Error Codes

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Outline

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Context – Problem – Proposal

- **Context** – experience acquired after several years of implementation of the eTIR international system through different pilots and the recent investment in IT staff

- **Problem** – The current code list for error codes (CL99) is not adapted to an effective error reporting mechanism

- **Proposal** – Design a new code list for error codes that would be specific to the eTIR international system

Taking a step back

- eTIR specific Code lists are common in the Reference Model:
  - CL08 – Seal type code
  - CL09 – Reply type code
  - CL14 – Indicator
  - CL17 – Amendment code
  - CL22 – Guarantee status
  - CL23 – Holder status
  - CL24 – Control result code
  - CL25 – Control type code
  - CL26 – Message types
  - CL27 – Termination type code

Error Families

Validation of message/parameters

- **Objective**: validate the message request against the eTIR Specifications

➢ The structure of the message

Examples with I1 – Accept Guarantee:

- If there is no Guarantee element (which is mandatory)
- If the message is malformed
- If the sender is not authorized to send a message to the eTIR international system

➢ The type and length of the parameters

Example with I7 – Record Advance TIR Data:

- If the SequenceNumeric of the ConsignmentItem is not an Integer

Example with I1 – Accept Guarantee:

- If the ID of the guarantee element is above 35 characters

Error Families

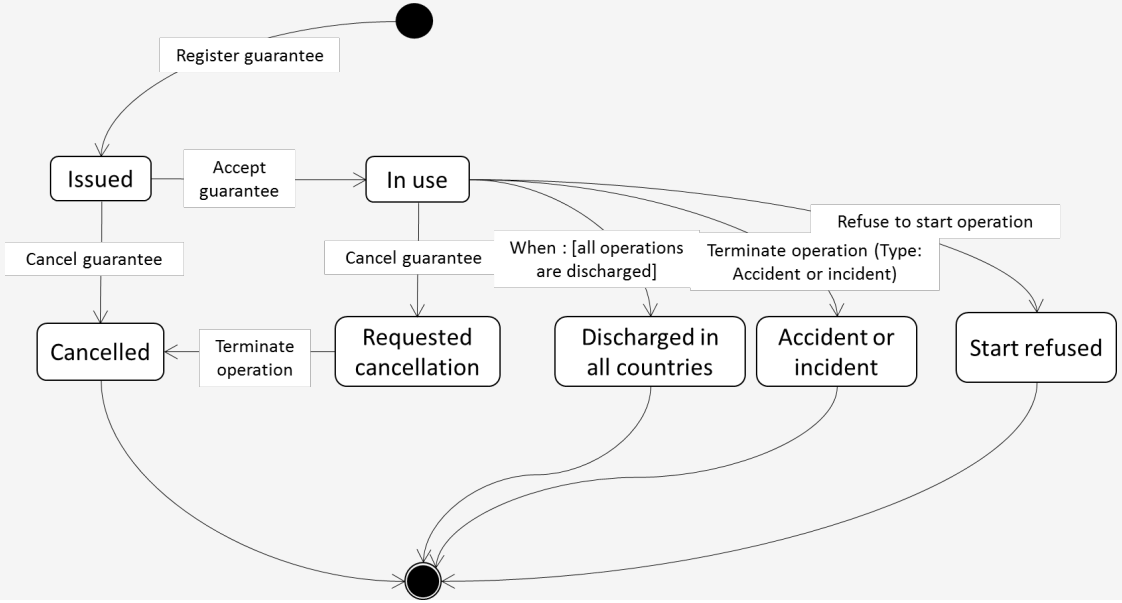
Workflow related problems

- **Objective**: validate the sequence of the messages as per established workflows

  Examples with I11 – Terminate TIR Operation:

  - It can only be accepted if there is a TIR operation that has been started

  Examples with the Guarantee workflow:



Error Families

Other functional problems

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- **Objective**: validate any other type of functional and business rules

- Pre-requisites

  Examples with I9 – Start TIR Operation:

  - The guarantee must already exist
  - The guarantee must have been accepted

- Verifications during the treatment of the message

  Examples with I9 – Start TIR Operation:

  - The holder must be authorized

- Verification of the Rules and Conditions (from the eTIR Specifications)

Error Families

eTIR internal problems

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- **Objective**: catch any internal error and always return a response
- Components of the eTIR international system not available
  - The database is not available
  - The ITDB is not available
  - The message archiving system is not available
- Rejection from the Database based on its constraints, not handled (yet) in the code
- Unknown issues (bugs)

New Error Codes Proposal

- New Error Code list: CL28
- Based on Error Codes best practices (HTTP Return Codes)
  - Three digits for all error codes (0-99 are not used)
  - A code range for each Error Family. Ex: 100-199 for the validation of messages
  - With a default error for each family

Code Range	Description	Default Code
1XX (100-199)	Validation of the message and its parameters	100 - Bad Message
2XX (200-299)	Workflow related problems	200 - Bad State
3XX (300-399)	Other functional problems	300 - Wrong Operation
4XX (400-499)	eTIR Internal Problems	400 - eTIR Problem

- A comprehensive list of errors will gradually be assembled

Example

- Several types of errors can be returned from a request

- With I1: Accept Guarantee
  - If the ReferenceID is missing, we have a **validation error**: code returned 1XX
  - If the guarantee is already “In Use”, we have a guarantee **workflow error**: code returned 2XX
  - If the holder is excluded / not active, we have a **functional error**: code returned 3XX
  - If everything else is correct but the database cannot be updated with the new guarantee status, the eTIR international system has an **internal problem**: code returned 4XX

Benefits

- Specific error codes to the eTIR international system
  - Much easier for stakeholders to implement their interconnection with eTIR and treat problems
  - Will facilitate the support given from the TIR Secretariat to the Customs Authorities
- A consistent error scheme: 3 digits for all errors and default values
- A semantic value added with the code ranges for the different error families
- New code list (CL28) could be mapped with the existing error codes list (CL99)

Thank you!

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