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Implementation of the New Computerized Transit System

# Message exchange between Traders and GMS v. 1.04

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### Abbreviations

AMS	Authorisation Management System
COoGua	Customs Office of Guarantee
CTC	Common Transit Convention
DG TAXUD	European Commission, Taxation and Customs Union DG
FAD	Financial Analyses Department (HQ Unit responsible for financial analysis)
GRN	Guarantee Reference Number
GANa	Gaps and needs analysis of Guarantee Management System
GMS	Guarantee Management System
TIN	Trader Identification number
MIP	Montenegrin Implementing provision of the Customs Law
MRN	Master Reference Number
NCTS	New Computerised Transit System
NTA	National Transit Application
UML	Unified Modeling Language
XML	eXtensible Markup Language
XSD	XML Schema Definition

## 1. Executive Summary

This document describes messages and message exchanges between Trader's SW and Guarantee Management System (GMS) based on Functional specification for GMS v. 1.01, as a result 2 of the EU funded project on "Implementation of the New Computerised Transit System (EuropeAid/139139/IH/SER/ME – Re-launch), in which processes and messages related to the external domain are defined.

This document is part of the project delivery for Result 2, activity 2.14 – "Prepare draft documentation for publishing information and guidelines for business community" defined by Inception Report.

## 2. Introduction

This document includes all messages defined in the point 3.3.1 of the Functional specification for GMS v.1.01 except messages ME225, ME228, ME229, ME231, which were based on approved GANA v. 1.04. replaced from electronic communication to written form.

The goal of this document is to describe all functional specifications for communication between Trader (guarantee owner or guarantor) and Customs Office of Guarantee (COoGua).

The document is supplemented in the Annex1 and Annex 2 by a technical description of electronic message structures for the external domain with the rules, conditions and codes used to complete the messages.



## 2.1. Methodology

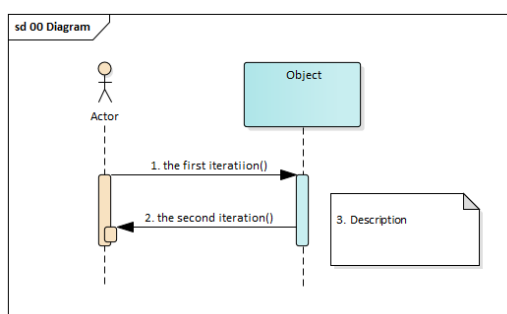
The description of the Guarantee Management System (GMS) functionality, which should be covered by Traders SW application, is made in form of data scenarios using sequential diagrams.

The processes are documented using textual description. These processes must be supported by the systems at the Traders site.

### 2.1.1. Sequence diagram

A sequence diagram is a kind of interaction diagram that shows how processes operate with one to another and in which order. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario.

A sequence diagram shows, as parallel vertical lines, different processes or objects that live-act simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner according to the UML 2.0 notation.



## 2.2. Structure of this document

The message exchange scenarios are grouped together according the role of Customs office, in which competences the communication is performed:

- Communication between the guarantee owner (i.e. Holder of the procedure) and the Customs office of Guarantee,
- Communication between a Guarantor and the Customs Office of Guarantee
- General data exchanges



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Each message exchange scenario is defined as a sequence of messages, which are exchanged between a Trader (e.g. a guarantee owner or a guarantor) and Montenegrin Customs Administration in external (trades) domain.

### 3. General description and definition

#### Guarantee:

An enforceable legal instrument with which a customs administration can recover duties and taxes which become payable in the event of irregularities during a transit movement.

The guarantee shall be:

- (a) either an individual guarantee covering a single common transit operation (Cash deposit, individual guarantee by guarantor, individual guarantee in the form of vouchers);
- (b) or, where a simplification is used, a comprehensive guarantee covering several operations (Comprehensive guarantee, individual guarantee with multiple usage, guarantee waiver).

#### Reference amount:

The amount of the debt which may be incurred in respect of goods the Holder of Transit procedure places under the transit procedure. For the purpose of that calculation, account shall be taken of the highest rates of debt applicable to goods of the same type in the country of the customs office of guarantee, and Union goods carried in accordance with the Convention shall be treated as non-Union goods. Where the information necessary to determine the reference amount is not available to the customs office of guarantee, that amount shall be fixed at EUR 10 000 for each transit operation.

#### Guarantee certificate:

A certificate which only exists for comprehensive guarantees and guarantee waivers issued by a Customs Office of Guarantee to a Holder of Transit procedure to enable the latter to start a transit movement.

#### Guarantee types defines for common transit:

The guarantee types are coded from 0 to 9 and letters A, C, H (see Appendix IIIa Annex A1a Title III CTC):

- Code 0: For guarantee waiver (Article 75(2)(c) of the Appendix I CTC);
- Code 1: For comprehensive guarantee (Article 75(1) and (2) (a) and (b) of Appendix I CTC);
- Code 2: For individual guarantee in the form of an undertaking by a guarantor (Article 20 of Appendix I CTC);
- Code 3: For individual guarantee in cash (Article 19 of Appendix I CTC);
- Code 4: For individual guarantee in the form of vouchers (Article 21 Appendix I CTC);
- Code 7: For guarantee waiver for the journey between the customs office of departure and the customs office of transit (Article 10(2)(b) of the Convention)
- Code 9: For individual guarantee of the type under point 3 of Annex I Appendix I CTC)
- Code A: For guarantee waiver by agreement (Article 10(2) (a) of the Convention)



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- Code C: For guarantee not required for goods carried by fixed transport installations (Article 13(1)(c) Appendix I CTC)
- Code H: For guarantee not required for goods placed under the common transit procedure in accordance with Article 13(1)(a) of Appendix I CTC)

### Guarantee types defines for national transit:

- Code 0: For guarantee waiver (Article 585c (3)MIP)
- Code 1: For comprehensive guarantee (Article 461 and 585c (1), (2) MIP);
- Code 2: For individual guarantee in the form of an undertaking by a guarantor (Article 460b MIP)
- Code 3: For individual guarantee in cash deposit (*by Holder of Transit procedure*); (Article 460 MIP);
- Code 4: For individual guarantee in the form of vouchers (Article 460c MIP)
- Code 5: Guarantee not required for transit
- Code B: For guarantee furnished for goods dispatched under TIR procedure (Article 461a MIP)

### The Guarantee Management System will manage the following guarantee types:

- Code 0: Guarantee waiver;
- Code 1: Comprehensive guarantee;
- Code 2: Individual guarantee (*by Guarantor*);
- Code 4: Individual guarantee in the form of vouchers;
- Code 9: Individual guarantee with multiple usage.

### Guarantee reference number (GRN)

Each NCTS guarantee will be referenced by a unique Guarantee Reference Number (GRN) which will be used for validation in the Guarantee Management System.

The "Guarantee Reference Number" (GRN) is allocated by the Customs Office of Guarantee to identify each single guarantee.

All transit guaranties, which will be used in GMS application, will use the GRN format, which is prescribed by Common Transit Convention and UCC provisions. GMS use GRN format which is given by appendix III, Annex 1, Title II, par. B of the CTC and Annex B UCC Implementing Act , Title I, D.E. 8/3



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e.g. 20ME030000C100019

Field	Content	Field type	Examples
1	Last two digits of the year at which the guarantee was accepted (YY)	Numeric 2	20
2	Identifier of the country where the guarantee is lodged (ISO alpha 2 country code)	Alphabetic 2	ME
3	Unique identifier for the acceptance given by the Office of Guarantee per year and country <b>5-10</b> – Customs office reference number ( <b>030000</b> ) <b>11</b> - type of transit regime ( <b>C</b> - common transit, <b>N</b> – national transit) <b>12</b> - type of guarantee ( <b>1</b> - Comprehensive guarantee) <b>13-16</b> - serial number in that year at the relevant CO and type of guarantee ( <b>0001</b> )	Alphanumeric 12	<b>030000C10001</b>
4	Check digit	Alphanumeric 1	9
5	Identifier of the individual guarantee by means of voucher (1 letter + 6 digits) or NULL for other guarantee types	Alphanumeric 7	A001017

Field 3 has to be filled with

- the Customs Office Reference Number of the Office of Guarantee (n6) and
- with a automatically generated unique identifier (an6).

Field 4 has to be filled with a value that is a check digit for the fields 1 to 3 of the GRN. Check digit is calculated according the document “Check Character Algorithm for the MRN and GRN” published by DG TAXUD. This field allows the detection of an error when capturing the first three fields of the GRN.

Field 5 is only used when the GRN is related to an individual guarantee by means of vouchers registered in the computerised transit system (i.e. for national transit and common transit). In that case, this field has to be filled with the identifier of the voucher. The first 17 characters is equal to the reference number of individual guarantee by means of vouchers registered for guarantor (issuer of vouchers).





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**Master Access Code** - code used by an authorized person who is authorized to change secondary access codes as well as to change the Master access code. It must not be used in the transit declaration. It is intended to update to secondary access codes.

**Secondary Access Code** - code used by the authorized person in the transit declaration together with the Guarantee registration number – GRN

### 3.1. Actors

This chapter contains list of users of the Montenegrin Guarantee Management System (GMS) either from the MCA or from the business community and the list of functionalities used by these users. The technical users, like administrators, are not listed here.

Actor	Description
<b>Customs officer at the Office of Guarantee</b>	Concerning the Guarantee, he shall: <ul style="list-style-type: none"> <li>maintain, amend and revoke/cancel valid guarantee, re-approval of revoked/cancelled guarantee,</li> <li>maintain guarantee certificates (TC31/TC33),</li> <li>add and change primary access codes,</li> <li>ask FAD for new financial analysis and</li> <li>consider the details of the financial analysis.</li> </ul>
<b>Trader-Holder of the procedure (guarantee user)</b>	Concerning the Guarantee, he shall: <ul style="list-style-type: none"> <li>use valid guarantee,</li> <li>query guarantee he uses and</li> <li>administrate his access codes.</li> </ul>
<b>Guarantor</b>	Concerning the Guarantors register he shall: <ul style="list-style-type: none"> <li>issue the guarantee undertakings in the paper form, which are submitted by Traders-Holders of the procedure (guarantee owners) to be registered at the Office of Guarantee into the Guarantors register,</li> <li>notify electronically the Office of Guarantee on sold voucher's details.</li> </ul> Concerning the Guarantee he shall: <ul style="list-style-type: none"> <li>query the guarantees, which he issued.</li> </ul>

### 3.2. The list of electronic messages

These messages are exchanged within the External Domain between the roles: Customs Office of Guarantee and Holder of the procedure or Guarantor.



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Code	Description	Sender	Recipient
ME026C	Request for registration of guarantee access codes	Guarantee owner	OoGua
ME034C	Query on guarantees	Guarantee owner Guarantor	OoGua
ME037C	Response query on guarantees	OoGua	Guarantee owner Guarantor
ME221C	Voucher cancellation request	Voucher issuer	OoGua
ME222C	Voucher cancellation response	OoGua	Voucher issuer
ME223C	Confirmation of access codes registration	OoGua	Guarantee owner
ME224C	Individual Guarantee Voucher Sold	Voucher issuer	OoGua
ME234C	Query on sum of guarantees in use	Guarantor	OoGua
ME226C	Individual guarantee Voucher registration	OoGua	Voucher issuer
ME237C	Response for query on sum of guarantees in use	OoGua	Guarantor
ME906C	Error message	OoGua	Guarantee owner Guarantor

Detail description of these messages and allowed communication scenarios are described in following chapters.

Detail message structure is described in form of XSD. For easier understanding the HTML documentation is prepared too. The XSD and HTML message documentation are distributed as external attachment of this document.



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Authorisation for electronic communication with Offices of Guarantee, issued by a competent customs house and registered in the AMS, is necessary for exchange of these messages. Authorisation for electronic communication with Offices of Guarantee shall contain the list of exchanged messages with their purpose and sequence, relevant rules and conditions, which are used for clarification of data groups and data elements contained in exchanged messages.

## 4. Message exchange for guarantee owners

This chapter describes the different message exchange scenarios between OoGua and the guarantee owner.

Process of guarantee issuing itself is carried out in written form and is outside the scope of the message exchange between OoGua and guarantee owner.

### 4.1. Registration of guarantee access codes

Each guarantee of types 0 (guarantee waiver), 1 (comprehensive guarantee) or 9 (individual guarantee with multiple use) will have Master access code which will be defined by a competent Customs office of Guarantee (customs house) during guarantee issuing. Master access code cannot be used in transit declaration – it is used only for administration and maintenance of secondary access codes.

Before that guarantee owner (Holder of the procedure) submits a new transit declaration and uses some guarantee(s), he must fill guarantee access code to prove that the person submitting declaration is authorised (from Holder of the procedure) for using the guarantee, which is registered in GMS. These access codes shall be used in transit declaration.

The ME026 message informs Customs office of guarantee about new access codes ordered by a guarantee owner, which will be used by a guarantee owner. This message shall contain all valid access codes for specified guarantee. If guarantee owner wants to change Master access code, he shall fill “New master access code” element and after successful processing of the message a Master access code is changed to new one.

The response message ME223 contains:

- When ME026 message is successfully processed: list of valid access codes registered in GMS for the specified guarantee (it should be the same as the list filled into the ME026 message);



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- When ME026 message is unsuccessfully processed, the message ME223 in the data element “Invalid reason code” contains relevant reason code for which access codes couldn’t be registered.

The list of possible detected errors:

- Guarantee not exist (code G01) – sent when GRN used in ME026 is not exist (not correct)
- Guarantee is not valid code G02) – sent when guarantee is existing, but not valid
- Invalid Master access code (code G03) – sent when code used in ME026 is not correct
- TIN of Holder of the procedure filled in the message is not equal to guarantee owner registered in GMS (code G04) – sent when requester in ME026 is not guarantee owner
- Update of access codes is not allowed for not valid guarantee (P06) – sent when GRN for which access codes are updated is not valid
- Guarantee type is not supported with access codes (code P12)

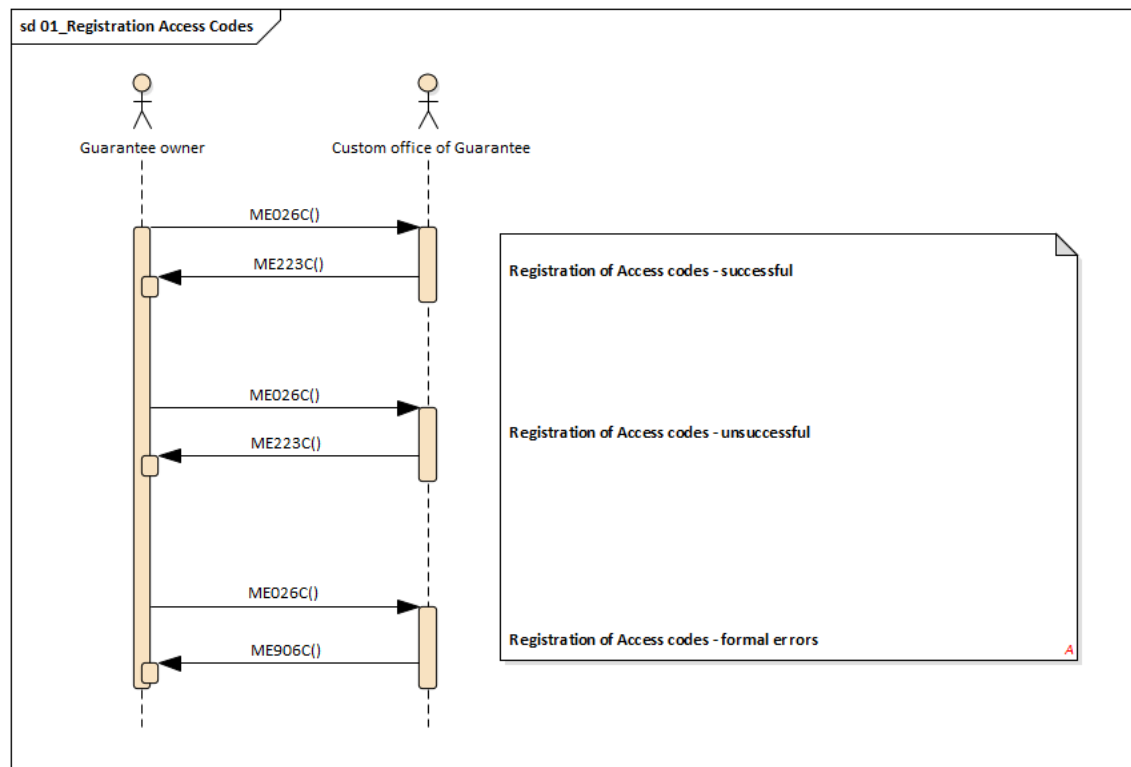


Figure 1: Registration of access codes

## 4.2. Guarantee query

Guarantee query can be made either by a Guarantee owner (only for guarantees where he is a Holder of the procedure) or by a Guarantor (only for guarantees where he is a guarantor).



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Requester (i.e. a Guarantee owner or a Guarantor) can make query on guarantee(s) via the ME034 message. One guarantee query can include up to 99 guarantees. For each specified guarantee following elements should be filled:

- GRN
- Guarantee access codes (a Guarantor does not have to fill it)
- Query type identifier (see below)
- Period from and period to (only for query types 1 or 3)

Query types can be:

**1 = Guarantee usage only** – response contains list of guarantee usage during specified period (From – To). The list contains MRN, amount, currency, allocation date, credit date and release date;

**2 = Guarantee exposure only** – response contains information about current exposure of guarantee – number of active guarantee usage, total allocated amount and free reference amount;

**3 = Guarantee usage and exposure** – response contains both types of information described under query type 1 and 2

**4 = Guarantee general information** – response contains general information about specified guarantee – reference amount, validity, principal, guarantor, limited validation (countries, goods...).

Query can contain only guarantees issued in Montenegro. The response message ME037 will contain for each guarantee either requested information depending on query type (when query was successfully processed) or Guarantee invalid reason(s) (when query was not successfully processed).

The list of possible detected errors:

- Guarantee not exist (code G01) – sent when GRN used in ME034 is not exist (not correct)
- Guarantee is not valid (code G02) – sent when guarantee is exist, but not valid
- Invalid Master access code (code G03) – sent when code used in ME034 is not correct
- TIN of Holder of the procedure filled in the message is not equal to guarantee owner registered in GMS (code G04) – sent when requester in ME034 is not guarantee owner

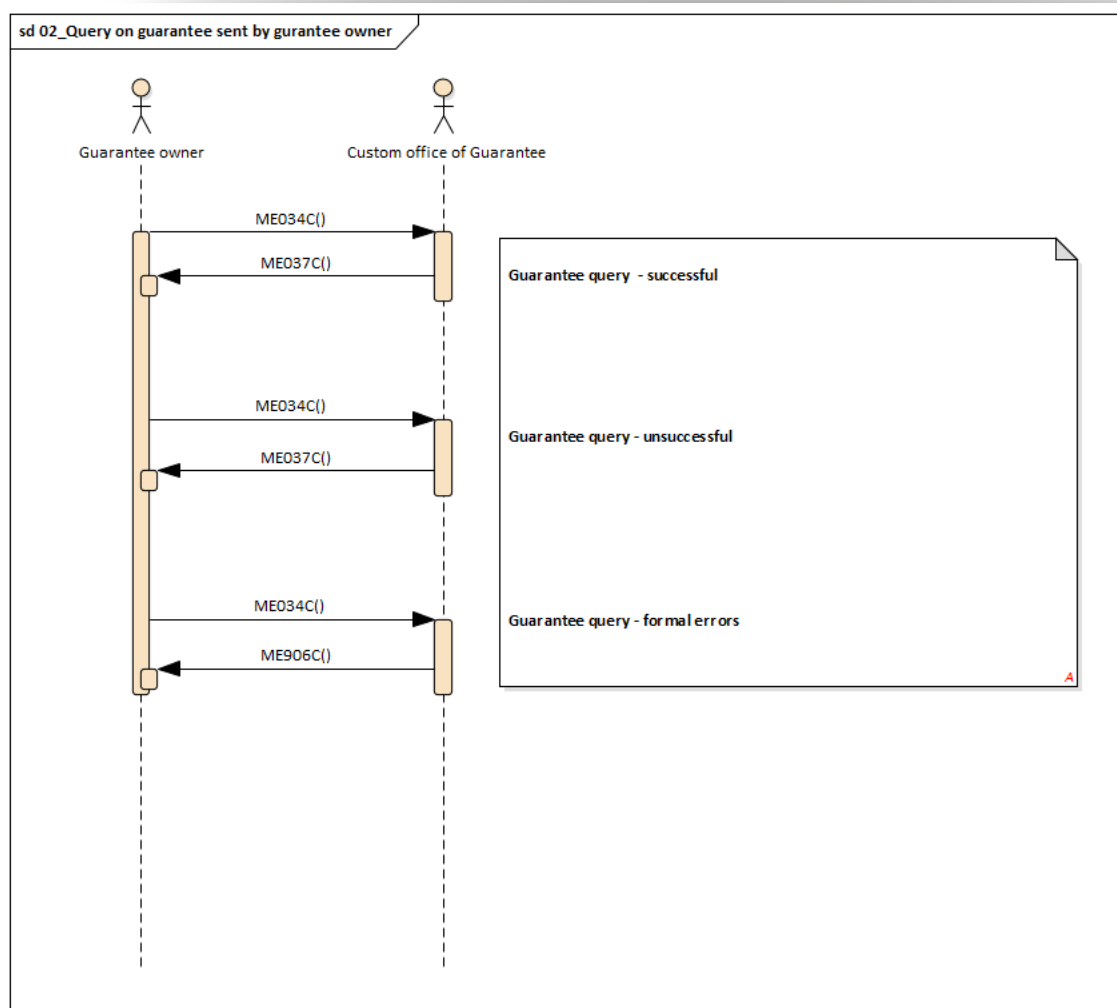


Figure 2: Query on guarantee sent by guarantee owner

## 5. Message exchange for guarantors

To be able to communicate, a Guarantor needs to have valid authorisation for electronic communication in transit procedure with Customs Offices of Guarantee, which is going to be issued by the competent customs house.

Guarantor can make the query on guarantee where he is a guarantor – see chapter 4.2. Query on total sum of guarantees in use is described in following subchapter.



## 5.1. Query on sum of guarantee in use

- **Query on sum of guarantees in use** (i.e. for all guarantee owners) – if in the message ME234 a guarantor fills only “Requester ID” (and not “Holder of the procedure TIN”), then in the response message ME237 he gets the list of all TINs of traders (i.e. guarantee owners) who have guarantee issued by the specified guarantor. For each guarantee owner the sum of allocated amount and the sum of current balance (i.e. free amount on guarantee) related to guarantees, which are guaranteed by the specified guarantor, will be returned.
- **Query on particular guarantee owner** – if in the message ME234 a guarantor fills both Requester TIN and Holder of the procedure TIN, then in the response message ME237 he gets the sum of allocated amount and the sum of current balance (i.e. free amount on guarantee) related to guarantees, which are guaranteed by the specified guarantor and owned by specified Holder of the procedure TIN.

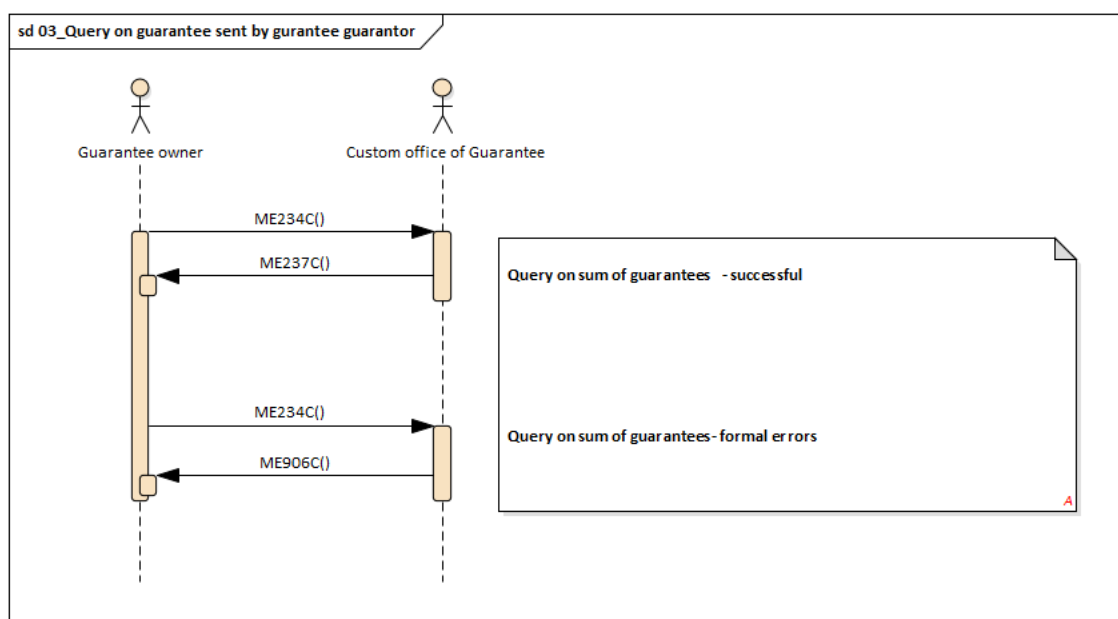


Figure 3: Query on guarantee sent by guarantor



## 6. Message exchange for individual guarantee voucher

### 6.1. Issued Voucher registration

Each issued voucher should be registered into Guarantee Management System (GMS) before it can be sold by a guarantor to a guarantee owner (i.e. Holder of the procedure).

A certified guarantor, i.e. Voucher issuer, is responsible for registration of issued voucher in Guarantee Management System (GMS). The message ME224 - Individual Guarantee Voucher Sold, should be filled and sent by a guarantor, i.e. Voucher issuer, to the competent Customs Office of Guarantee. After processing of this message, the GMS will send back the message ME226 - Individual Guarantee Voucher registration or error message ME906 (when error(s) occurred) to a guarantor, i.e. Voucher issuer.

The ME224 message allows to register more than one voucher at once (data group “Guarantee reference” can be repeated 999x). If the ME224 message is rejected by sending Error message ME906, all vouchers included in rejected ME224 message are rejected (not matter in which voucher was error detected) and needs to be resubmitted for registration.

The response message ME226A will contain for each submitted voucher following information:

- If registration was successful, then the Validity date and the Voucher registration timestamp will be filled;
- If registration was unsuccessful, the Guarantee invalid reason(s) will be filled. Following problems may occur:
  - Duplicate GRN (code P02) - sent in case when the same GRN was issued twice
  - Customs office guarantee differs from guarantee one (code P03) – sent when OoGua is not office issued guarantee
  - TIN of guarantor is different from TIN filled in certification for issuing vouchers, Certification for issuing vouchers does not exists (code P04) – sent when guarantor which sent ME224 is not certified for of the issuing Individual guarantee vouchers
  - Certification for voucher issuing not exist (code P08) – sent when guarantor is not certified for issuing of vouchers
  - Certification for issuing vouchers does not allow to issue voucher with no limited validity (code P10)- sent when guarantor was not certified for issuing of vouchers for sensitive goods
  - Requested amount is not available (code P09)- sent when current balance of amount of guarantee was exceeded



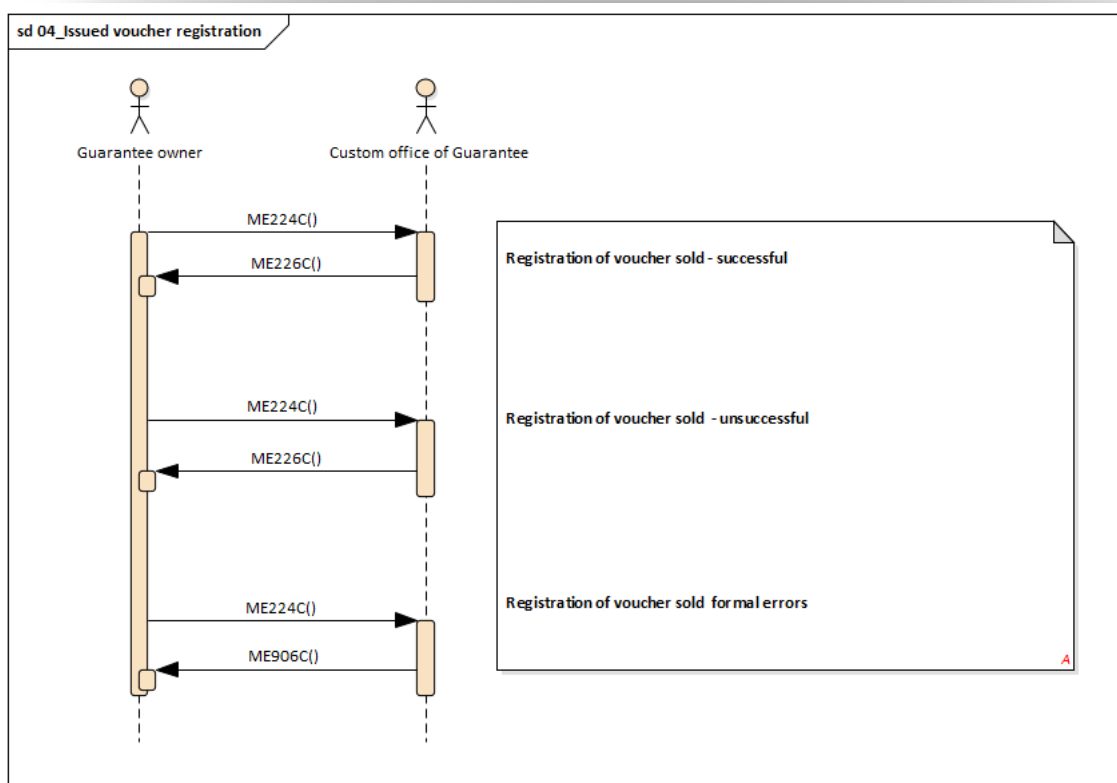


Figure 4: Issued voucher registration

## 6.2. Voucher cancellation request

The certified guarantor, i.e. Voucher issuer, is allowed to cancel a sold voucher (only when a issued voucher has been already registered into GMS).

The ME221 message allows a guarantor, voucher issuer, to request for cancellation of sold voucher.

The response message ME222 informs a guarantor, voucher issuer, about result of cancellation of requested voucher(s). For each voucher listed in ME221 message there is returned either Date + time of invalidation of guarantee (in case of successfully cancellation) or Guarantee invalid reason (in case of unsuccessfully cancellation). Possible Guarantee invalid reasons are:

- Guarantee not exist (code P08) – sent when GRN used in ME221 is not exist (not correct)
- Voucher cannot be cancelled (code P01) sent e.g. has already been cancelled,



- Requester TIN in the message is not equal to TIN of guarantor (code P04) i.e. voucher issuer registered in GMS for specified voucher.

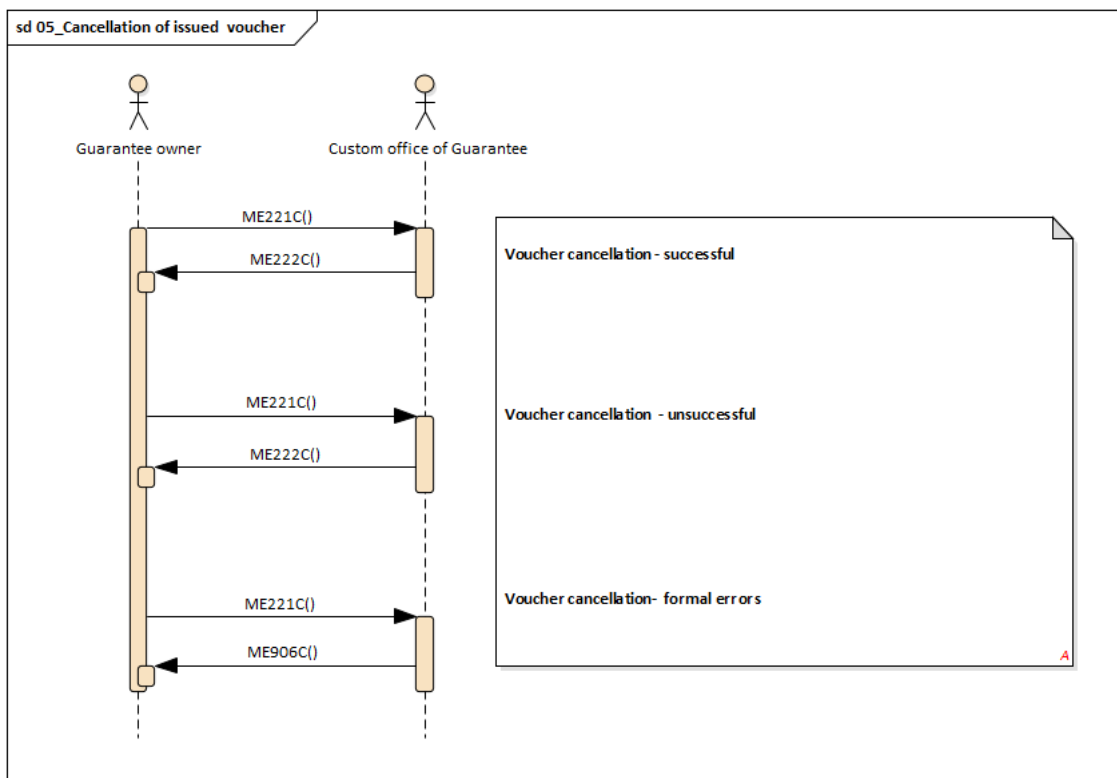


Figure 5: Cancellation of Issued voucher

## 7. Requirements and recommendations for the guarantee owner/guarantor information system

In the following part are described the requirements and recommendations for trader's (guarantee owner / guarantor) information system communicated to GMS.

We recommend to register general guarantee data from authorisation e.g. GRN, Holder's TIN, reference number, access codes (Master and secondary), validity of the guarantee, validity of the financial audit, limited validity for sensitive goods, territorial validity (countries for which guarantee is valid) in the trader NCTS system.



## 7.1. Registration/ Update / cancellation of access codes

The traders' system must be able to manage the access codes. After initial registration of the Master access code (assigned by the issuing customs office) needed to define one or more secondary access codes which should be used in transit declaration. For each GRN can be issued 999 access codes. After registration must be create ME026 message and sent to Customs office of Guarantee for registration. After successful registration can be used in the transit declaration.

After update / cancellation one of the access codes ME026 must be created and sent for registration to the GMS.

## 7.2. Guarantee query

The traders' system must be able to create a guarantee query (ME034/ME234 message) and to check as follows:

- TIN of the guarantee owner / guarantor must be automatically filled in REQUESTER/Identification number and / or HOLDER OF THE PROCEDURE/Identification number. It is depending on the requester role.
- GRN must be filled automatically
- Access code must be one of the valid registered access codes

## 7.3. Receiving of the error message ME906

The traders' system must be able to receive and displayed an error message ME906. In the data group "Error" should be visible:

Pointer to erroneous XML data element

Error reason – description of the relevant role and condition

Original value – original (erroneous) value



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## 8. The list of annexes

Annex 1 – The structure of messages

Annex 2 – The structure in html

Annex 3 – XSD schemas

Annex 4 – Conditions and roles