatform/fr/contact*** (French)

3.1.3 For issues in acceptance

Integration-support@ehealth.fgov.be

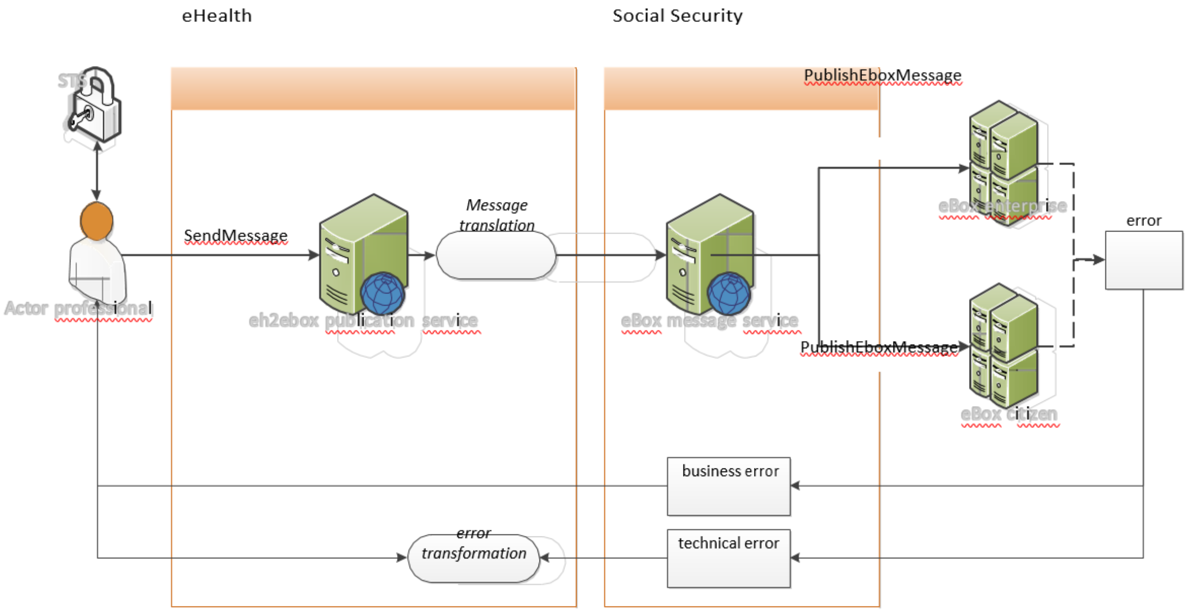
3.1.4 For business issues

- regarding an existing project: the project manager in charge of the application or service
- regarding a new project or other business issues: ***info@ehealth.fgov.be***

3.2 Status

The website ***https://status.ehealth.fgov.be*** is the monitoring and information tool for the ICT functioning of the eHealth services that are partners of the Belgian eHealth system.

4. Global overview



In order to send a message to the eH2eBox , the professional needs a secure token containing the identification of the actor, which should be the same one as used for the eHealthBox. For more information, see the STS Cookbook (referred in section 2.3 with ID 3) and the cookbook eHealthBox Publication WS (referred in section 2.3. with ID 4).

The Actor Professional performs one operation: SendMessage. This operation, coming from the end-user, is translated at the eHealth platform and sent to the PublishEboxMessage operation on the eBox enterprise or eBox citizen backend.

- A business error returned by the eBox Enterprise or eBox Citizen is forwarded to the client. For more information on this error handling: see section SendMessageResponse 5.2.1.2.
- A technical error returned by the eBox Enterprise or eBox Citizen, is transformed at the level of the eHealth platform before sending to the client. For more information on this error handling: see section 5.3.

5. Step-by-step

5.1 Technical requirements

Valid certificate in the correct environment (see eHealthBox requirements) Request access to the eH2eBox WS at ***info@ehealth.fgov.be***.

Retrieve UDDI information: please consult the API Catalog at the ***https://portal.api.ehealth.fgov.be/***

All the xml requests submitted to the eH2eBox WS must be encoded in the UTF-8 format.

5.1.1 Use of the eHealth SSO solution

The complete overview of the profile and a systematic implementation to start protecting a new application. For more information: please consult the cookbook Secure Token Service – HolderOfKey cookbook ***https://www.ehealth.fgov.be/ehealthplatform/Secure_Token_Service-HOK***

5.1.2 Security policies to apply

We expect that you use SSL one way for the transport layer.

As web service security policy, we expect:

- A timestamp (the date of the request), with a Time to live of one minute.(if the message doesn't arrive during this minute, he shall not be treated).
- The signature with the certificate of
  - the timestamp, (the one mentioned above)
  - the body (the message itself)
  - and the binary security token: an eHealth certificate or a SAML token issued by STS

  This will allow eHealth to verify the integrity of the message and the identity of the message author.

A document explaining how to implement this security policy can be obtained by eHealth.

The STS cookbook can be found on the eHealth portal.

https://www.ehealth.fgov.be/ehealthplatform/STS-cookbook.pdf

5.1.3 WS-I Basic Profile 1.1

Your request must be WS-I compliant (See Chap 2.4 External Document References).

5.1.4 Tracing

To use this service, the request SHOULD contain the following two http header values (see RFC

https://datatracker.ietf.org/doc/html/rfc7231#section-5.5.3):

1. User-Agent: information identifying the software product and underlying technical stack/platform. It MUST include the minimal identification information of the software such that the emergency contact (see below) can uniquely identify the component.
   a. Pattern: {minimal software information}/{version} {minimal connector information}/{connector-package-version}
   b. Regular expression for each subset (separated by a space) of the pattern: [[a-zA-Z0-9-\/]*\/[0-9azA-Z-_.]*
   c. Examples:
   User-Agent: myProduct/62.310.4 Technical/3.19.0
   User-Agent: Topaz-XXXX/123.23.X freeconnector/XXXXX.XXX
2. **From:** email-address that can be used for emergency contact in case of an operational problem
   Examples:
   From: *info@mycompany.be*

5.2 Web service

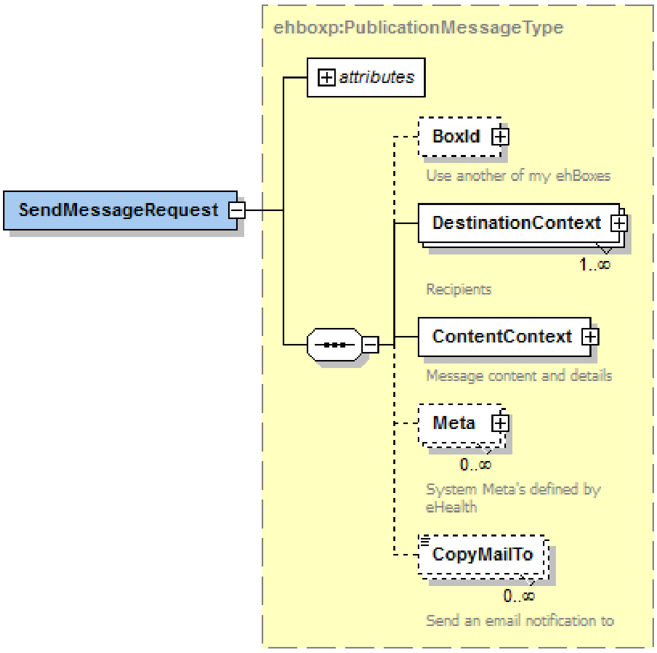
5.2.1 Method SendMessage

This method is identical to the SendMessage method of the eHealthBox itself. Nevertheless, there are some restrictions in order to be able to pass the message to the eBox of the social security. You will find them explained in section 5.2.1.1. Furthermore, violating the restrictions will return business errors (see section 8.1).

Therefore, the request sent in order to publish the eH2eBox content is schematically identical to the request sent in order to publish to the eHealthBox content.

5.2.1.1 SendMessageRequest

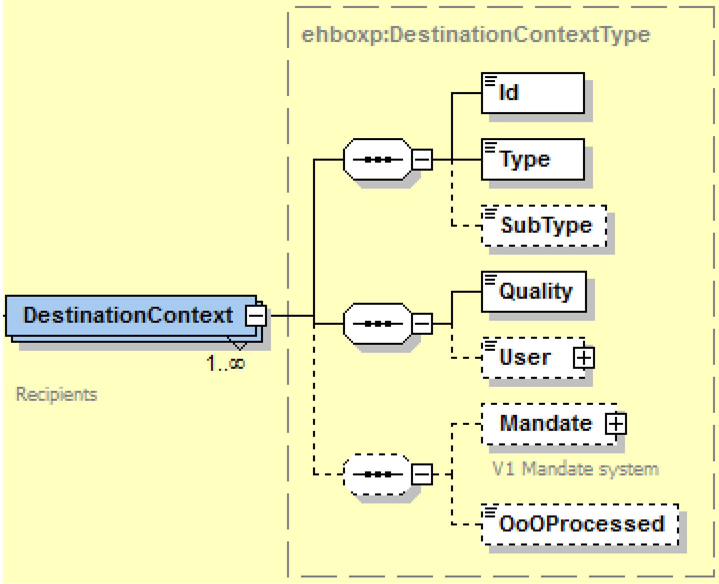
The schema of SendMessageRequest is:


ehboxp:PublicationMessageType
attributes
SendMessageRequest
BoxId
Use another of my ehBoxes
DestinationContext
1..∞
Recipients
ContentContext
Message content and details
Meta
0..∞
System Meta's defined by eHealth
CopyMailTo
0..∞
Send an email notification to

See section 5.3.5.1 of the cookbook eHealthBox Publication WS for detailed description of the different fields. For the eH2eBox incoming SendMessage request, following **restrictions** exist concerning the values of these fields:

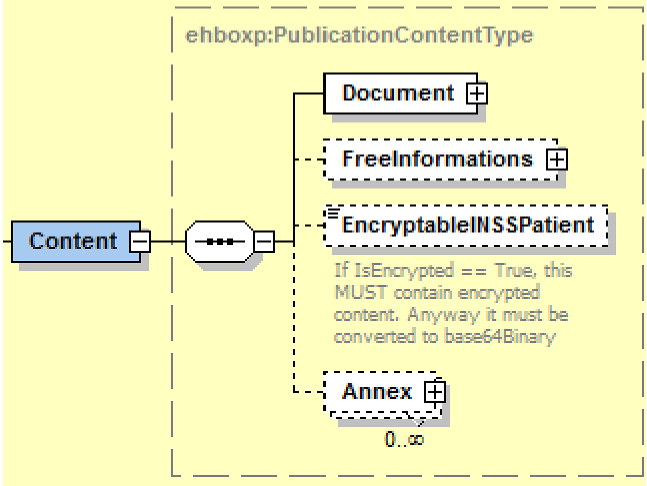
- **BoxId**

  The BoxId field is not used.
- **DestinationContext**



- ➢ For an eH2eBox request, **<u>a maximum of one DestinationContext elements</u>** can be listed.
- ➢ The Type element can only be ‘CBE’ or ‘INSS’
- ➢ The SubType element is not used.
- ➢ The sub-element **<u>Quality</u>** can only have the **<u>value INSTITUTION or CITIZEN</u>**. This Quality indicates if you are sending to eBox Enterprise or eBox Citizen.
- ➢ User element is not allowed.
- ➢ Mandate element is not allowed.
- ➢ OoOProcesssed is not used.

- **ContentContext\Content**


ehboxp:PublicationContentType
Document
FreeInformations
EncryptableINSSPatient
If IsEncrypted == True, this MUST contain encrypted content. Anyway it must be converted to base64Binary
Annex
0..∞
Content

- ➢ A document can never contain encrypted content, because this notion does not exist in eBox.
- ➢ A Document is immutable.
- ➢ MimeType should be one of the following: application/pdf, application/zip, text/csv, text/html, text/plain, text/xml, application/vnd.oasis.opendocument.text, application/vnd.oasis.opendocument.spreadsheet, application/vnd.oasis.opendocument.presentation, application/vnd.oasis.opendocument.graphics,

application/vnd.ms-excel,

application/vnd.openxmlformats-officedocument.spreadsheetml.sheet,

application/vnd.ms- powerpoint, application/msword,

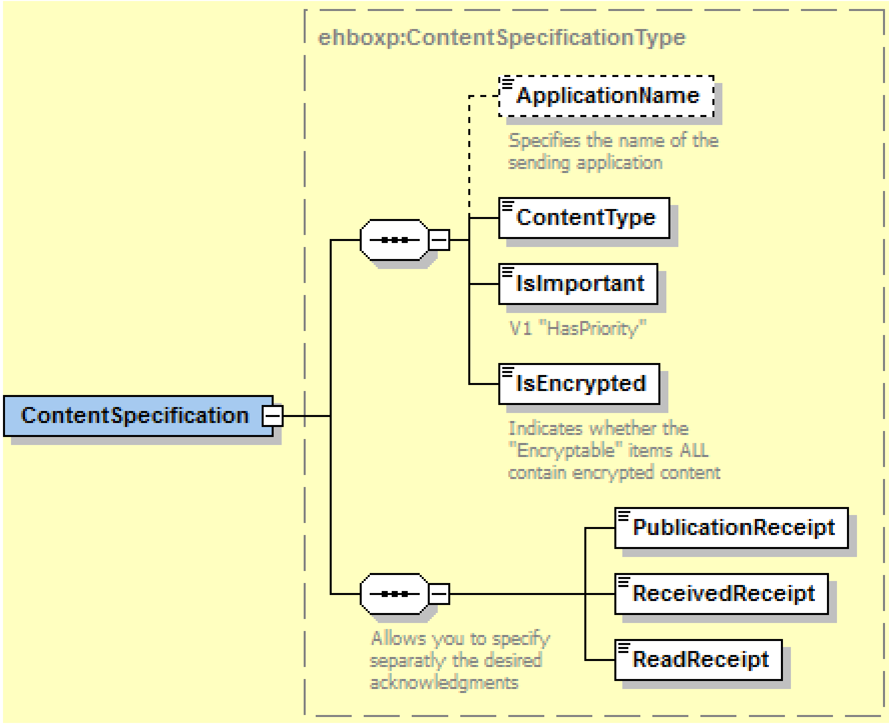
application/vnd.openxmlformats- officedocument.wordprocessingml.document.

However, only text/plain, text/xml and application/pdf are currently supported. The filename extension in the DownloadFileName element is also verified to match the MimeType. See table below.

MimeType	Filename extension
text/plain	txt or .csv
text/xml	.xml
application/pdf	.pdf

- ➢ The Digest definition differs slightly from the one in the eHBox. Here, the digest is the SHA-256 hash of the content (after base64 decoding for TextContent).
- ➢ FreeInformations element is not supported.
- ➢ EncryptableINSSPatient element is not supported.
- ➢ An Annex can never contain encrypted content. Same restrictions apply to the Document element.

- ContentContext\ContentSpecification


ehboxp:ContentSpecificationType
ApplicationName
Specifies the name of the sending application
ContentType
IsImportant
V1 "HasPriority"
IsEncrypted
Indicates whether the "Encryptable" items ALL contain encrypted content
PublicationReceipt
ReceivedReceipt
ReadReceipt
Allows you to specify separatly the desired acknowledgments
ContentSpecification

  - ➢ The subelement ApplicationName is not supported.
  - ➢ The subelement **IsEncrypted** MUST be set to false.
  - ➢ The subelement **ReceivedReceipt** MUST be set to false.
  - ➢ The subelement **ReadReceipt** MUST be set to false.
  - ➢ The subelement **PublicationReceipt** MUST be set to false.
  - ➢ The subelement **IsImportant** MUST be set to false.

- **ContentContext\CustomMeta**

  The only supported CustomMeta has a Key 'project' with an appropriate Value. The value should exactly match the project name for which you are using the eH2eBox . This key-value pair MUST be set. If not,

  You will receive a 'not authorized' error message.
  For more information, contact ***info@ehealth.fgov.be***

- **Meta**

  The Meta element is not supported.

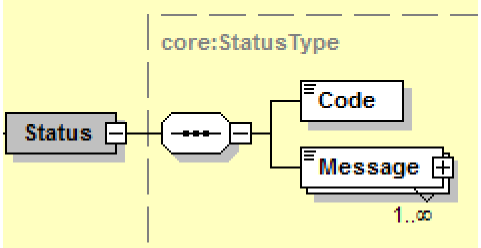
- **CopyMailTo**

  A maximum of five elements is supported.

If the above restrictions are not met, a proper business error will be thrown (see section 8.1.)

5.2.1.2 SendMessageResponse

The SendMessageResponse will always contain a SentPublicationId, linking this response to a SendMessageRequest. It will never contain Recipient information.



The Status element behaves as described in the cookbook eHealthBox Publication WS. Additional Codes, as listed below, have been added to this service.

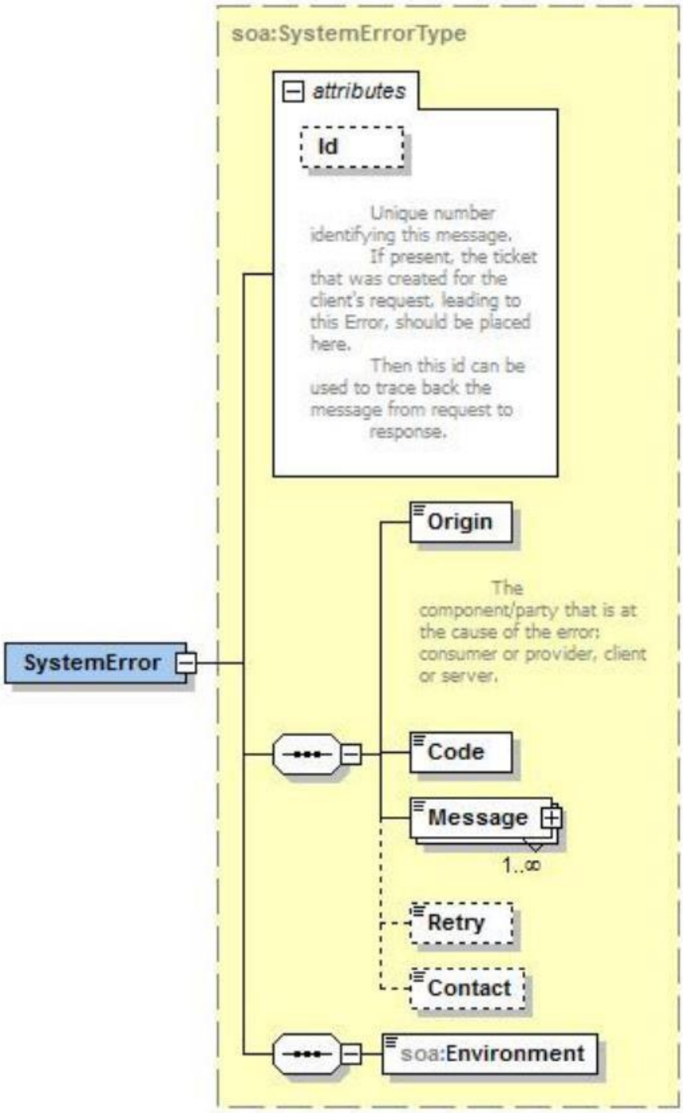
5.2.1.2.1 Status

Code	Reason	Message returned
831	More than 1 DestinationContext elements exist.	The eBox does not support more than one Recipient elements.
832	The element DestinationContext-> Quality is not INSTITUTION or CITIZEN. Furthermore - the DestinationContext->Type has to be CBE in case of INSTITUTION as Quality - the DestinationContext->Type has to beINSS in case of CITIZEN as Quality	The eBox only support INSTITUTION or CITIZEN (as Quality Code for the RecipientID element) with the appropriate Type.
833	The element DestinationContext->User exists	The eBox Recipient does not support a User element.
834	The element DestinationContext->Mandate exists	The eBox Recipient does not support a Mandate element.
835	The element ContentContext->Content->FreeInformations exists	The eBox does not support a FreeInformations element.
836	The element ContentContext->Content->EncryptableINSSPatient exists	The eBox does not support an EncryptableINSSPatient element.
837	More than five ContentContext->Content->Annex elements exist	The eBox does not support more than five Annex elements.
838	The element ContentContext- >ContentSpecification->IsEncrypted is set to true	The eBox ContentSpecification does not support encryption.
839	The element ContentContext->ContentSpecification->ReceivedReceipt exists	The eBox ContentSpecification does not support a ReceivedReceipt element.
840	The element ContentContext->ContentSpecification->ReadReceipt exists	The eBox ContentSpecification does not support a ReadReceipt element.
841	The element Meta exists	The eBox does not support a Meta element
842	More than five CopyMailTo elements exist	The eBox does not support more than fiveEmailAddresses elements.
843	The element ContentContext->ContentSpecification->PublicationReceipt exists	The eBox does not support a PublicationReceipt element.

844	The element ContentContext->ContentSpecification->IsImportant is set to true	The eBox ContentSpecification does not support flagging a message as important.
845	The element ContentContext->ContentSpecification->ContentType is not 'DOCUMENT'	The eBox only supports DOCUMENT in the ContentType element.
846	The number of characters in the element ContentContext->Content->Document->Title is not between [1,400]	The ebox only support Title (mapped as subject) between 1 and 400 characters.
847	The number of characters in the element ContentContext->Content->Document->DownloadFileName is not between [1,255]	The ebox only support DownloadFileName (mapped as filename) between 1 and 255 characters.
849	The element ContentContext->Content->Document **doesnt** exist	The ebox support a minimum of 1 attachment (ebox side) represented as a Document element in ehbox.
850	An element used from ehbox request to map the ebox request is null or empty.	The ebox doesn't support null or empty value.

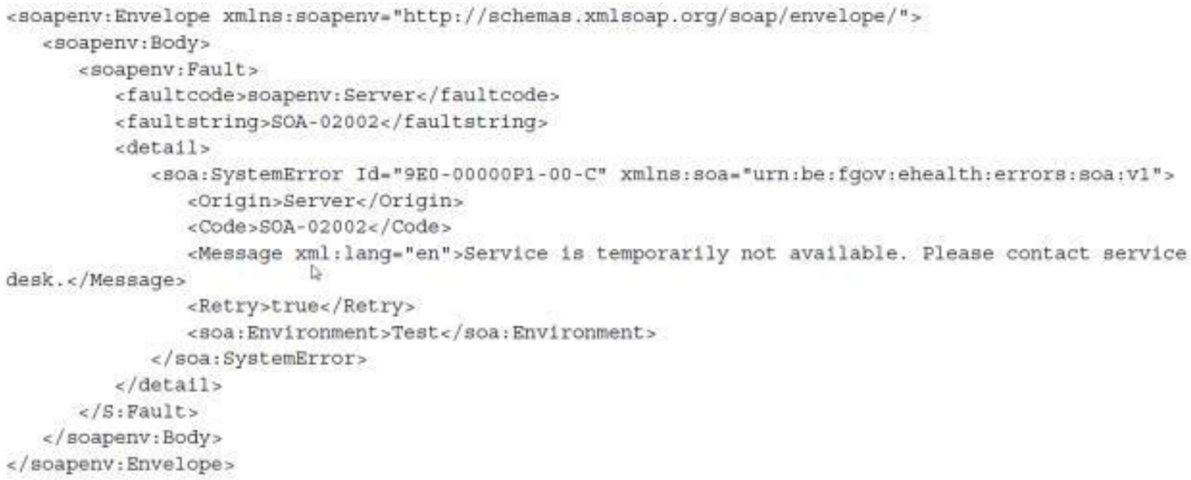
5.3 Technical errors

Technical errors are errors inherent to the internal working of a WS. They are returned as SOAP Faults. The SOA Standard for Error handling specifies a structure for SystemError and BusinessError, thrown as SOAP Faults. A SystemError MUST be thrown when a system failure occurred. It is not related to the business of the service. The SOA system error structure is as follows:


soa:SystemErrorType
attributes
Id
Unique number identifying this message. If present, the ticket that was created for the client's request, leading to this Error, should be placed here. Then this id can be used to trace back the message from request to response.
SystemError
Origin
The component/party that is at the cause of the error: consumer or provider, client or server.
Code
Message
1..∞
Retry
Contact
soa:Environment

The SystemError element contains a unique Id attribute for tracing. The origin is set to server or provider. Retry is set to true if the user can try again immediately without interventions.

Example:



```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
   <soapenv:Body>
      <soapenv:Fault>
         <faultcode>soapenv:Server</faultcode>
         <faultstring>SOA-02002</faultstring>
         <detail>
            <soa:SystemError Id="9E0-00000P1-00-C" xmlns:soa="urn:be:fgov:ehealth:errors:soa:v1">
               <Origin>Server</Origin>
               <Code>SOA-02002</Code>
               <Message xml:lang="en">Service is temporarily not available. Please contact service
desk.</Message>
               <Retry>true</Retry>
               <soa:Environment>Test</soa:Environment>
            </soa:SystemError>
         </detail>
      </S:Fault>
   </soapenv:Body>
</soapenv:Envelope>
```

The SOAP Fault element has the following sub elements:

Element name	Description	Required
faultcode	A code for identifying the fault	Yes
faultstring	A human readable explanation of the fault	Yes
Faultactor	Information about who caused the fault to happen (the origin)	No
detail	Holds application specific error information related to the Body element. E.g., it could include a java stack trace or any other kind of trace, used internally, to document on the cause of this error.	No

The default SOAP fault code values are defined in an extensible manner allowing new SOAP fault code values to be defined while maintaining backwards compatibility with existing fault code values.

Element name	Description
versionMismatc	Found an invalid namespace for the SOAP Envelope element.
mustUnderstand	An immediate Child element of the Header element, with the mustUnderstand attribute set to "1", was not understood.
Client	Message incorrectly formed or containing incorrect information.
Server	There was a problem with the server so the message could not proceed.

Description of the possible SOAP fault exceptions:

Error code	Component	Description	Solution/Explanation
SOA-00001	Undefined	Service error	This is the default error sent to the user in case further details are unknown.
SOA-01001	Consumer	Service call not authenticated	From the security information provided ● or the user could not be identified ● or the credentials provided are not correct

SOA-01002	Consumer	Service call not authorized	The user is identified and authenticated but is not allowed to call the given service.
SOA-02001	Provider	Service not available. Please contact service	• An unexpected error has occurred • Retries will not work
SOA-02002	Provider	Service temporarily not available. Please	• An unexpected error has occurred • Retries should work
SOA-03001	Consumer	Malformed message	This is default error for content related errors in case more details are lacking.
SOA-03002	Consumer	Message must be SOAP	Message does not respect the SOAP standard
SOA-03003	Consumer	Message must contain SOAP body	Message respects the SOAP standard, but body is missing
SOA-03004	Consumer	WS-I compliance failure	Message does not respect the WS-I standard
SOA-03005	Consumer	WSDL compliance failure	Message is not compliant with WSDL in Registry/Repository
SOA-03006	Consumer	XSD compliance failure	Message is not compliant with XSD in Registry/Repository
SOA-03007	Consumer	Message content validation failure	From the message content (conform XSD): • Extended checks on the element format failed