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FINANCES

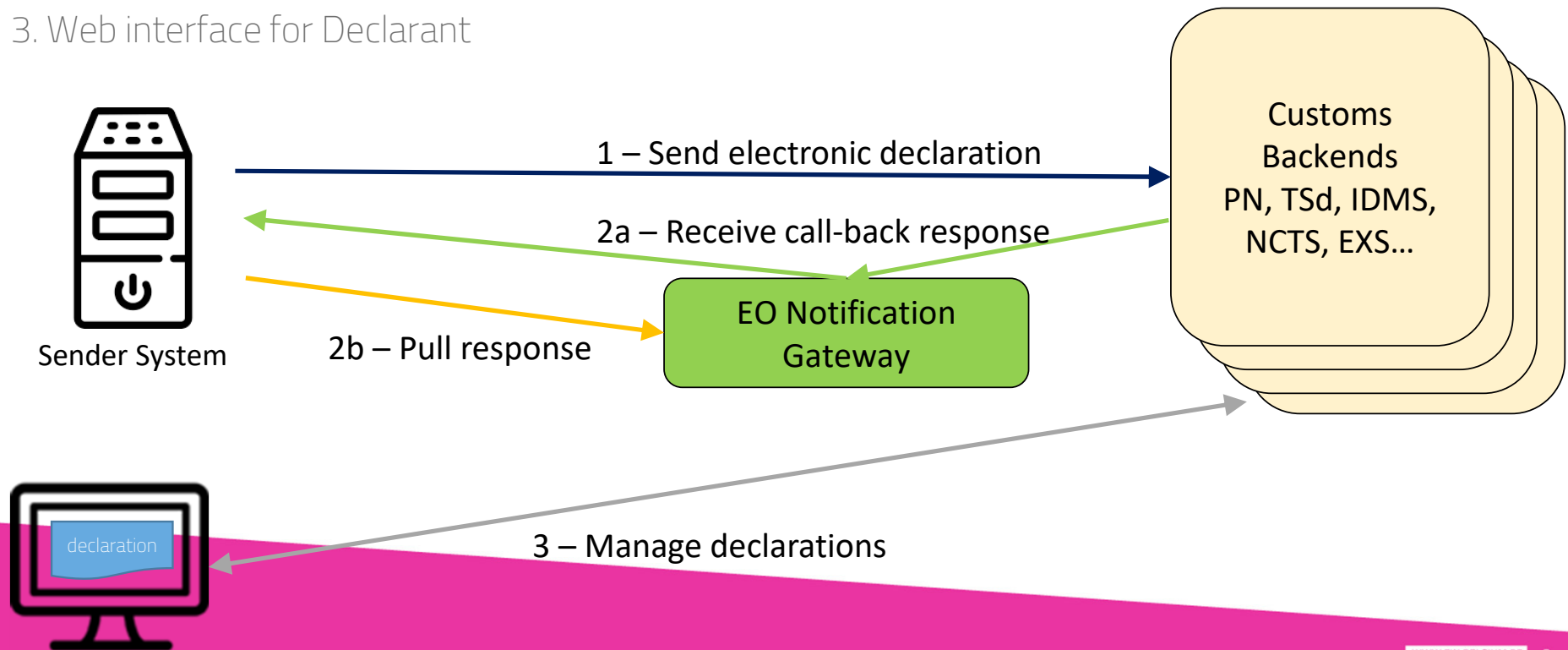
ICT

CUSTOMS TRADER WORKFLOW

v.2.7 23/06/2022

TRADER WORKFLOW OVERVIEW

1. Sender system submits declaration
- 2a. Response is pushed to sender system through EO (Economical operator) Notification Gateway
- 2b. Sender system pull response from EO Notification Gateway
3. Web interface for Declarant





INVOLVED PARTIES

- Declarant: Declaration responsible. Required to have authorizations related to his activities
- Sender: The Sender (or Communication Provider) represents the system sending the messages for the lodging of declarations and notifications from Economic Operators to Customs Authorities. It can be the declarant or a customs agency, potentially using a solution provided by a software house. Needs appropriate credentials provided by FODFin and proper callback messages configuration
- Customs: Receive and validate customs declarations
- EO notification gateway: Delivers asynchronous responses to sender systems (push or pull). EO is Economical Operator.

PRELIMINARY STEP 1: SENDER GET CREDENTIALS FROM FODFIN

Sender provides by email the following information to the helpdesk:

- *Official name*
- *Usual name*
- *ECB number* (EORI number)
- *Business Contact Person*
- Name
 - Email
- *Technical Contact Person*
 - Name
 - Email
- *Name of the project(s)/web service(s) to which the clients needs access.*
- *(Correction: for Customs one generic scope : e.g. 'customsb2b', certificate is also required)*

Upon reception of that information, clients will receive credentials:

- credentials (client_id, client_secret) to be used when requesting an access token
- scope(s) that characterize the information that the client has been authorized to access for each project. E.g. 'customsb2b'



PRELIMINARY STEP 2: SENDER SETUP CALL-BACK URL

- Sender administrator connect on EO notification Gateway front-end in order to configure callback URL(s): System name, URL, SHAkey

Ajouter spécifique callback URL

Système
NCTSSystem

Nom du système de transmission

URL
https://economic-operator.callback-url.com

Adresse de destination du message

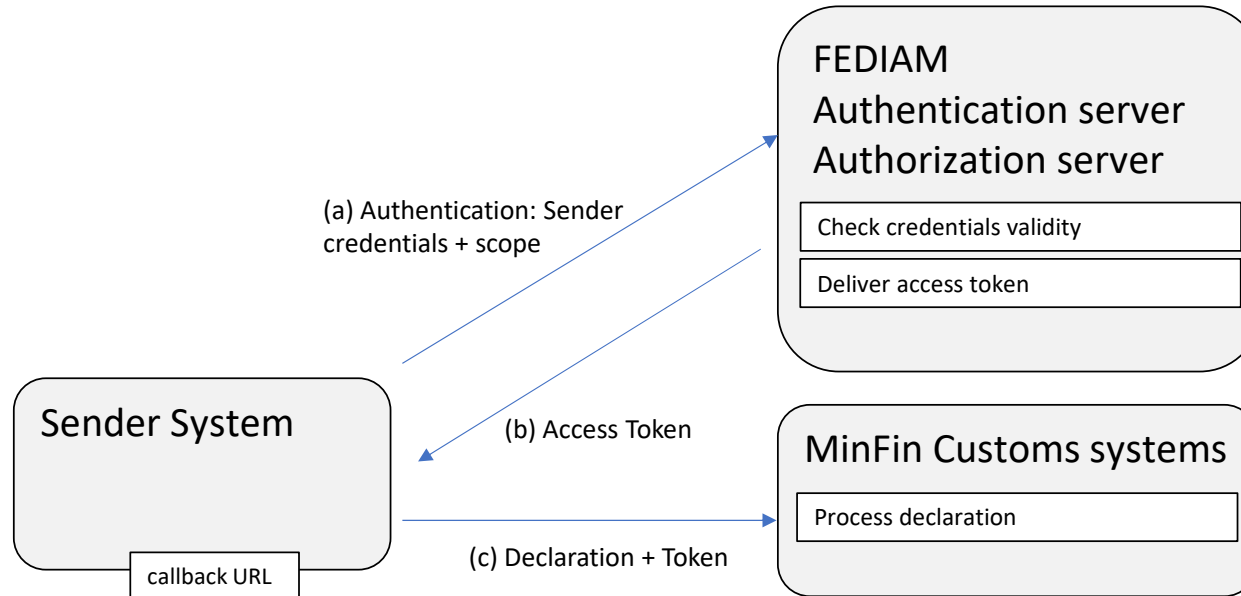
Secret
.....

Message signature foundation

Annule Ajouter

1. SENDER SYSTEM SUBMIT DECLARATION

Based on OAuth2



- Sender system request access token using their credentials
- FEDIAM validates request and provides an access token (validity 24h)
- Sender system sends declaration + access token to target MinFin Customs system

B. RETRIEVE THE ACCESS TOKEN

Endpoint Production : https://fediam.minfin.fgov.be/sso/oauth2/realms/root/realms/externalws/access_token

Endpoint Acceptance : https://fediam-a.minfin.be/sso/oauth2/realms/root/realms/externalws/access_token

The access token can be obtained by performing a HTTP POST request to the token endpoint with the following parameters:

| Query String Parameters | | |
|-------------------------|--------------|---|
| grant_type | Must be | 'client_credentials' |
| scope | Must contain | 'customsb2b' |
| Headers | | |
| Authorization | Must be | 'Basic' base64(client id:client secret) |
| Content-Type | Must be | 'application/x-www-form-urlencoded' |

B. RETRIEVE THE ACCESS TOKEN

Example of access token request:

```
POST /sso/oauth2/realms/root/realms/externalws/access_token?  
grant_type=client_credentials&scope=customsb2b  
HTTP/1.1  
Host: fediam-a.minfin.be  
Accept: application/json  
Content-Type: application/x-www-form-urlencoded  
Authorization: Basic aWFtdGVzdCA6SWFNX1Qzc3Q=
```

Example of response:

```
{  
  "scope": "customsb2b ecb=BE02345679",  
  "access_token": "SlAJKGE26734V32hkKG",  
  "token_type": "Bearer",  
  "expires_in": 86400
```


C. SENDING DECLARATION: HTTP HEADER

The obtained Access Token must then be sent in the Authorization header of all web service requests to the project endpoint as a Bearer token.

Example of declaration HTTP header:

```
POST /ncts HTTP/1.1
Host: eservices.minfin.fgov.be
Accept: application/json
Content-Type: application/x-www-form-urlencoded
Authorization: Bearer SLAJKGE26734V32hkKG
```

1. SENDING DECLARATION – MESSAGE HEADER

- Example of header:

```
<messageHeader>  
  <sender>systema@5512345678</sender>  
  <recipient>NCTS@BE</recipient>  
  <messageTimestamp>2020-06-01T18:44:22.123456789Z</messageTimestamp>  
  <messageId>5e4875fef975-4232-2340-3564b0e100d0.example.com</messageId>  
  <languageCode>EN</languageCode>  
</messageHeader>
```

Where

- <sender> is *systemName@enterpriseNumber*, *systemName* is used to route back the message and is linked to the callback URL (the *systemName* is optional, if it is the case the default URL callback URL will be used)
- <recipient> is target system, PN, TSD, IDMS, NCTS followed by country code. This field is used for info only
- <messageTimestamp> The timestamp in ISO-8601 format (YYYY-MM-DDT:hh:mm:ss.SSSSSSSSZ).
- <MessageId> is sender message universal unique id number (it must be suffixed by the domain name of the company)
- <languageCode> is the language of feedback to sender. May be different that the one from declaration

1. SENDING DECLARATION – SYNCHRONOUS ACKNOWLEDGEMENT RESPONSE

The traders will receive a correlationID synchronous, from a backend system, for every message they send and based on this id they can eventually pull the response messages.

```
<?xml version="1.0" encoding="UTF-8"?>
<CC928C>
  <messageSender>NCTS@BE</messageSender>
  <messageRecipient>systema@BE0999999999</messageRecipient>
  <preparationDateAndTime>2022-06-09T07:05:57</preparationDateAndTime>
  <messageIdentification>4699492a-97ce-4b17-a8d7-3bbbabd694b</messageIdentification>
  <messageType>CC928C</messageType>
  <correlationIdentifier>0a9b14c2-9332-41b2-baa9-8498a16c157</correlationIdentifier>
  <TransitOperation>
    <LRN>TESTCHANGELRNTEST</LRN>
  </TransitOperation>
  <CustomsOfficeOfDeparture>
    <referenceNumber>BE101000</referenceNumber>
  </CustomsOfficeOfDeparture>
  <HolderOfTheTransitProcedure>
    <identificationNumber>BE101000ABCS01000</identificationNumber>
    <name>TEST</name>
    <Address>
      <streetAndNumber>TESTSTREET 123</streetAndNumber>
      <postcode>1000</postcode>
      <city>BRUSSELS</city>
      <country>BE</country>
    </Address>
  </HolderOfTheTransitProcedure>
</CC928C>
```



2A. RECEIVING CALL-BACK RESPONSE (PUSH)

```
<?xml version="1.0" encoding="UTF-8"?>
<CC028C>
  <messageSender>TD</messageSender>
    <messageRecipient>systema@BE0999999999</messageRecipient>
    <preparationDateAndTime>2022-06-09T07:05:57</preparationDateAndTime>
    <messageIdentification>a5956656-5f89-4c8e-9e92-1cf95e0d308</messageIdentification>
    <messageType>CC028C</messageType>
    <correlationIdentifier>0a9b14c2-9332-41b2-baa9-8498a16c157</correlationIdentifier>
  <TransitOperation>
    <LRN>TESTCHANGELRNTEST</LRN>
    <MRN>22BE00000001926J5</MRN>
    <declarationAcceptanceDate>2022-06-09</declarationAcceptanceDate>
  </TransitOperation>
  <CustomsOfficeOfDeparture>
    <referenceNumber>BE101000</referenceNumber>
  </CustomsOfficeOfDeparture>
  <HolderOfTheTransitProcedure>
    <identificationNumber>BE101000ABCS01000</identificationNumber>
    <name>TEST</name>
    <Address>
      <streetAndNumber>TESTSTREET 123</streetAndNumber>
      <postcode>1000</postcode>
      <city>BRUSSELS</city>
      <country>BE</country>
    </Address>
  </HolderOfTheTransitProcedure>
</CC028C>
```

2A. RECEIVING CALL-BACK RESPONSE (PUSH)

- Header:
 - X-Signature : the hash (using SHA1) of the message based on the secret defined in the EONGW configuration
 - X-Message-type : The message type (ex: CC028C)
 - Correlation-id : the correlation id (unique for all the transaction, ex: **1d89d76d-117b-4907-9879-29d6203ddecf**)



2A. RECEIVING CALL-BACK RESPONSE (PUSH)

- The firewall of Sender system needs to be configured to accept request from the following IP addresses:
 - 193.191.216.74, 75, 76, 77



2B. POLLING RESPONSES (PULL)

Sender system connect using the same access token (scope eongw implicitly accepted).

API to Retrieve a list of notifications ids.

- GET ?parameter=value
 - correlationId : optional, the correlation identification number
 - system: optional, matching 'system name' given when submitting the request (e.g. systema)
 - limit: optional, maximum number of notifications retrieved (default: 50, max:250)
 - since_id: optional, notifications after the given notificationId

Response format will be the one defined in the content type of the Accept header (xml or json).



2B. POLLING RESPONSES (PULL)

Example:

GET

'https://wsapi.minfin.fgov.be/EO/Notification/OAU/v1/api/v1/b2b/eoNotifications?correlationId=2dc7159f-db0f-4701-b43c-c9aeec354665'

Accept: application/json

Authorization: Bearer SIAJKGE26734V32hkKG

Response:

{notifications:

[{href: "/1d89d76d-117b-4907-9879-29d6203ddecf"},

{href: "/1d89d76d-117b-4907-9879-29d6203ddecf"}]

}]

2B. POLLING RESPONSES (PULL)

API to retrieve one notification.

- GET /{notificationId}

Pull one message based on the notification id.

Response is the actual xml or json message. The header will contain the following informations:

- The message type and its version (e.g. IE416v1.0)
- The correlationID
- The notificationID

Note: notifications will be stored during 7 years.



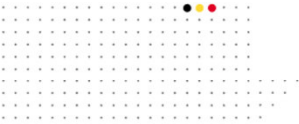
EXAMPLE OF RESPONSE

```
<?xml version="1.0" encoding="UTF-8"?>
<CC028C>
  <messageSender>TD</messageSender>
    <messageRecipient>systema@BE0999999999</messageRecipient>
    <preparationDateAndTime>2022-06-09T07:05:57</preparationDateAndTime>
    <messageIdentification>a5956656-5f89-4c8e-9e92-1cf95e0d308</messageIdentification>
    <messageType>CC028C</messageType>
    <correlationIdentifier>0a9b14c2-9332-41b2-baa9-8498a16c157</correlationIdentifier>
  <TransitOperation>
    <LRN>TESTCHANGELRNTEST</LRN>
    <MRN>22BE000000001926J5</MRN>
    <declarationAcceptanceDate>2022-06-09</declarationAcceptanceDate>
  </TransitOperation>
  <CustomsOfficeOfDeparture>
    <referenceNumber>BE101000</referenceNumber>
  </CustomsOfficeOfDeparture>
  <HolderOfTheTransitProcedure>
    <identificationNumber>BE101000ABCS01000</identificationNumber>
    <name>TEST</name>
    <Address>
      <streetAndNumber>TESTSTREET 123</streetAndNumber>
      <postcode>1000</postcode>
      <city>BRUSSELS</city>
      <country>BE</country>
    </Address>
  </HolderOfTheTransitProcedure>
</CC028C>
```

CONCERNS ABOUT PERFORMANCES

- Our queuing system is limited. It is so required that the trader systems can absorb at least twice the rate of declaration sent to NCTS.

Example : if IE015, IE013, IE007, IE170 messages are sent to NCTS with a rate of 100 messages/seconds, your servers must absorb at least 200 messages/seconds.



THANK YOU



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NCTS PHASE 5 TESTING



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MESSAGES THAT CAN BE SEND TO NCTS P5 ACC

- IE015 – Declaration data
 - Pre lodge declaration
 - Standard declaration
- IE013 – Declaration amendment
 - Amendment of a pre lodge declaration
 - Amendment of a standard declartion
- IE170 – Presentation notification for the pre-lodged declaration



MESSAGES THAT CAN BE RECEIVED FROM NCTS P5 ACC

- IE928 – Positive acknowledgement
- IE028 – MRN allocated
- IE004 – Amendment acceptance
- IE056 – Rejection from office of departure
- IE917 – XML Nack



IMPLEMENTED RULES AND CONDITIONS

- For IE015
 - R0003
 - R0007
 - R0021
 - R0106
 - R0107
 - R0165
 - R0410
 - R0990
- BE0005
- BE0026
- BE0100



IMPLEMENTED RULES AND CONDITIONS

- For IE013

- R0520
- R0851
- R0003
- R0990
- R0850
- R0840
- R0107
- R0106
- R0221
- R0060
- R0021
- R0007
- R0006

- BE0039
- BE0100
- BE0003
- BE0005
- BE0051

- C0467
- C0824
- C0170



IMPLEMENTED RULES AND CONDITIONS

- For IE170
 - R0021
 - R0107
 - R0850
 - R0106
 - R0790
 - C0170
 - C0404
 - C0600
 - C0807
 - C0840
 - C0404
 - C0170
 - C0833
- BE0051



HARD CODED TESTDATA

- Commodity Codes

- 123456A1
- 123456A2
- 123456B1
- 123456B2
- 123456C1

- EORI:

- BE101000ABCS01000
- BE102000ABCS01000
- BE103000ABCS01000
- BE106000ABCS01000
- BE109000ABCS01000

- TCUIN:

- BBE102000123401000,
- BE103000123401000
- BE105000123401000

- BE106000123401000
- E101000123401000

- Authorisation reference number:
 - "sample1"
 - "sample2"
 - "sample3"
 - "sample4"
 - "sample5"
 - "521202TRA_TIR0018523"
 - "521202TRA_TIR0018526"
 - "521202TRA_TIR0018527"
 - "521202TRA_TIR0018547"
 - "BE3229A0018511"
 - "BE3229A0018534"
 - "BE3229A0004120"
 - "BE3230A0004122"
 - "BE3230A0018517"
 - "BE3230A0018510"



PUBLISHED INFORMATION PART I

- MIG:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/NCTS%20DEV%20Message%20implementation%20guide%20v0.1.3.docx
- Which messages are implemented in acc:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/Messages%20implemented%20in%20NCTS%20P5%20ACC.xlsx
- Which rules and conditions are implemented in acc:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/Rules%20and%20conditions%20implemented%20in%20ACC.xlsx



PUBLISHED INFORMATION PART II

- Testmessages send from NCTS to you:
 - IE013 amendment of a pre lodge declaration:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE013%20amendment%20pre%20lodge%20declaration.txt
 - IE013 amendment of a standard declaration:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE013%20amendment.txt
 - IE015 pre lodge declaration:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE015%20pre%20lodge%20declaration.txt
 - IE015 standard declaration:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE015%20standard%20declaration.txt
 - IE170 presentation notification:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE170%20presentation%20notification.txt



PUBLISHED INFORMATION PART III

- Test Messages send by you to NCTS:
 - IE004 amendment acceptance:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE004.txt
 - IE028 MRN allocated:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE028.txt
 - IE056 rejection from office of departure:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE056.txt
 - IE917 XML nack:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE917.txt
 - IE928 positive aknowledge:
https://financien.belgium.be/sites/default/files/Helpdesk_PLDA/NCTS-RW/P5/IE928.txt



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NCTS End point for testing: <https://wsapi-a.minfin.be/NCTS/B2B/OAU/v1/b2b/declarations>

