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**e-TrustEx – Submit Document Use Case Specification**

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| [1] | [06/21/2013] | [Alice Vasilescu] | [Initial Version of approved document] |
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# Use-Case Description

This Use Case describes the service offered by the e-TrustEx system to exchange any type of business document.

This Use Case includes other Use Cases that correspond to the generic components (e.g. components that do authentication, validation) and is extended by other Use Cases that describe the business document specific processing.

# Flow of Events

## B1: Basic Flow for SOAP Entry point

## System receives the message

* This use case starts when the user submits a message to the SOAP Entry point. In case the User is outside of EC internal network, this opens an https connection between the User and the System;

## System routes the message to the right channel and transforms the message

* The message is routed to the write message channel;
* The system performs following checks based on the information carried in the HTTP request and the SOAP message

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Description | Element path | Severity | Category | Subcategory |
| RULE60 | Payload type validation. | N/A | Hard | Message body check | Payload type |
| RULE264 | SOAP body service validation. The system validates element against the service type expected by the service. | N/A | Hard | Message body check | Payload type |

* The system transforms the message in the e-TrustEx structure and performs the checks based on the configuration settings (e.g. Message size check);

## System authenticates the User

* The systems authenticates the User;
* At this step include “User Access” Use Case;

## System performs the Synchronous validation

* If synchronous validation has been set, the system perform the necessary validation;
* At this step include the Validation Use Case for the submitted business document, in particular the section “Synchronous validation“. The right Validation Use Case for the business document is presented in the table Table. 1 Business Document, Validation Use Case and specific Use Case

## System stores the message

* After the synchronous validation, the systems stores the message
* The system creates the message object with the following data:
* The date & time when the object was created
* The system persists the message and records the following information:
* The date when the document was received
* The reference to the object created at previous step
* The date and time when the message was created
* Original format (a.k.a. raw message)
* The associations with:
* The ID of the SenderParty (*Header.BusinessHeader.Sender.Identifier*)
* The ID of the ReceiverParty (*Header.BusinessHeader.Receiver.Identifier*)
* The Sender user
* The Receiver user
* The reference to the parent document Bundle (if any)
* The business and technical header
* The following elements found in the payload of the message are also recorded:
* The ID of the document
* The Issue Date of the document
* The read flag is set to "FALSE"
* The status of the object is set to “RECEIVED”
* At this step the system checks if the ID of the message is unique (see Table 2 Generic unicity check of the message)

## System acknowledges the message

* The system creates the technical acknowledgment and sends it back to the Requester.
* The acknowledgement is digitally signed and contains the following information:

|  |  |
| --- | --- |
| **Element** | **Xpath** |
| **SOAP Body** | |
| **AckIndicator** | *AckIndicator – Boolean value* |
| **Timestamp** | *The timestamp, used to offer long-term and independent proof that the information existed at a particular point in time and has not been altered since and can be expressed as :*   * *A digital signature* * *RFC3161TimeStampToken* |
| **IssueDate** | *In the case where a Timestamping Authority is not available, the IssueDate is present instead of the Timestamp. The IssueDate is the system date of reception.* |
| **ID of the message** | *AcknowledgedDocumentReference.DocumentReference.ID* |
| **DocumentTypeCode** | *AcknowledgedDocumentReference.DocumentReference.DocumentTypeCode ( e.g. “BDL”)* |
| **SenderPartyID** | *AcknowledgedDocumentReference.DocumentReference.SenderParty.EndpointID – the Sender Party ID from the business header* |
| **ReceiverPartyID** | *AcknowledgedDocumentReference.DocumentReference.ReceiverParty.EndpointID - the Receiver Party ID from the business header* |
| **DocumentHashMethod** | *AcknowledgedDocumentReference.**DocumentHashMethod – the hash method used to hash the received message* |
| **DocumentHash** | *AcknowledgedDocumentReference.**DocumentHash – the hash value of the received message* |
| **DocumentCanonicalizationMethod** | *AcknowledgedDocumentReference.**DocumentCanonicalizationMethod – the canonicalization method used before the hashing of the received message* |

## System performs the asynchronous validation

* After the acknowledgment of the message was successfully executed, the systems performs the asynchronous validation;
* At this step include “Validation Use Case” for the submitted business document, in particular the section “Asynchronous validation“. The right Validation Use Case for the business document is presented in the table Table. 1 Business Document, Validation Use Case and specific Use Case

## System performs the business specific processing

* Based on the business document type, the system performs the business specific processing;
* The Table. 1 Business Document, Validation Use Case and specific Use Case summarizes the types of business documents support by e-TrustEx and the corresponding Use Case that extends this Use Case;
* At this step, the current Use Case is extended by the specific Use Case; (e.g. Submit+Document+Bundle+Use+Case+Specification.docx )

## System dispatches the message

* The system checks the corresponding profile configuration for forwarding and notification settings
* If needed, the message is forwarded by calling the adequate adapter
* If the systems is configured to send a notification after the business specific processing, the system calls the notification service using, from the Requester side, with the following parameters:
  + The ReferenceID – the ID of the message;
  + The Response Code “DocumentTypeCode”+”:”+”8”;
  + A description may be added “Notification: processing OK”;
* **Use Case ends.**

## B2: Basic Flow for JAXWS Entry point

## System receives the message

* This use case starts when the user submits a message to the JAXWS Entry point;
* The Use Case resumes at step 2.3.

## Subflows

### S1 Persist message upon failure

* The system creates a unique ERROR object in its repository;
* The system creates a message of type ERROR and records the following information:
* The date and time when the message was created;
* Original format (a.k.a. Application Response);
* Associations with :
* The ID of the SenderParty (Header.BusinessHeader.Sender.Identifier);
* The ID of the ReceiverParty (Header.BusinessHeader.Receiver.Identifier);
* The Sender user;
* The Receiver user;
* Regarding the document which failed during the validation process:
* If available, the ID of the document is added;
* Its DocumentTypeCode is added;
* The Issue Date of the document is added;
* The read flag is set to "FALSE";
* The status of the message to which the ERROR object is linked is set to “ERROR.

## Exceptional Flows

### E1 at Step System routes the message to the right channel and transforms the message and the system is down

* The User receives a 503 Service Unavailable or Connection Refused;
* The Use Case ends.

### E2 at Step System routes the message to the right channel and transforms the message and the message body does not contain only one direct child element

* System submits a SOAP Fault [5] with the following description: “Undefined operation”;
* This closes the https connection between the User and the system;
* The Use Case ends.

### E3 at Step System routes the message to the right channel and transforms the message and the operation XML wrapper element does not contain one and only one element

* System submits a SOAP Fault [7];
* This closes the https connection between the User and the system;
* The Use Case ends.

### E4 at Step System performs the Synchronous validation

* The errors are described in the specific “Validation Use Case”, section “2.Errors” (see Table 1 Business Document, Validation Use Case and specific Use Case).

### E5 at Step System stores the message and the message was already submitted

* The system performs subflow S1 Persist message upon failure;
* The following parameters are added to the Application Response:
* A Response Code is added "DocumentTypeCode”+”:”3"
* Use Case Ends
* A Description may be added.
* The Use Case ends.

### E6 at Step System acknowledges the message and a technical error is reported

* The system detects when a sender closes its connection. In this case the system cannot respond to the subsequent request;
* The Use Case continues at the next step.

### E7 at Step System performs the asynchronous validation

* The errors are described in the specific “Validation Use Case”, section “2.Errors” (see Table 1 Business Document, Validation Use Case and specific Use Case).

### E8 at Step System performs the business specific processing

* The errors are described in the specific Use case per business document (see Table 1 Business Document, Validation Use Case and specific Use Case).

### E9 For all the steps when a technical failure is reported

* This case happens in case of a technical failure and is reported through the system's ErrorHandler. The system enqueues the error queue;
* The system administrator needs to take action;
* The Use Case ends.

# Special Requirements

[A special requirement is typically a nonfunctional requirement that is specific to a use case, but is not easily or naturally specified in the text of the use case’s event flow. Examples of special requirements include legal and regulatory requirements, application standards, and quality attributes of the system to be built including usability, reliability, performance or supportability requirements. Additionally, other requirements—such as operating systems and environments, compatibility requirements, and design constraints—should be captured in this section.]

## < Interface(s) with other Systems>

## Security Requirements

## < Other Special Requirement >

# Preconditions

## < Precondition One >

# Postconditions

## < Postcondition One >

# Additional Information

# Business Document, Validation Use Case and specific Use Case

Table 1 Business Document, Validation Use Case and specific Use Case

|  |  |  |
| --- | --- | --- |
| Business document | Validation Use Case | Specific Use Case |
| Document Bundle | Validation+Document+Bundle+Use+Case+Specification.docx | Submit+Document+Bundle+Use+Case+Specification.docx |
| Application Response | Validation+Application+Response+Use+Case+Specification.docx |  |

Table 2 Generic unicity check of the message

|  |  |  |  |
| --- | --- | --- | --- |
| DocumentType | ID | Description | Severity |
| DocumentBundle | **RULE268** | DocumentBundle.ID  Must not have been sent previously by the same SenderParty to the same ReceiverParty.  A message is uniquely identified by its ID, Type, Sender Party, and Receiver Party. | Hard |
| ApplicationResponse | **RULE306** | Document ID  Must not have been sent previously by the same SenderParty to the same ReceiverParty.  A message is uniquely identified by its ID, Type, Sender Party, and Receiver Party. | Hard |
| Attachment | **RULE40** | Attached Document. Identifier  Must not have been received previously. | Hard |