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Technical Assistance to the Customs Administration of Serbia to Support the Modernisation of the Customs Systems

Message exchanges between Traders and GMS (Guarantee Management System)

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1 Introduction

Purpose of this document is to describe messages and message exchanges between Trader’s SW and Guarantee Management System.

1.1 Methodology

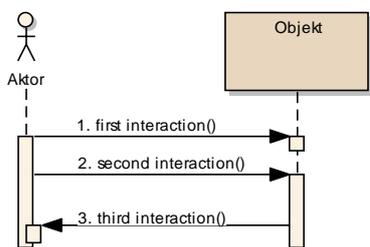
The description of the Guarantee Management System (GMS) functionality, which should be covered by Traders SW application, is made in form of data scenarios using sequential diagrams.

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

1.1.1 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.



1.2 Abbreviations

AMS	Authorisation Management System
CO	Custom office
GMS	Guarantee Management System
MRN	Movement Reference Number
NCTS	New Computerised Transit System
NTA	National Transit Application



TAD	Transit Accompanying Document
e-TCD	Electronic Transit Customs Declaration in form of message E_DEC_DAT (ND015)
TCD	Transit Customs Declaration(s)
TIN	Trader Identification Number
UML	Unified Modelling Language
XML	eXtensible Markup Language
XSD	XML Schema Definition

1.3 Structure of this document

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

- Communication between the guarantee owner (i.e. Principal) and the CO of Guarantee,
- Communication between a Guarantor and the CO of Guarantee,
- General data exchanges.

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 Serbian Customs Administration in external (trades) domain.



2 List of messages

Message exchanges between CAS (operating the Guarantee Management System) and traders can use messages listed in table below:

Code	Abbreviation	Description	Sender	Recipient
ND026A	E_ACC_COD	Request for registration of guarantee access codes	Guarantee owner	CAS
ND034A	E_GUA_QUE	Query on guarantees	Guarantee owner Voucher issuer Guarantor	CAS
ND037A	E_GUA_RSP	Response query on guarantees	CAS	Guarantee owner Voucher issuer Guarantor
ND221A	E_VOC_REQ	Voucher cancellation request	Voucher issuer	CAS
ND222A	E_VOC_RSP	Voucher cancellation response	CAS	Voucher issuer
ND223A	E_ACC_RSP	Confirmation of access codes registration	CAS	Guarantee owner
ND224A	E_IGV_INF	Individual Guarantee Voucher Sold	Voucher issuer	CAS
ND226A	E_IGV_RSP	Individual guarantee Voucher registration	CAS	Voucher issuer
ND234A	E_GUU_QUE	Query on sum of guarantees in use	Guarantor	CAS
ND237A	E_GUU_RSP	Response for query on sum of guarantees in use	CAS	Guarantor
ND906A	E_FUN_NCK	Error message	CAS	Guarantee owner Voucher issuer 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.

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 content 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.



3 Message exchanges for guarantee owners

3.1 Registration of guarantee access codes

When Principal 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 principal) for using the guarantee, which is registered in GMS.

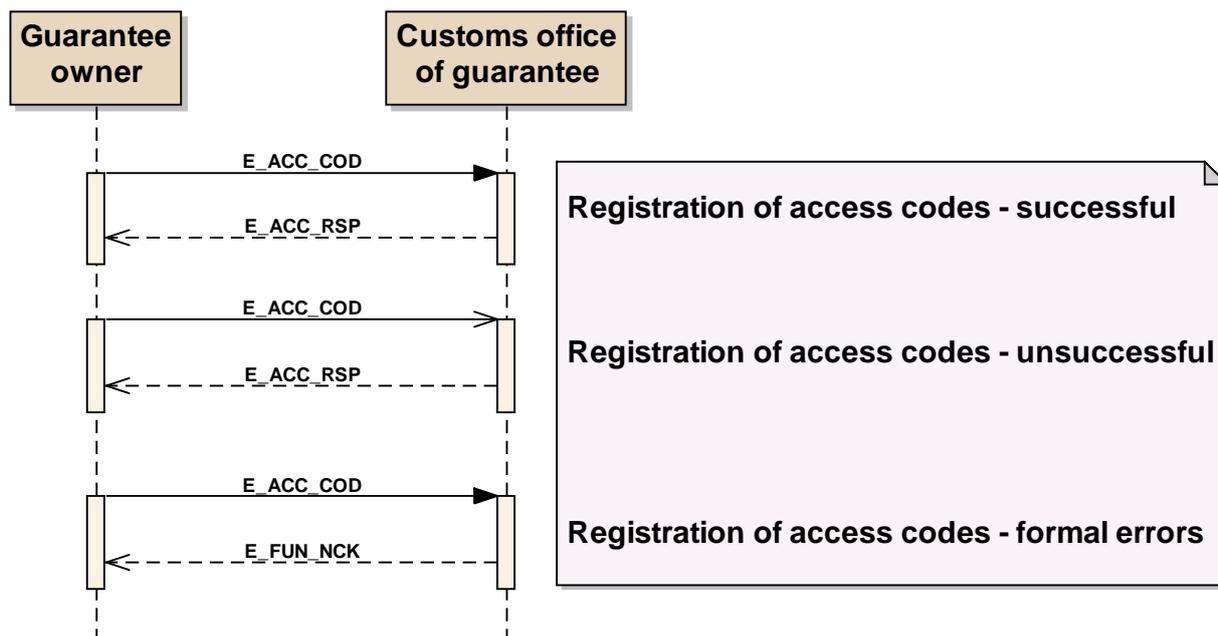
Each guarantee of types 0 (guarantee waiver), 1 (comprehensive guarantee) or 9 (individual guarantee with multiple use) will have primary access code which will be defined by a competent Customs office of Guarantee (customs house) during guarantee issuing. Primary access code cannot be used in transit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

Secondary access codes shall be used in transit declaration.

The E_ACC_COD (ND026) message informs Customs office of guarantee about new secondary access codes ordered by a guarantee owner, which will be used by a guarantee owner. This message shall contain all valid secondary access codes for specified guarantee. If guarantee owner wants to change primary access code, he shall fill “New primary access code” element and after successful processing of the message a primary access code is changed to new one.

The response message E_ACC_RSP (ND223) contains:

- When E_ACC_COD (ND026) message is successfully processed: list of valid secondary access codes registered in GMS for the specified guarantee (it should be the same as the list filled into the E_ACC_COD message);
- When E_ACC_COD (ND026) message is unsuccessfully processed: list of detected errors:
 - o Invalid primary code,
 - o TIN of Principal filled in the message is not equal to guarantee owner registered in GMS,
 - o Guarantee is not valid,
 - o Unknown guarantee.



3.2 Guarantee query

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

Requester (i.e. a Guarantee owner or a Guarantor) can make query on guarantee(s) via the E_GUA_QUE (ND034) message. One guarantee query can include up to 999 guarantees. For each specified guarantee following elements should be filled:

- Guarantee access code (a Guarantor does not have to fill it),
- Query type (see below),
- Period from and Period to (only for query types 1 or 3).

Query types can be:

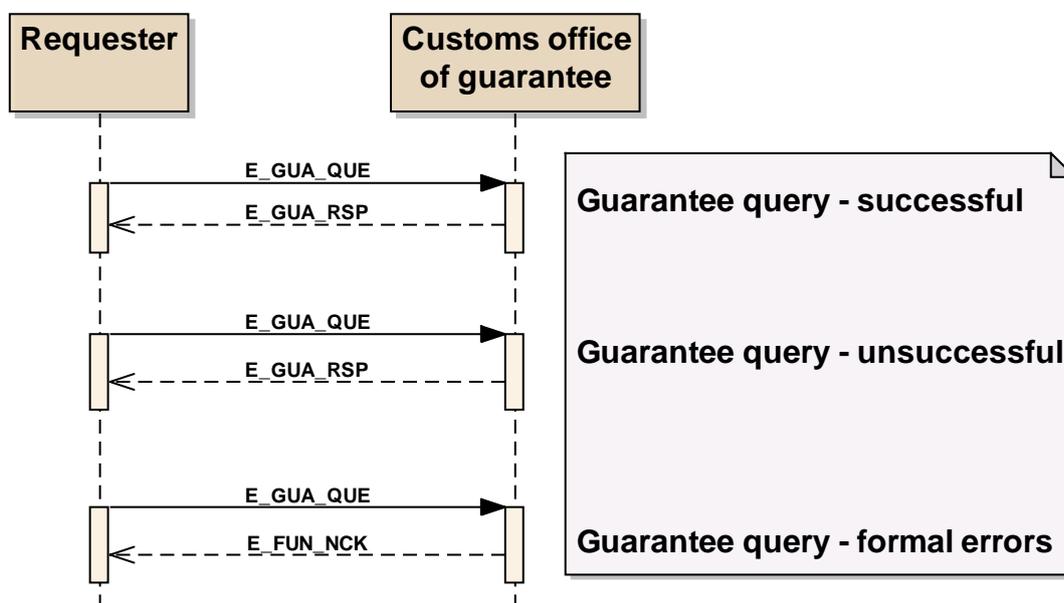
- **1 = Guarantee usage only** – response contains list of guarantee usage during specified period (From – To). The list contains MRN, amount, currency, allocation date, credit date and release date;
- **2 = Guarantee exposure only** – response contains information about current exposure of guarantee – 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 guarantees form different customs offices of guarantee (either Serbian or foreign – after Serbian accession to the Common Transit Convention). In case that query contains foreign guarantee(s), processing of the query may run longer, because the GMS system shall communicate with foreign Customs Office(s) - mostly it will be finished within 30 min.

The response message E_GUA_RSP (ND037) 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). Possible Guarantee invalid reasons are:

- Unknown guarantee,
- Invalid access code,
- Principal TIN from the message is not equal to Principal TIN of guarantee (i.e. owner of guarantee).





4 Message exchanges for guarantors

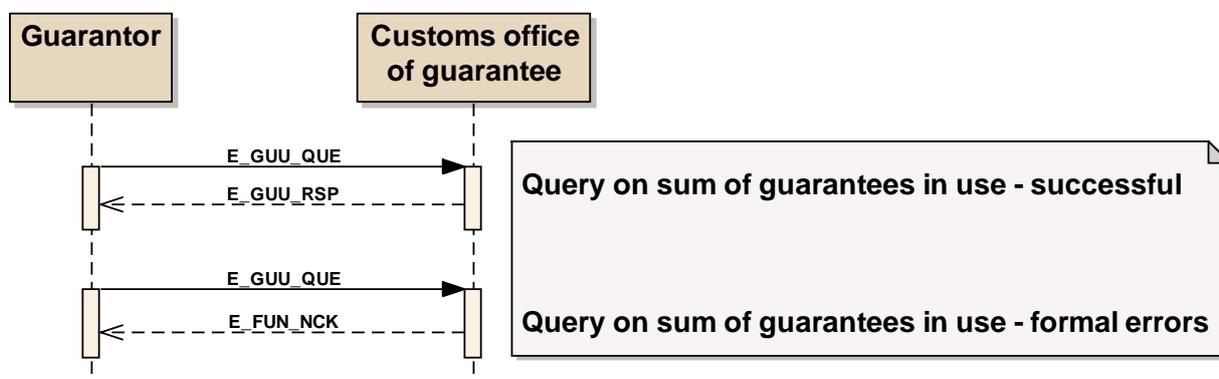
To be able to communicate, a Guarantor needs to have valid authorisation for electronic communication in transit procedure with Offices of Guarantee, which is going to be issued by the competent customs house.

Guarantor can make the query on guarantee where he is a guarantor – see chapter 3.2. Query on total sum of guarantees in use is described in following subchapter.

4.1 Query on sum of guarantees in use

Guarantor can make the query on sum of guarantees in use. There are two alternatives for this query:

- **Query on sum of guarantees in use** (i.e. for all guarantee owners) – if in the E_GUU_QUE message (ND234) a guarantor fills only “Requester TIN” (and not “Principal TIN”), then in the response message E_GUU_RSP (ND237) 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 E_GUP_QUE message (ND234) a guarantor fills both Requester TIN and Principal TIN, then in the response message E_GUP_RSP (ND237) 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 Principal TIN.





5 Message exchanges for voucher issuers

5.1 Sold Voucher registration

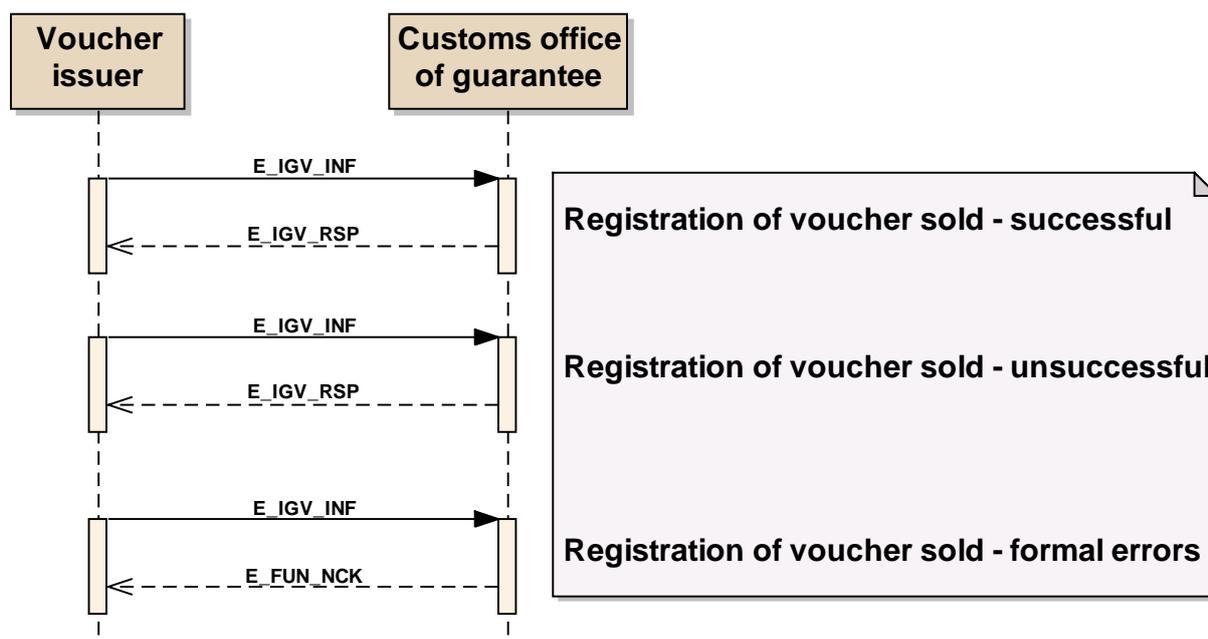
Each sold voucher should be registered into Guarantee Management System (GMS) before it can be issued by a guarantor to a guarantee owner (i.e. principal).

A guarantor, i.e. Voucher issuer, is responsible for registration of sold voucher in Guarantee Management System (GMS). The message E_IGV_INF (ND224A) should be filled and sent by a guarantor, i.e. Voucher issuer, to the competent Office of guarantee (CAS). After processing of this message, the GMS will send back the message E_IGV_RSP (ND226A) or error message E_FUN_NCK (when error(s) occurred) to a guarantor, i.e. Voucher issuer.

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

The response message E_IGV_RSP (ND226A) 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,
 - TIN of guarantor differs from TIN filled in certification for issuing vouchers,
 - Certification for issuing vouchers does not exists,
 - Certification for issuing vouchers does not allow to issue voucher with no limited validity,
 - Requested amount is not available.



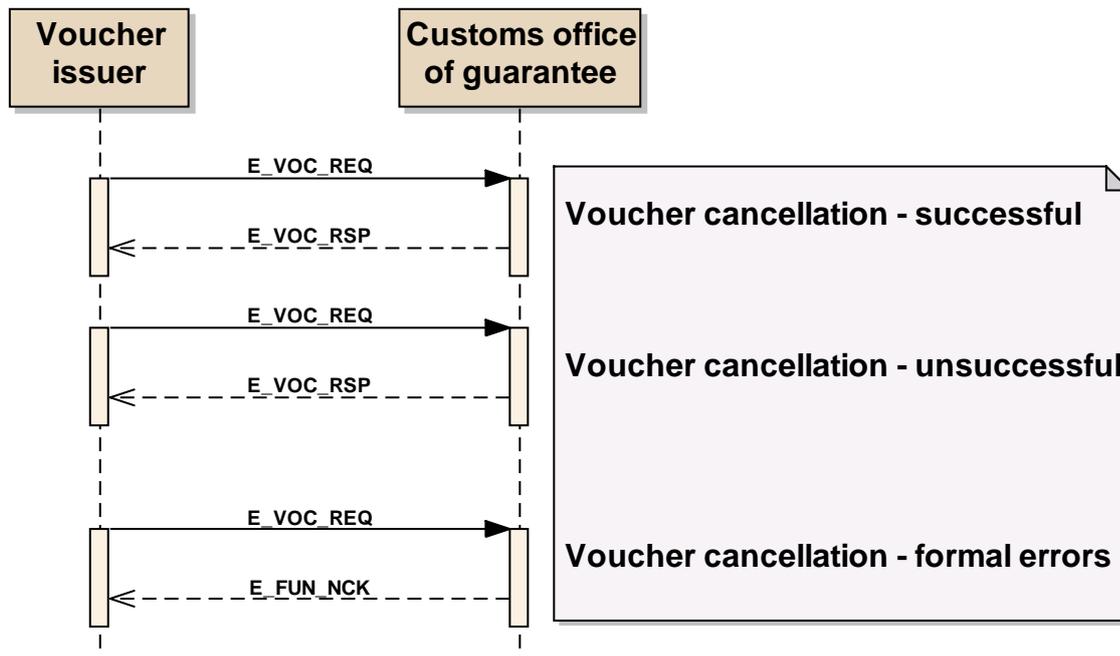
5.2 Voucher cancellation request

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

The E_VOC_REQ (ND221) message allows a guarantor, voucher issuer, to request for cancellation of sold voucher.

The response message E_VOC_RSP (ND222) informs a guarantor, voucher issuer, about result of cancellation of requested voucher(s). For each voucher listed in the E_VOC_REQ message there is returned either Invalidity date + time (in case of successfully cancellation) or Guarantee invalid reason (in case of unsuccessfully cancellation). Possible Guarantee invalid reasons are:

- Unknown GRN,
- Voucher cannot be cancelled (e.g. has already been cancelled...),
- Requester TIN in the message is not equal to TIN of guarantor, i.e. voucher issuer, registered in GMS for specified voucher.





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