



Economic Commission for Europe

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Technical Implementation Body

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eTIR conceptual, functional and technical specifications:

Version 4.3:

Conformance tests

Framework for the conformance tests

Note by the secretariat

I. Introduction and mandate

1. In order to ensure a proper interconnection between the eTIR international system and national customs systems, Annex 11, Article 11.2 clearly states the need for conformance tests, which shall be undertaken by customs administrations, with the assistance of ECE, prior to the operational connection of the systems (i.e. “in production”).
2. With this in mind, the secretariat has prepared this document, laying down a framework for the conformance tests as well as a set of testing scenarios (see Annex), for consideration and possible approval by the Technical Implementation Body (TIB).

II. Levels of conformance tests

3. As stated in section IV.D.6 of the eTIR technical specifications, the conformance tests will be carried out in stages/levels. Each stage/level will assess a particular aspect, of increasing complexity, of the interconnection between the national customs system and the eTIR international system. All tests from a particular phase need to be validated before being able to move to the next phase.

III. Test and validation procedures

4. The following sections describe the test and validation procedures associated to each level of the conformance tests. In order to successfully complete the conformance tests, the national customs system will have to pass phases 1 to 3 described below. For each phase, if the national customs system would fail a test, all tests for that phase will be repeated to ensure that corrections applied to the national customs system did not introduce other issues (regression).

A. Organization and prerequisites

5. Before starting the conformance tests, ECE and customs administrations need to agree on a number of organizational matters and ensure that a number of prerequisites are met.

Organizational matters

- Customs authorities and ECE will nominate conformance tests coordinators.
- The conformance test coordinators will agree on the conformance tests period, ensuring that the required staff (ICT and customs officers) will be available during that period.
- The conformance test coordinators will ensure that IP addresses of UAT servers are properly whitelisted (if required).
- The conformance test coordinators will ensure that the URLs of all the web services are correctly recorded in both systems (i.e. the national customs system and the eTIR international system).
- The conformance test coordinators will ensure that X.509 certificates, generated in line with the eTIR technical specifications, are correctly recorded in both systems (keystore/truststore).
- The conformance test coordinators will ensure the required metadata of the eTIR messages (in particular the sender and receiver identifiers) is properly recorded in both systems¹.
- The conformance test coordinators will prepare a list of customs offices (virtual² or actual) which will take part in the conformance tests, including their possible roles (departure, destination, entry and exit) and contact information of the customs officers involved (phone and email). At least two inland offices and two border offices are required.

Pre-requisites

- The conformance test coordinators will confirm that all developments required to interconnect the national customs systems with the eTIR international system, or upgrades thereto, have been adequately completed in line with the latest version of the eTIR specifications and integrated in a new version of the national customs system, which has been deployed on the customs UAT environment.
- Selected customs officers at the customs offices taking part in conformance tests shall be trained to use the amended national customs system to handle TIR transports carried out under the eTIR procedure.
- The conformance test coordinators will confirm that all the national/regional data in the International TIR Data Bank (ITDB) is up-to-date with, i.e.:
 - Users from customs authorities and the national association(s) have active accounts;
 - Seals and stamps information;
 - Customs office information;
 - TIR Carnet holder information.

¹ For more details, see chapter IV.C.3.a of the eTIR technical specifications

² If customs authorities would not be in a position to allow access to the UAT environment directly from customs offices, they can simulate the usage of the national customs system by the different customs offices involved in the TIR transport.

B. Phase 1: connectivity

6. The conformance test coordinators, with the assistance of the required IT experts, will ensure that the WSDL³ files of the exposed webservices are visible at both end and that signed messages can be sent in both directions.

C. Phase 2: eTIR messages

7. The objectives of this phase is to validate on the UAT environment so that the national customs system being tested can:

- properly process eTIR messages received from the eTIR international system (incoming messages).
- properly generate and send eTIR messages (outgoing messages)

1. Incoming messages (E9, E11, E13, I15)

8. ECE will send messages to the national customs system. Some messages will be correct and contain data that will be reused to generate the outgoing messages, some will have an incorrect structure or format, some will breach rules and conditions and some will use incorrect codes.

9. ECE will check that incorrect messages are refused and that the adequate error codes are returned. The outgoing messages will ensure that the correct messages have been correctly processed and the information is stored in the national customs system.

2. Outgoing messages (I1, I3, I5, I7, I9, I11, I13, I17, I19, E9, E11, E13)

10. On the basis of data received by means of the E9, E11, E13 and I15 incoming messages, an IT expert will be requested to send the relevant outgoing messages using the data stored in the national customs system.

11. ECE will provide the IT expert with the list of messages to be returned and, when required, with the values of the attributes that need to be filled in.

D. Phase 3: eTIR processes at customs offices

12. In order to ensure the proper integration of the eTIR processes in the national customs system, ECE will send to the national conformance test coordinator a list of scenarios and sub-scenarios, in which various national customs offices will play specific roles, as well as a detailed description of the actions to be undertaken by each customs office, including the generation of the accompanying document, when necessary.

13. Scenarios correspond to a complete TIR transport and sub-scenarios correspond to the TIR operations composing that TIR transport. Therefore, during this phase, conformance tests will be limited to the testing of sub-scenarios taking place in the country taking part in the conformance tests. Annex 1 contains an example of scenarios and sub scenarios, with the detailed instructions to be undertaken by the customs officers involved in the conformance tests. In the scenarios and sub-scenarios which will be used for the conformance tests, actual country names and customs office will be used. Detailed information about consignments will also be provided by means of the relevant eTIR messages.

14. All data required to perform the tests will be sent to the national customs system by means of the incoming eTIR messages (E9, E11, E13, I15) and/or by means of accompanying documents which will be sent to the national conformance test coordinator by email. He/she will be responsible to forward the instructions to the customs officers involved in the conformance tests.

³ Web Services Description Language

15. Phase 3 will test the ability of the national customs system, and of the customs officers involved, to properly handle the eTIR procedure, including fallback scenarios (both the ability of the national customs system to make use of the queuing mechanism to send messages that could not be sent in real time and the processing of the accompanying document by customs officers).

16. For this part of the conformance tests, the ECE conformance test coordinator, possibly assisted by (an) IT expert(s), will also either contact directly customs officers (by email, phone or video conference) or visit the various customs offices involved in the conformance test.

17. This phase has 3 steps:

- ECE will send the data, the accompanying documents and the scenarios with detailed instructions to the national conformance test coordinator, who will disseminate the necessary information to the customs officers involved in the conformance tests;
- ECE will contact the customs officers involved in the conformance tests to trigger the required actions in the national customs system or on the accompanying document. In cases where an accompanying document is generated or used by the customs system, the customs officer will have to send it to the national conformance test coordinator who will forward it to the ECE conformance test coordinator in electronic format (i.e. a scanned version in cases when the customs officer has used the paper accompanying document).
- ECE will assess that eTIR messages are generated automatically by the customs system through the usage of the relevant module(s) of the national customs system, that functional error messages are displayed to the customs officer⁴, that all the messages have been received in the right sequence and in real time and, when relevant, that the generated accompanying document contains the right information and is formatted in line with the model described in Figure IV.1 and 2 of the eTIR functional specifications.

18. During this phase of the conformance tests, all actors other than the customs administration conducting the conformance tests will be simulated by ECE, thus ensuring that all messages which should be sent by the guarantee chain, the TIR Carnet holder or other customs administrations are received by the eTIR international system.

19. Customs officers, while on the customs UAT environment, will be put in a situation as close as possible to reality, i.e. when a transport operator will arrive at the customs office and present a reference to the advance cargo information, advance amendment data or accompanying document. The instructions provided to the customs officer will be related to the accomplishment of customs procedures, i.e. not mentioning the messages that will be sent by the customs system upon completion of those procedures. Whenever possible, it will also be left to the customs officer taking part in the tests to decide on the usage of the fallback procedures when it is necessary and possible.

20. Upon completion of this phase, ECE will officially inform the customs administration that their national customs system conforms with the eTIR specifications when it comes to the implementation of the eTIR procedure, and invite them to either undertake the optional phase 4 of the conformance tests or, after the amended version of the national customs system is deployed in production, to launch a supervised real TIR transport under the eTIR procedure, i.e. with all stakeholders ensuring that all messages are sent and received in real time as expected.

E. Phase 4: international testing with neighbouring countries (optional)

21. This phase is optional and should be initiated at the request of at least 2 customs authorities willing to undertake it jointly. The guarantee chain will also participate in these tests.

⁴ By means of the graphical user interface (GUI) of the customs system

22. This phase will also be based on scenarios elaborated by ECE and organized in the same way as phase 3. However, scenarios will be limited to the number of countries involved and each country will be requested to perform the actions related to the sub-scenarios taking place in their country.

IV. Next steps

23. Upon completion of the conformance tests, customs authorities will be in a position to deploy the revised customs system in the production environment and inform all relevant stakeholders that the usage of the eTIR procedure is possible in their country.

24. Customs authorities that would ask for it, could undertake a few “supervised” real TIR transports using the TIR procedure. This would imply a real time monitoring of the national customs systems and of the eTIR international system, thus ensuring that any issue which could arise would be dealt with in real time and avoid delays which could negatively impact the perception of the functioning of the eTIR procedure.

Annex

Sample scenario and sub scenarios

Scenario 1

Description

Transport company x, sends advance TIR data to country A. It intends to transport consignment C1 from the customs office COA1 in country A to the customs office COB2 in country B and will be crossing the border at COA2/COB1 border crossing point.

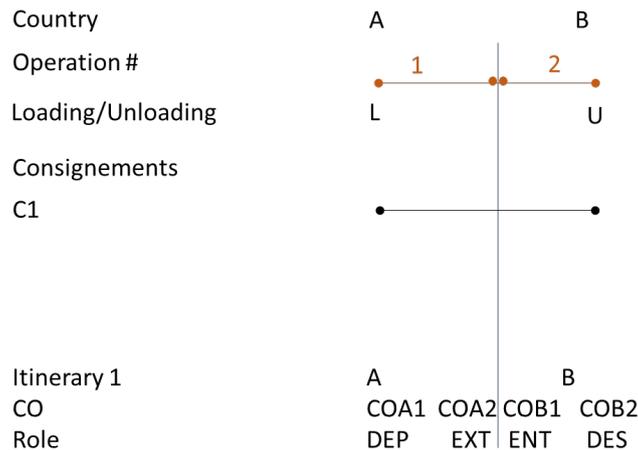


Figure: Graphical representation of scenario 1

Sub-scenario 1.A

Description

The customs system of country A will receive the advance TIR data. Upon presentation of the goods and the vehicle at the customs of departure (COA1), after the customs officer has been provided with the proper guarantee reference and assuming all checks are positive, the customs officer accepts the guarantee, accepts the declaration and starts the first TIR operation by also providing the reference of the seals applied. At the customs office of Exit (COA2), assuming all checks are positive, the customs officer terminates the first TIR operation. The customs office of discharge (or the national customs system if the discharge procedure is automated) will discharge the first TIR operation.

Preliminary data reception

The eTIR international system has sent the advance TIR data (by means of an E9 message).

The guarantee reference has been provided by the conformance tests coordinator.

Test processes

At the customs of departure

- (a) Load in the customs system the advance TIR data related to the guarantee reference;
- (b) Assume all the required customs controls are positive (including any optional risk assessment which has been performed prior to the start of the test);
- (c) (Optional) Verify the status of the guarantee/holder;
- (d) Accept the guarantee;

- (e) Accept the declaration;
- (f) Start the TIR operation (Input the seal number).

As customs of exit

- (a) Load in the customs system the declaration data related to the guarantee/national reference;
- (b) Assume all the required customs controls are positive (including seals checks);
- (c) (Optional) Verify the status of the guarantee/holder;
- (d) Terminate the TIR operation (without reservations).

As customs of discharge (if not automated in the customs system)

- (a) Load in the customs system the TIR operation data related to the guarantee/national reference;
- (b) Discharge the TIR operation.

Sub-scenario 1.B**Description**

The customs system of country B will receive the declaration data and return a national reference. Upon presentation of the goods and the vehicle at the customs of entry (COB2), after the customs officer is provided with the proper national or guarantee reference and assuming all checks are positive, the customs officer starts the second TIR operation. At the customs office of destination (COB2), after having certified that the seals are intact, and, if necessary, the customs officer terminates the second TIR operation by also providing the information on the number of unloaded packages. The customs office of discharge (or the national customs system if the discharge procedure is automated) will discharge the second TIR operation.

Preliminary data reception

The eTIR international system has sent the declaration data (by means of an I15 message).

The guarantee reference (e.g. on accompanying document) has been provided by the conformance tests coordinator.

Test processes**As customs of entry**

- (a) Load in the customs system the declaration data related to the guarantee/national reference;
- (b) Assume all the required customs controls are positive (including any optional risk assessment which has been performed prior to the start of the test and the seals checks);
- (c) (Optional) Verify the status of the guarantee/holder;
- (d) Start the TIR operation.

As customs of destination

- (a) Load in the customs system the declaration data related to the guarantee/national reference;
- (b) Assume all the required customs controls are positive (including seals checks);
- (c) (Optional) Verify the status of the guarantee/holder;

(d) Terminate the TIR operation (without reservations and indicating the number of packages that have been unloaded).

As customs of discharge (if not automated in the customs system)

(a) Load in the customs system the TIR operation data related to the guarantee/national reference;

(b) Discharge the TIR operation.
