



**ConsultRN - phoneticSearch
Cookbook
Version 1.3**

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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	20/08/2009	eHealth platform	Initial version
1.1	26/10/2016	eHealth platform	Add new list of error codes Update examples Update description of xml element
1.2	26/06/2017	eHealth platform	Update description of xml elements (request/response)
1.3	12/02/2018	eHealth platform	Add technical section for individual

2. Introduction

2.1 Goal of the document

This document provides technical information on calling the web service (WS) PhoneticSearch, as provided by the eHealth-platform. This WS will allow our partners in the health sector to query the National Registry of Belgian citizen data, directly from their own applications.

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.

2.2 eHealth platform document references

- On the portal of the eHealth platform¹, you can find all the referenced documents. These versions or any following versions can be used for the eHealth platform service.
- The description of data returned by the KSZ can be found on the KSZ portal:
 - In dutch : <https://www.ksz-bcss.fgov.be/nl/diensten-en-support/diensten/ksz-registers>
 - In french : <https://www.ksz-bcss.fgov.be/fr/services-et-support/services/registre-national>

¹ <https://www.ehealth.fgov.be/ehealthplatform>

3. Support

3.1 For issues in production

eHealth platform contact center:

- Phone: 02/788 51 55
- 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)

3.2 For issues in acceptance

Integration-support@ehealth.fgov.be

3.3 For business issues

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

3.4 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 relevant documentation in the section “Basisdiensten” (NL) or “Services de base” (F) on the portal of the eHealth platform¹.
- For technical issues regarding eHealth platform certificates
Acceptance: acceptance-certificates@ehealth.fgov.be
Production: support@ehealth.fgov.be

3.5 Authorization from sectoral committee

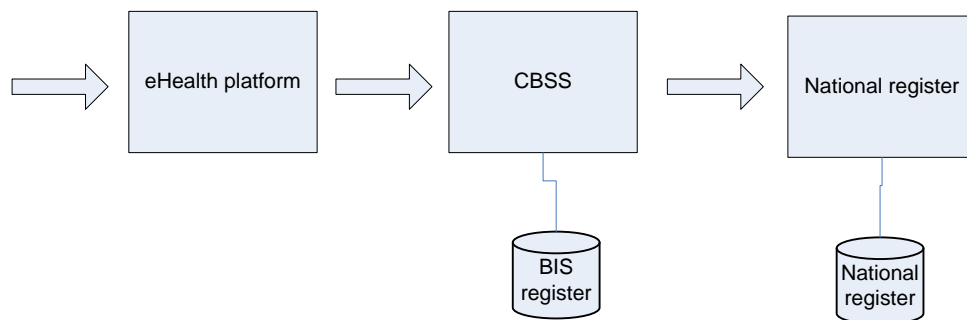
For consult RN, an authorization from the sectoral committee is needed.



4. Global overview

This document provides technical information on calling the WS PhoneticSearch, as provided by the eHealth-platform. This WS will allow our partners in the health sector to query the National Registry of Belgian citizen data, directly from their own applications.

The service PhoneticSearch allows retrieving information according to the sectorial committee on the name, birth data, gender, decease data, civil state data, nationality, address of a person, on basis of phonetic criteria. Therefore, the called eHealth-service will internally connect to the CBSS, using a corresponding CBSS WS connected to the National Registry and BIS registry.



In this cookbook, we explain the structure and content aspects of the possible requests and the replies of the eHealth WS. An example illustrates each of those messages. In addition, a list of possible errors can be found in the document.

This information should allow (the IT department of) an organization to develop and use the WS call.

Some technical and legal requirements must be satisfied in order to allow the integration of the eHealth WS in client applications;

This document is not a development or a programming guide for internal applications; the partners of the eHealth platform always keep a total freedom within those fields. Nevertheless, in order to interact in a smooth, homogeneous and risk controlled way with a maximum of partners, eHealth partners must commit to comply with specifications, data format, and release processes described within this document. In addition, our partners in the health sector must also comply with the business rules of validation and integration of data within their own applications in order to minimize errors and incidents.

5. Step-by-step

The call to the phoneticSearch WS is subject to several conditions.

5.1 Healthcare institution

- An authorization of the sectoral committee and the compliance with the integration procedure. By applying this procedure, the eHealth platform will provide you with your **applicationID**, which is used by the eHealth platform to grant specific rights. For more information, please refer to the section “Basisdiensten” (NL) or “Services de base” (F) on the portal of the eHealth platform¹.
- An eHealth certificate, used to identify the initiator of the request. If you do not have one, please refer to the section “Basisdiensten” (NL) or “Services de base” (F) on the portal of the eHealth platform¹.
- Time synchronisation: the servers of the eHealth platform are synchronized to a pool of global servers using NTP protocol. Partner’s clock offset cannot be more than 60 seconds against eHealth’s or the request could be discarded.

5.2 Healthcare professional

In order to be able to access ConsultRN services as a healthcare professional, you need a valid token. To implement a WS call protected with a SAML token you can reuse the implementation as provided in the “eHealth technical connector”. Nevertheless, implementations of the eHealth platform use standards. Any other compatible technology (WS stack for the client implementation) can be used instead. Please refer to section “connector” on the portal of the eHealth platform¹.

Alternatively, you can write your own implementation. The usage of the Secure Token Service (STS) and the structure of the exchanged XML-messages are described in the eHealth STS cookbook. Please refer to the section “Basisdiensten” (NL) or “Services de base” (F) on the portal of the eHealth platform¹.

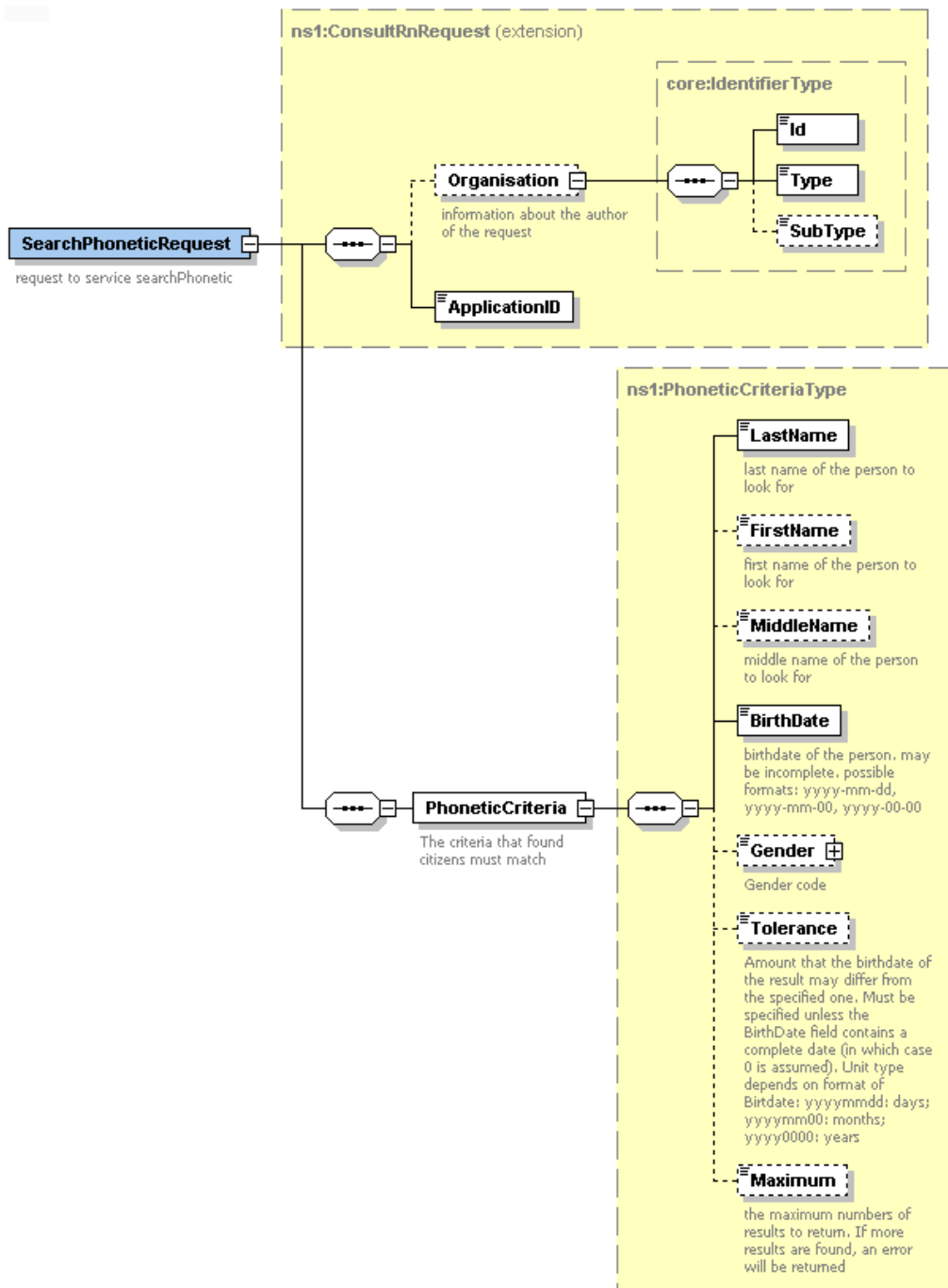
The technical information how to obtain a SAML token from the STS (Secure Token Service) can be found in the separate document ConsultRN SSO on the portal of the eHealth platform¹.



6. Description of xml-message

6.1.1 Formulation a request

A request to have personal information on basis of phonetic criteria looks as follows:



The first part, common to all WS consulting the National Registry, contains:

Field name	Descriptions
Organisation	The organization block contains information about the organization having mandated the end user to make the request. <i>At the time, mandates are not allowed. Therefore, if this information is mentioned, it must be the same as the one existing in the certificate.</i> (More information see section 7.1.1).
ApplicationID	The ApplicationID contains a number given by the eHealth platform identifying the organization and the authorization given for a certain purpose to this organization. (Same format as an SSIN). <u>Healthcare institution</u> The value is the number given by the sectoral committee. <u>Healthcare professional</u> The value must be '0'.

The second part (PhoneticCriteria) contains data about the persons to look for.

Field name	Descriptions
LastName	This field contains the last name of the person. The last name is limited to 48 characters. Otherwise, an error will be returned.
FirstName	This field contains the first name of the person.
MiddleName	This field contains the middle name of the person.
BirthDate	This field contains the birth date. The date can be complete or incomplete (only the year is known: 1979-00-00 or only the year and the month is known: 1979-10-00). For an incomplete date, you must define a <i>tolerance</i> .
Gender	This field contains the gender of the person. The possible values are : MALE, FEMALE <u>Remark:</u> For an unknown gender, this element does not be in your request.
Tolerance	This field contains the amount of months or years that the birthdate of the result may differ from the specified one. Example: For an unknown month: Birthdate= 1979-10-00 and Tolerance= 2 will give all results between 1979-08 and 1979-12. For an unknown year: Birthdate= 1979-00-00 and Tolerance= 2 will give all result between 1977 and 1981. <u>Remark:</u> The tolerance for the day is not supported
Maximum	This field contains the maximum numbers of results to return. This number is limited to maximum 50 results (CBSS register) and 20 results (NR register). If more than 20 results (NR register) or 50 results (CBSS register) are found, an error will be returned.

Example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:urn="urn:be:fgov:ehealth:consultRN:1_0:protocol">
  <soapenv:Header/>
  <soapenv:Body>
    <urn:SearchPhoneticRequest>
      <ApplicationID>xxxxxxxxxx</ApplicationID>
    </urn:SearchPhoneticRequest>
  </soapenv:Body>
</soapenv:Envelope>
```



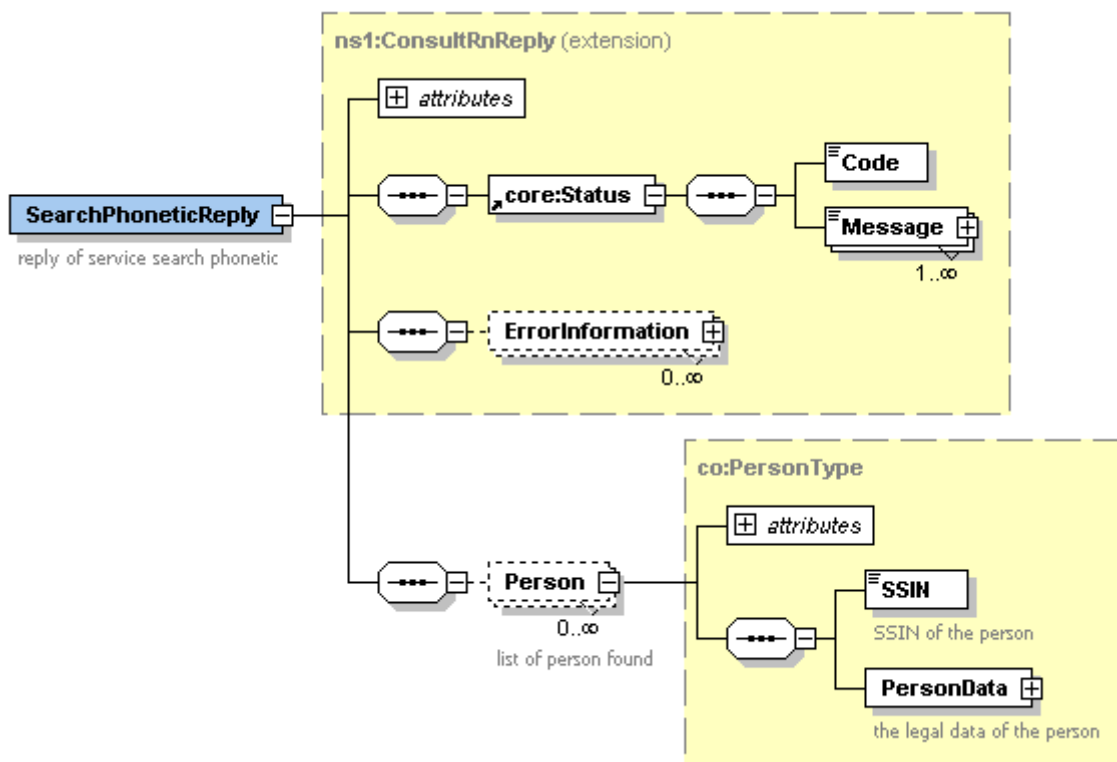
```

<PhoneticCriteria>
  <LastName>Last name</LastName>
  <FirstName>Firstname</FirstName>
  <BirthDate>1980-04-00</BirthDate>
  <Tolerance>8</Tolerance>
  <Maximum>10</Maximum>
</PhoneticCriteria>
</urn:SearchPhoneticRequest>
</soapenv:Body>
</soapenv:Envelope>

```

6.2 Interpretation of the Reply

The response to phonetic search (searchPhoneticReply) is the same as a search by SSIN (except, there could be several persons returned):



The first part, common to all WS consulting the National Registry, contains:

Field name	Descriptions
@Id	The number attributed to the request/reply by the eHealth platform.
Status	<p>The <i>Status</i> block will contain a code and a message. If no error has occurred during the transaction, the <i>Code</i> will be '100' and the <i>Message</i> 'SUCCESS'. Otherwise:</p> <ul style="list-style-type: none"> The <i>Code</i> will be an error code, which identifies the problem (more information see section 8). A problem can be related to the infrastructure (availability of the webservice,) or content of the request. The <i>Message</i> will be a description of the error.

Error Information (not used)	This indicated more information about the reason of the failure (if known).
-------------------------------------	---

The second part contains information on the found person. (See section 7.1.2)

Remarks:

1. Only those data are returned to which you are authorized to access.
2. Results may be as well in uppercase or in Lowercase.

Example:

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns3:SearchPhoneticReply Id="CRN0000000004HA" xmlns:ns2="urn:be:fgov.ehealth:commons:1_0:core"
      xmlns:ns3="urn:be:fgov.ehealth:consultRN:1_0:protocol">
      <ns2:Status>
        <Code>100</Code>
        <Message Lang="EN">Service successful</Message>
      </ns2:Status>
      <Person Origin="BCSS_KSZ">
        <SSIN>12345678911</SSIN>
        <PersonData>
          <Birth>
            <Date>1984-04-02</Date>
          </Birth>
          <Name>
            <First>Fistname</First>
            <Middle>Middle name</Middle>
            <Last>Last name</Last>
          </Name>
          <Gender>MALE</Gender>
          <Nationality ModificationDate="1979-07-27">
            <InsCode>111</InsCode>
            <Description Lang="FR">France</Description>
            <Description Lang="NL">Frankrijk</Description>
            <Description Lang="DE">Frankreich</Description>
          </Nationality>
        </PersonData>
      </Person>
      <Person Origin="RN_RR">
        <SSIN>12345678912</SSIN>
        <PersonData>
          <Birth>
            <Date>1980-09-08</Date>
          <Localisation>
            <Municipality>
              <InsCode>21009</InsCode>
              <Description Lang="FR">Ixelles</Description>
              <Description Lang="NL">Elsene</Description>
            </Municipality>
            <Country>
              <InsCode>150</InsCode>
              <Description Lang="FR">Belgique</Description>
              <Description Lang="NL">België</Description>
              <Description Lang="DE">Belgien</Description>
            </Country>
          </Localisation>
        </PersonData>
      </Person>
    </ns3:SearchPhoneticReply>
  </S:Body>
</S:Envelope>
```



```

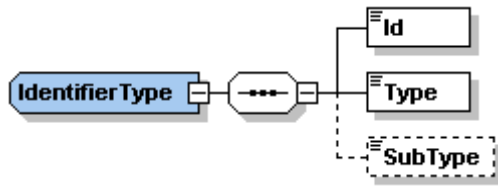
        </Country>
    </Localisation>
</Birth>
<Name>
<First>Firstname</First>
    <Middle>Middle name</Middle>
    <Last>Last name</Last>
</Name>
<Gender>MALE</Gender>
<Nationality ModificationDate="1980-09-08">
    <InsCode>150</InsCode>
    <Description Lang="FR">Belgique</Description>
    <Description Lang="NL">België</Description>
    <Description Lang="DE">Belgien</Description>
</Nationality>
<Civilstate ModificationDate="2016-05-30">
    <Code>41</Code>
    <Description Lang="FR">Divorce prononcé en application de la loi du 30/06/1994</Description>
    <Description Lang="NL">Echtscheiding uitgesproken met toepassing van de wet van 30/06/1994</Description>
    <Localisation>
        <Municipality>
            <InsCode>21015</InsCode>
            <Description Lang="FR">Schaerbeek</Description>
            <Description Lang="NL">Schaarbeek</Description>
        </Municipality>
        <Country>
            <InsCode>150</InsCode>
            <Description Lang="FR">Belgique</Description>
            <Description Lang="NL">België</Description>
            <Description Lang="DE">Belgien</Description>
        </Country>
    </Localisation>
</Partner>
    <SSIN>12345678919</SSIN>
    <Name>
        <First>Firstname</First>
        <Last>Lastname</Last>
    </Name>
</Partner>
</Civilstate>
</PersonData>
</Person>
</ns3:SearchPhoneticReply>

```

7. Generic structure

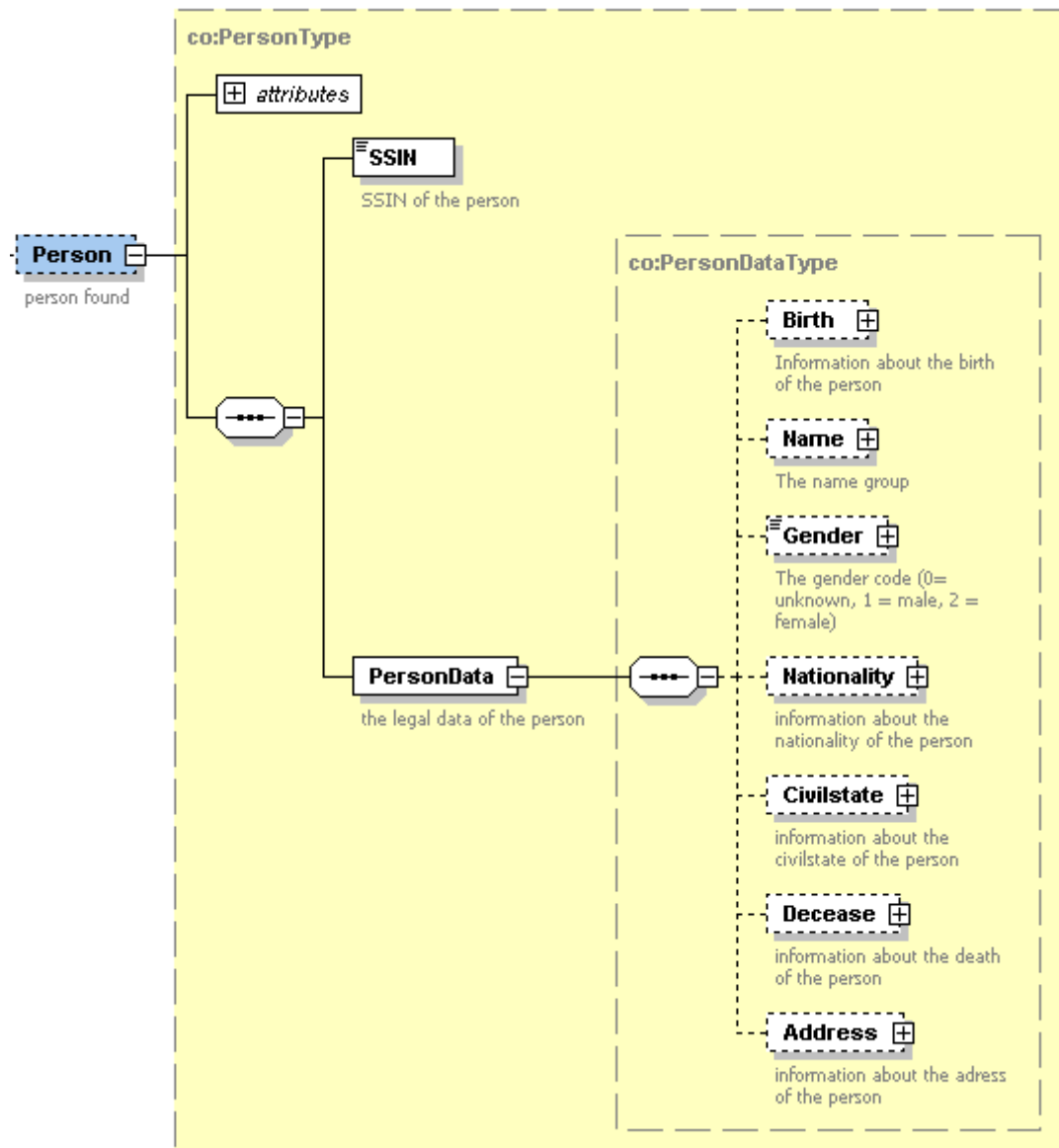
7.1.1 Identifier

An identifier is schematized as follows:



Field name	Descriptions
Id	Number identifying the organization
Type	The Type field identifies the organization type: <ul style="list-style-type: none"> - RIZIV-INAMI number, use type NIHII - Enterprise number, use type "CBE" - EHP number, use type "EHP"
Subtype	The Subtype field provides further specification on the organization type. For example, a hospital is identified with the type NIHII and the subtype HOSPITAL. The list of supported organizations can be found on the portal of the eHealth platform ¹ . (Webservices ConsultRN in the Section "Basisdiensten" (NL) or "Services de base" (F))

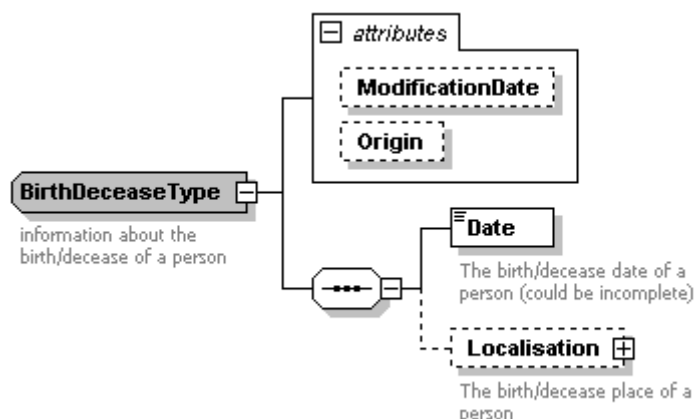
7.1.2 Person



Field name	Descriptions
<code>@Origin</code>	This fields contains the source of this information: national register (NR) of BIS register (CBSS).
<code>@ModificationDate (deprecated)</code>	This field contains the date since when the information are valid (yyyy-mm-dd).
<code>SSIN</code>	The SSIN field contains the INSS number of the individual.
<code>Birth</code>	This block contains information about the date and the location of the birth (more information see section 7.1.3)
<code>Name</code>	This block contains information about the name of the person (more information see section 7.1.5).
<code>Gender</code>	This block contains information about the gender of the person (more information see section 7.1.6).

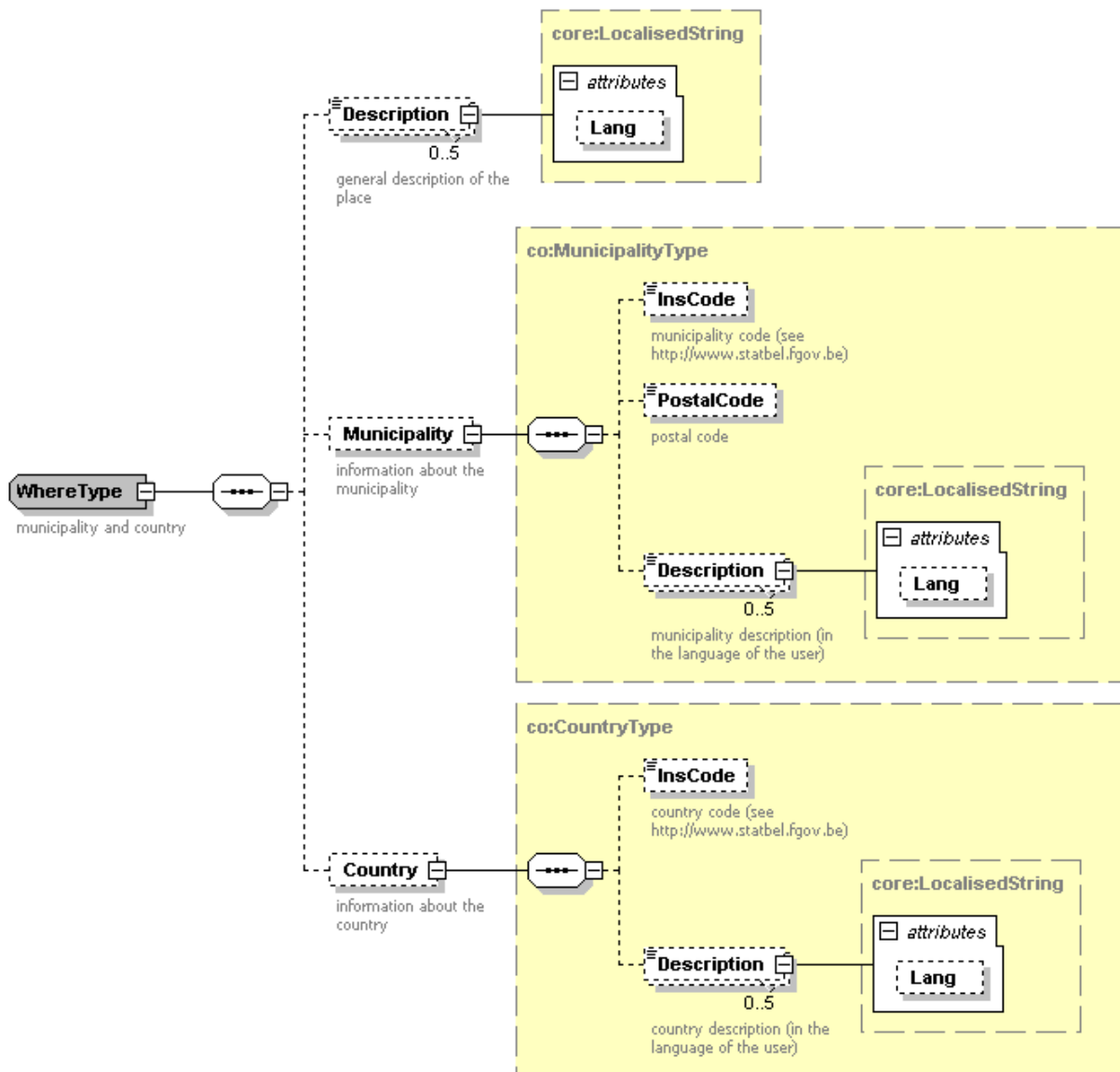
Nationality	This block contains information about the nationality of the person (more information see section 7.1.7).
Civilstate	This block contains information about the civilstate of the person (more information see section 7.1.8).
Decease	This block contains information about the decease of the person (only present if the person is deceased, more information see section 7.1.3).
Address	This block contain the address of the person (more information see section 7.1.9).

7.1.3 BirthDeceaseType



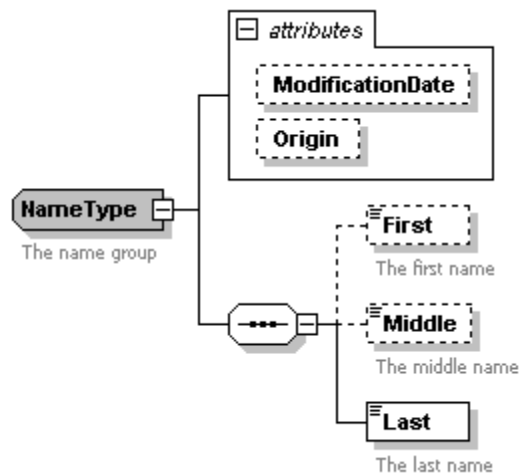
Field name	Descriptions
@ModificationDate (deprecated)	This field contains the date since when this information IS valid (yyyy-mm-dd).
@Origin	This field contains the source of this information: national register (NR) or BIS register (CBSS).
Date	This field contains the birthdate or the decease date (yyyy-mm-dd). The date can be incomplete (only the year is known: 1979-00-00 or only the year and the month is known: 1979-10-00).
Localisation	This block contains the localization of the birth or the decease (more information see section 7.1.4).

7.1.4 WhereType



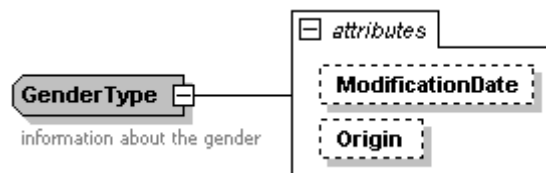
Field name	Descriptions
Description (not used)	This field contains a description of the location (this information cannot be linked to a municipality or a country).
Municipality	This block contains information about the municipality (only used when the location is in Belgium): <ul style="list-style-type: none"> - Inscore contains the INS code of the municipality - Description contains the description of the municipality - Postalcode contains the postal code of the municipality
Country	This block contains information about the country: <ul style="list-style-type: none"> - The Inscore contains the INS code of the country - Description contains the description of the country

7.1.5 NameType



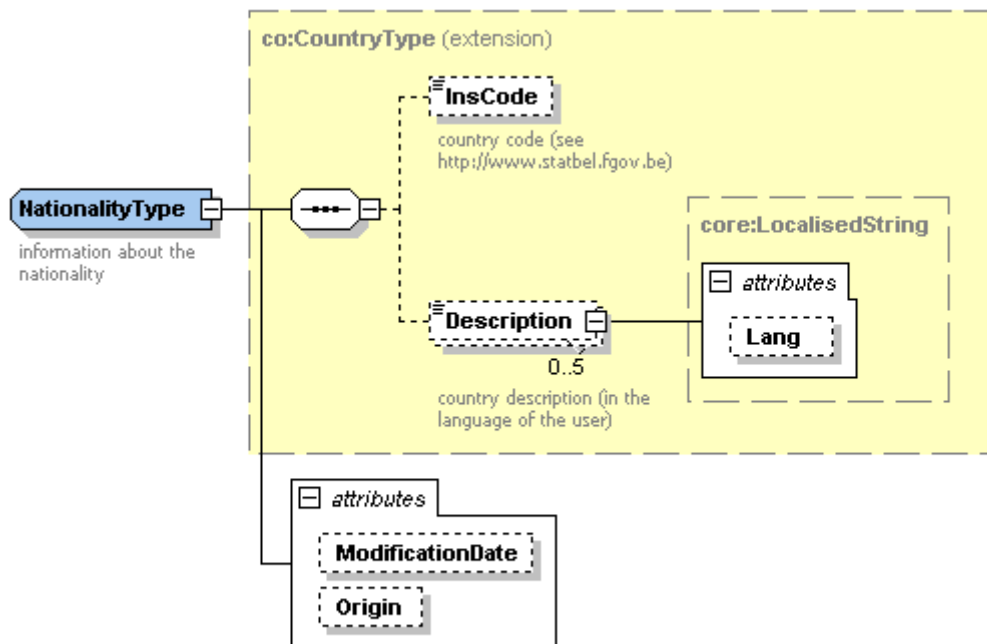
Field name	Descriptions
@ModificationDate	This field contains the date since when this information are valid (yyyy-mm-dd).
@Origin	This field contain the source of this information: national register of BIS register.
First	This field contains the first name of the person.
Middle	This field contains the middle name of the person.
Last	This field contains the last name of the person. If the last name contains more than 48 characters, the first 48 characters will be returned in the response.

7.1.6 GenderType



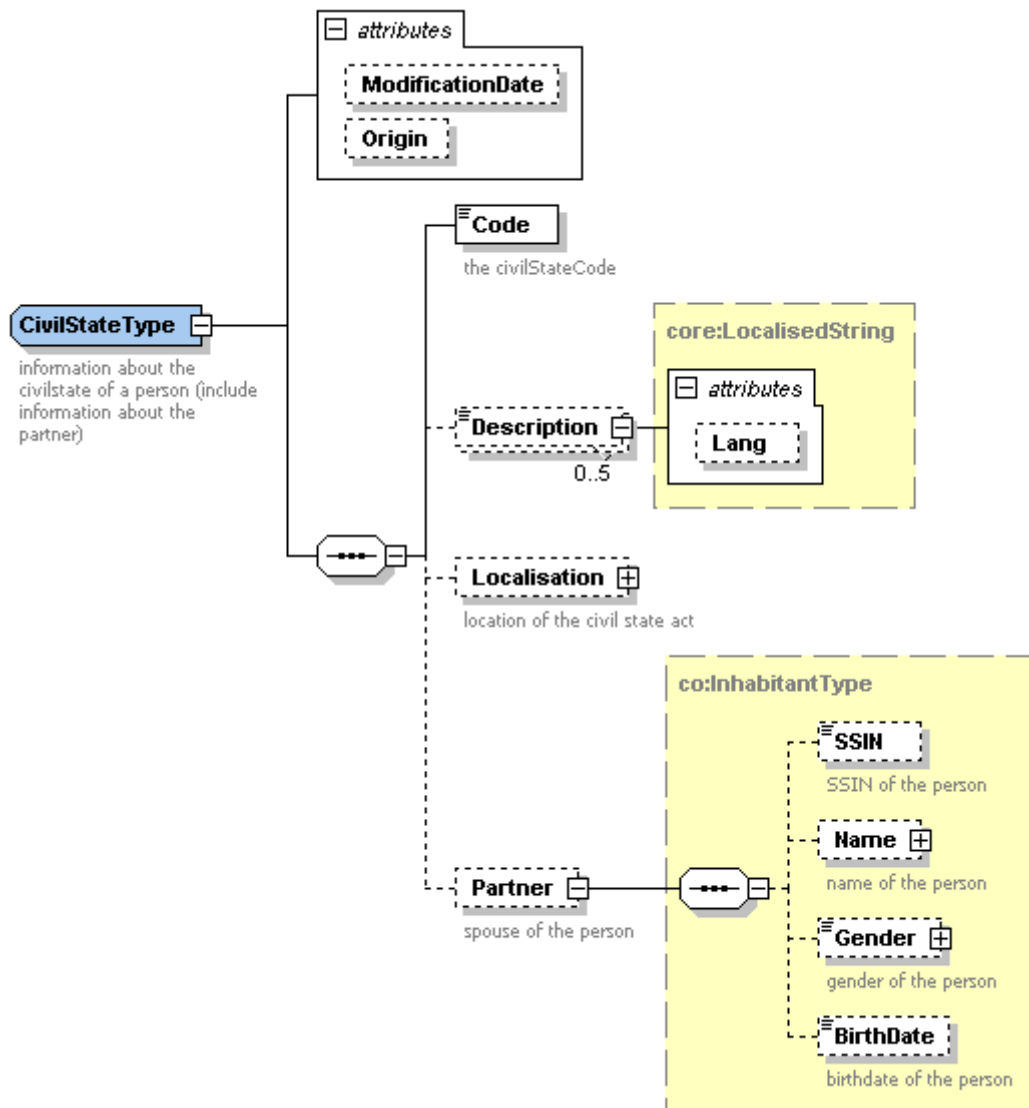
Field name	Descriptions
@ModificationDate	This field contains the date since when the information is valid (yyyy-mm-dd).
@Origin	This field contains the source of this information: national register (NR) of BIS register (CBSS).

7.1.7 NationalityType



Field name	Descriptions
@ModificationDate	This field contains the date since when this information is valid (yyyy-mm-dd).
@Origin	This field contains the source of this information: national register (NR) or BIS register (CBSS).
InsCode	This field contains the Ins code of the country.
Description	This field contains the description of the country.

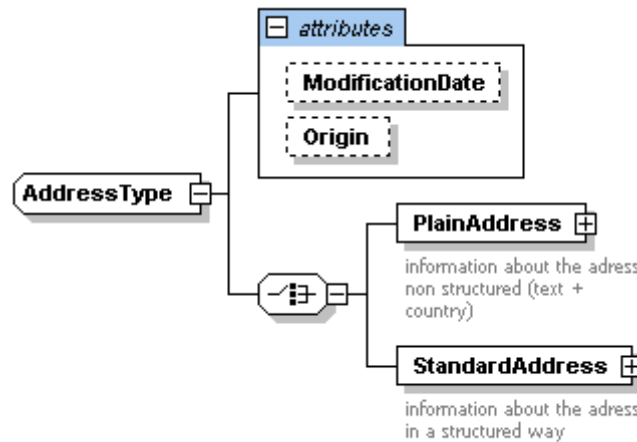
7.1.8 CivilStateType



Field name	Descriptions
@ModificationDate	This field contains the date since when the information is valid (yyyy-mm-dd).
@Origin	This field contains the source of this information: national register (NR) or BIS register (CBSS).
Code	This field contains the code indicating the civil state of the person.
Description	This field contains the description of this code.
Localisation	This block contains the localisation linked to civil state. Example: localization of wedding. (More information see section 7.1.4).

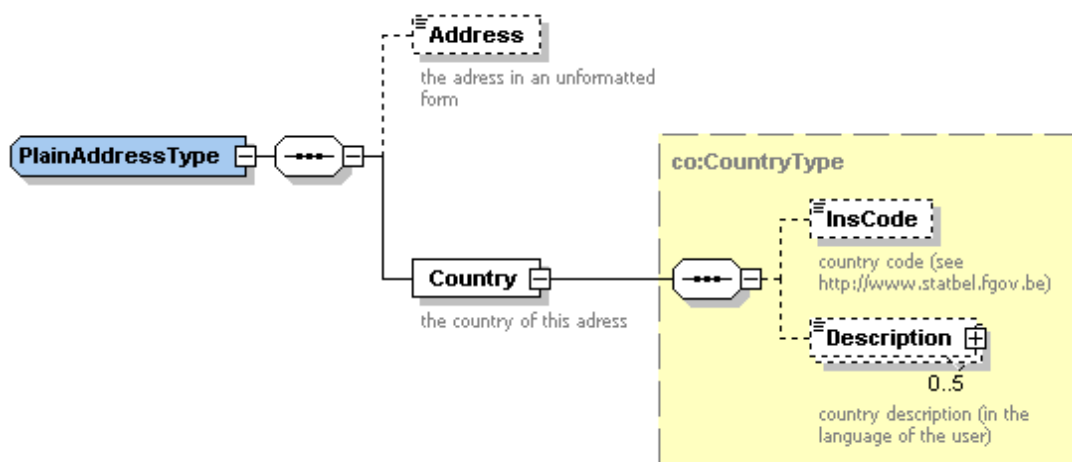
Partner	<p>This field contains information about the partner :</p> <ul style="list-style-type: none"> - the SSIN - the name (see section 7.1.5) - the gender (see section 7.1.6) - the birthdate <p>Remark: in the case of a widow or a divorce, the information about the partner will be not returned in the response.</p>
----------------	--

7.1.9 AddressType



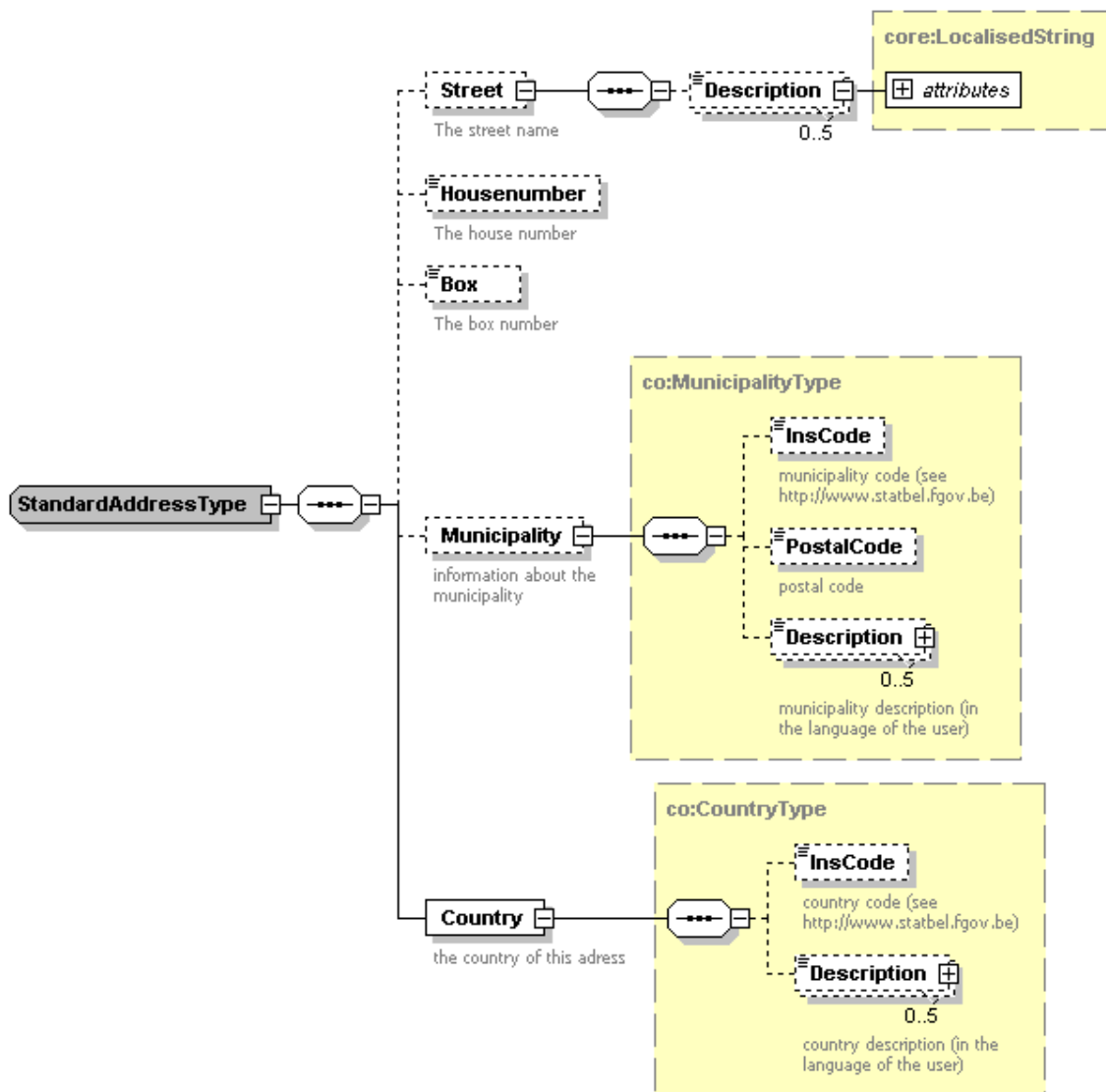
Field name	Descriptions
@ModificationDate	This field contains the date since when the information is valid (yyyy-mm-dd) .
@Origin	This field contains the source of this information: national register (NR) or BIS register (CBSS).
PlainAddress	This block contains an address “unstructured”, only used when no standard address is available (more information see section 7.1.10).
StandardAddress	This block contains an address with clear separation: street, number, municipality (more information see section 7.1.11).

7.1.10 PlainAddressType



Field name	Descriptions
Address	This field contains all the information known about the address (except the country).
InsCode	This field contains the Ins code of the country.
Description	This field contains the description of the country. Remark: the attribute <i>Lang</i> can be nil.

7.1.11 StandardAddressType



Field name	Descriptions
Street/Description	This field contains the street (and the translation if the street is in a bilingual municipality).
Housenumber	This field contains the number.
Box	This field contains the box.
Municipality/InsCode	This field contains the Ins code of the commune (only if the municipality is in Belgium).

Municipality/Postalcode	This field contains the postal code.
Municipality/Description	This field contains the description of the municipality (and the translation if this is in a bilingual municipality). Remark: the attribute <i>Lang</i> can be nil.
Country/InsCode	This field contains the Ins code of the country.
Country/Description	This field contains the description of the country. Remark: the attribute <i>Lang</i> can be nil.

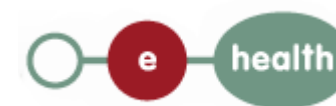
8. Error and failure messages

Each error message returned by the webservice will have the following structure:

```
<?xml version="1.0" encoding="UTF-8"?>
<ns1: SearchPhoneticReply Id=" CRN00000000004N6" xsi:schemaLocation="urn:be:fgov:health:consultRN:1_0:protocol
IdentifyPerson-1-0.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:eH="urn:be:fgov:health:commons:1_0:core" xmlns:ns1="urn:be:fgov:health:consultRN:1_0:protocol">
  <eH:Status>
    <Code>Error code</Code>
    <Message>Error type</Message>
    <Message>Error description</Message>
  </eH:Status>
</ns1: SearchPhoneticReply>
```


Error code	Error type	Error description	Action
0	Business Problem : invalid author	HCP Identifier is not in database	CBE, NIHI or EHP identifier is not configured in database. Please contact the contact center
1	Business Problem : invalid author	Application not in database	The application Id is not configured in the database. Please contact the contact center
2	Business Problem : invalid author	No granted right found for application	The application Id is not allowed to call the webservice. Please contact the contact center
4	Business Problem : invalid author	Bad application ID (malformed)	The application Id is not valid. Please use a correct application Id in your request.
8	Business Problem : invalid author	The applicationId is not linked to the organisation	Please contact the contact center
11 - 40	Technical Error	Technical Error: While Delegating To Subsystem (CBSS webservice)	Please contact the contact center
41 – 59	Technical Error	Technical Error: Problem With System (eHealth)	Please contact the contact center
60	business error: invalid request	SSIN malformed	Please check that INSS in your request is valid.
61	business error: invalid request	Required field missing	A needed field is missing in your request
62	business error: invalid request	Condition not satisfied	Please check in your request that StartDate != EndDate and StartDate >= currentDate
63	business error: invalid request	Invalid phonetic search criteria	The search criterion in your request is incorrect.
72	business error : No data found	No data found	There is no information about the individual.

73	business error : Too much results	Too much results	There are more than 50 results in the response. Be more specific in your request in order to retrieve information about individuals.
86	business error : wrong quality	Wrong quality (IdentifyPerson)	Please check that you use a valid quality code in your request.



9. Test and release procedures

9.1 Request to integrate the service (acceptation environment)

Integration procedures for the different type of authorized actors are described on the portal of the eHealth platform¹.

1. First, the users will need to request an agreement from the sectoral committee secretary@socsec.committee.belgium.be.
2. An approval letter from the sectoral committee, and a project identifier number ,“application ID”, shall be sent to the users
3. The “integration team” supports the rest of the integration.

9.2 Development and test procedure

- The Consult RN tests are a set of test scenarios that cover the integration of the set of WS (Identify person, Phonetic search, manage inscription, person history and mutation sender).
- The test scenarios are available on the portal of the eHealth platform¹.
- In order to get your production application ID, you should first prove in the acceptance environment that you have correctly implemented the call to the services. Therefore, you’ll need to complete the test scenario form” and send it to the integration team

9.3 Maintenance, support and monitoring of the service

Once in production, the partner in the health sector who uses the WS for one of his applications will always test firstly in acceptance before releasing any adaptations of his application. In addition, the partner will inform the eHealth platform on the changes and test period.

In case of technical issues on the WS, the technician of the partner in the health sector may obtain support from the contact center of the eHealth platform.

10. Risks and security

10.1 Security

10.1.1 Business security

In case the development adds an additional use case based on an existing integration, the eHealth platform must be informed at least one month in advance with a detailed estimate of the expected load. This will ensure an effective capacity management.

In case of technical issues on the WS, the partner may obtain support from the contact center (see Chap 3);

In case the eHealth platform finds a bug or vulnerability in its software, we advise the partner to update his application with the newest version of the software within 10 business days.

In case the partner finds a bug or vulnerability in the software or web service that the eHealth platform delivered, he is obliged to contact and inform us immediately. He is not allowed to publish this bug or vulnerability in any case.

10.1.2 Web service

Web service security used in this manner is following the common standards. Your call will provide:

- SSL one way
- An X.509 certificate. This will contain the identifiers of the caller: NIHL number or enterprise number. More information on the contents of the certificate, see section 4. More information on how to obtain a certificate see the portal of the eHealth platform¹.
- Time to live of the message: one minute.
- Signature of the timestamp, body and binary security token. This will allow eHealth to verify the integrity of the message and the identity of the message author.
- No encryption on the message.
- For further information, please refer to the separate document. In order to use the web services, an agreement from the eHealth platform is required.

10.1.3 The use of username, password and token

The username, password and token are strictly personal. Partners and clients are not allowed to transfer them. Every user takes care of his username, password and token and he is forced to confidentiality of it. Moreover, every user is responsible of every use, which includes the use by a third party, until the inactivation.

