



EUROPEAN CENTRAL BANK
EUROSYSTEM

ECB-UNRESTRICTED

TIPS

User Testing Terms of Reference

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TABLE OF CONTENT

table of content	3
0. Introduction	5
1. Principles of the User Testing Terms of Reference	6
1.1. Test environments	6
1.2. Connectivity to the TIPS certification test environment.....	6
1.3. Best practices for Maintaining the test environment.....	7
1.4. Scheduling in the TIPS certification test environment.....	7
1.5. Test Approach	7
1.6. Deployment.....	8
2. Types of User Testing	9
2.1. Connectivity set-up and testing	9
2.2. Certification testing.....	9
2.2.1. Objective and scope.....	9
2.2.2. Organisation and planning.....	9
2.3. User testing	10
2.3.1. Free Testing.....	10
2.3.2. End-to-end testing	10
2.3.3. Operational testing	10
2.3.4. Business day testing.....	10
2.3.5. Testing of Billing.....	10
2.3.6. Testing with TARGET2	11
2.3.7. Concurrent tests not related to User Testing	11
3. Facilitating User Testing	12
3.1. Preparation	12
3.2. Configuration	12
3.2.1. Configuration of the TIPS test environment	12
3.2.2. Configuration for Participants and Reachable Parties	12
3.2.3. Counterparty simulator.....	12
3.3. Test data management support	13
3.4. Liquidity provision.....	13
3.5. Defect management	13
4. Release testing	14

5.	User testing Organisation, Roles and Responsibilities.....	15
5.1.1.	User Testing support and coordination	15
5.1.2.	ECB User Testing and Migration team	15
5.1.3.	TIPS Service Desk	15
5.1.4.	Eurosystem Central Banks	15
5.2.	Service Support during User Testing.....	16
5.3.	User Testing Reporting.....	16
5.3.1.	Content of the Reporting	16
6.	Annexes.....	17

0. INTRODUCTION

The TIPS User Testing Terms of Reference (ToR) outlines the principles for the preparation, organisation and execution of User Testing for prospective participants in TIPS, with a focus on detailing the testing activities which will be carried out in the TIPS Certification test environment.

The TIPS certification test environment is dedicated to the testing activities of User Testers, i.e. Eurosystem Central Banks and Participants. This testing environment is owned by the Eurosystem who is coordinating all testing activities taking place on this environment.

All Eurosystem Central Banks and Participants will have access to this environment.

Participating Actors are composed of the following:

- The ECB UT-MIG team
- The TIPS Service Desk
- The Eurosystem Central Banks
- Participants
- Reachable Parties

This document addresses:

- i. The general principles detailing the usage, connectivity and maintenance of the test environment, as well as the available Operational Day Scheduling Scenarios;
- ii. The different types of User Testing;
- iii. The facilitation of User Testing;
- iv. The Organisation, Roles and Responsibilities of participating Actors involved in User Testing activities (including reporting);

This document addresses the post go-live testing landscape and supersedes the Pilot Testing Terms of Reference V1.0.

1. PRINCIPLES OF THE USER TESTING TERMS OF REFERENCE

1.1. TEST ENVIRONMENTS

The Eurosystem will provide the TIPS certification test environment (CERT) for use of current and prospective TIPS participants. This environment is connected to the TARGET2 CUST environment allowing liquidity to be provided during the TARGET2 CUST opening hours. The CRDM pre-production test environment (UTEST) propagates static data daily into TIPS CERT (and is also linked to the T2S pre-production environment (UTEST)).

The TIPS certification test environment will be accessible via A2A and U2A.

During a testing day, this test environment will follow the operating day schedule of TARGET2 CUST.

User Testers have the option to choose when to conduct testing activities in addition to the certification tests such as end to end testing and operational related tests (including operational related tests organised by the Central Banks). Testing activities, including operational related tests and end-to-end tests with significant volumes, will be included in the dedicated User Testing Calendar which will also indicate when deployments to this environment will take place.

The overall processing capacity of the TIPS certification test environment will be **X%** (to be defined) of production capacity.

1.2. CONNECTIVITY TO THE TIPS CERTIFICATION TEST ENVIRONMENT

TIPS User Testers shall refer to the relevant documentation:

- TIPS Connectivity Guide¹,
- Connectivity – Technical requirements and Message Exchange processing².

Participants who wish to use the services of an Instructing Party are advised to clarify at the start of testing as to whether they or the Instructing party will connect on the U2A channel to TIPS (and the CRDM). There must be a U2A connection in order to configure the reference data in CRDM.

¹ https://www.ecb.europa.eu/paym/initiatives/shared/docs/ba671-tips-cg_2017-12-13_connectivity_guide_v1.0_final.pdf

² https://www.ecb.europa.eu/paym/initiatives/shared/docs/bd500-tips-cg_2018-01-17-presentation-connectivity-message-exchange-processing.pdf

1.3. BEST PRACTICES FOR MAINTAINING THE TEST ENVIRONMENT

Participants are responsible for maintaining their reference data on the TIPS certification test environment as well as their report subscriptions. This will involve a regular check-up by the service provider and, if needed, a participant cleaning exercise in cooperation with the National Central Bank. Participants who wish to perform high volume testing must inform the TIPS Service Desk, via the respective National Service Desk, one week in advance of their intended test date.

1.4. SCHEDULING IN THE TIPS CERTIFICATION TEST ENVIRONMENT

The TIPS certification test environment will be available from Monday to Friday. The environment will follow the TARGET2 CUST schedule and be open during normal business hours from 07:15 to 19:00 Monday to Thursday and from 07:15 to 17:30 on Fridays, except for special periods which will be defined in the User Testing calendar. The key events in the TARGET2 CUST timing for TIPS participants are the cut off for bank to bank payments (15:30) and the change of business date (16:15). The change of business date for UTEST, the T2S pre-production test environment, which is connected to TARGET2 CUST also takes place at 16:15. A change of scheduling in TARGET2 CUST is automatically reflected in TIPS but needs to be adjusted in UTEST (e.g. live timing).

Data propagation from CRDM to TIPS will occur daily at 15:10.

If the TIPS CERT environment is open outside of the TARGET2 CUST hours then no liquidity can be transferred to or from TARGET2 CUST.

The testing calendar will define the dates where 24/7 TIPS testing availability will be provided as well as any other special schedule.

1.5. TEST APPROACH

The participants themselves shall define the approach and methodology in order to achieve the best test coverage of the UDFS and of their own requirements. The National Central Bank can assist , if needed.

As a best practice it is recommended to follow the prescribed stages from connectivity testing to certification, free testing, end to end testing and also participation in the prescribed operational related tests, if offered. The content of the testing stages and the test cases, except for the certification tests, are left at the discretion of the participants.

1.6. DEPLOYMENT

The service provider will deploy fix packages to the system at regular intervals. During User Testing deployment could take place interrupting the service. Deployment activities will always be included in the User Testing calendar.

2. TYPES OF USER TESTING

The following sections detail the different types of User Testing. Release testing is dealt with in section 4.

2.1. CONNECTIVITY SET-UP AND TESTING

Connectivity testing is the initial verification that the User Testers can communicate at the technical and application level with TIPS.

The connectivity set-up includes all TIPS specific preparatory activities which are needed to start the connectivity testing.

The network service provider (NSP) provides the public-key infrastructure (PKI) for User Testers connecting to TIPS through a NSP connection.

TIPS participants may contact the TIPS Service Desk with connectivity related queries. Reachable Parties must contact their TIPS participant.

Users of U2A shall test the ability to reach the TIPS U2A interface.

2.2. CERTIFICATION TESTING

2.2.1. Objective and scope

The objective of certification testing is to provide evidence that a Participant or a Reachable Party can interact with TIPS. In the case that a reachable party is not the instructing party, but is able to check the limit headroom by themselves via an U2A connection, certification tests of a reachable party are necessary.

Certification testing aims to demonstrate one or more of the following capabilities:

to send to and receive specific messages through A2A communication mode;

to log successfully into the U2A interface; and

to subscribe to and receive specific reports.

2.2.2. Organisation and planning

Prospective TIPS Participants must complete their certification test cases and have them validated by the Eurosystem before they can progress to Production. After completing the testing for certification the User Testers shall submit a final report providing evidence of the successful completion of the relevant test cases to the Eurosystem for validation.

The full list of test cases has been defined by the Eurosystem and is available [here on the ECB website](#).

2.3. USER TESTING

With the exception of the certification testing there are no mandatory tests to be performed. The participants shall use at their own discretion the below testing opportunities when creating their internal testing plan to ensure that they are ready to go live or ready for the next version of TIPS. The National Central Bank is ready to assist, if needed.

2.3.1. Free Testing

In parallel to certification testing the User Testers will be free to carry out their own test cases. These test cases shall ensure that their application is ready to interact with TIPS once they go live. The User Testers will define these test cases themselves, having consulted the TIPS UDFS and UHB.

2.3.2. End-to-end testing

User Testers will be able to collaborate and to send and receive payments from each other during User Testing. This will allow the parties to simulate the interaction that occurs in TIPS production. Participants who wish to perform end to end testing may indicate their interest to their National Service Desk.

2.3.3. Operational testing

Operational testing is defined as where operational procedures related to events e.g. unavailability of TARGET2 CUST (see TARGET2 switch-off tests), insolvency of bank and connected parties, missing GL file, delayed GL file, delay of change of business date and emergency replication of reference data in TIPS will be tested. The tests will take place regularly and participants may elect to take part. Participants may also request an operational test. All tests will be included in the UT calendar.

2.3.4. Business day testing

If requested by User Testers there may be a TIPS period of Business day testing where the TARGET2 CUST timing will be followed for TARGET2 and the TIPS system will be available 24/7.

2.3.5. Testing of Billing

Instant payments booked during TIPS User Testing shall appear on the invoices of the related TARGET2 CUST PM account. Liquidity Transfers also appear on the invoice but are regarded as TARGET2 related items.

2.3.6. Testing with TARGET2

2.3.7. Concurrent tests not related to User Testing

Volume testing shall be notified with a one-week advance period. The test duration is to be evaluated on a case-by-case basis (especially in terms of impact on other participants).

3. FACILITATING USER TESTING

3.1. PREPARATION

The Eurosystem will define the User Testing calendar and the reporting templates which will be distributed to prospective TIPS Participants. Operational tests may also be defined by the Eurosystem.

3.2. CONFIGURATION

3.2.1. Configuration of the TIPS test environment

The TIPS certification test environment is configured with the relevant system parameters as per UDFS 1.7.1, Table 18 “System parameters”. These parameters may be configurable if deemed necessary in the context of the testing activities.

3.2.2. Configuration for Participants and Reachable Parties

Participants will provide to their responsible Central Bank the reference data to be entered in the Common Reference Data Management system (CRDM) to allow them to start operating in the test environment. Reachable parties will provide the reference data to their linked TIPS Participant who will further provide it to the National Central Bank. Detailed information will be provided in the Registration Forms and Guide (see annex). Central Banks will create the required entity set-up for the entities acting as prospective Participants or Reachable parties in advance of the commencement of their User Testing.

3.2.3. Counterparty simulator

A counterparty simulator is available and can be used as beneficiary of instant payments, which will reply with an acceptance or a rejection according to a predefined setup. It cannot be used as originator of payments. The details of these counterparties are as follows :-

The following BICs should be used as beneficiaries (the IBAN is irrelevant).

ACCPITRRXXX :- always accepts

REJEITRRXXX :- always rejects

3.3. TEST DATA MANAGEMENT SUPPORT

The CRDM pre-production test environment (UTEST) will be available to the Testers during User Testing. Reference data updates processed by CRDM will be replicated in TIPS once a day (at 15:10). Immediate reference data changes processed directly by TIPS are limited to the cases foreseen by the UDFS.

The initial setup of a TIPS Participant or reachable party in CRDM will be loaded to TIPS by the National central bank, the data will be based on the previously submitted registration forms.

The TIPS participants will then have to create additional reference data to complete their initial set-up e.g. create a A2A User and grant roles to the A2A user, create a report configuration for the account statement.

3.4. LIQUIDITY PROVISION

The TIPS certification test environment will be continuously connected to the TARGET2 CUST environment. Liquidity can be transferred from a TARGET2 CUST PM account to a TIPS DCA (Dedicated Cash Account) and vice versa. It cannot be transferred outside of the TARGET2 CUST opening hours.

3.5. DEFECT MANAGEMENT

Incidents discovered by User Testers must be reported to the relevant National Service Desk. The National Service Desk will log the incident with the TIPS Service Desk and receive an incident number. Incidents which require a software fix will be declared as a Problem and receive a problem number. All open Problems and Incidents will appear on the defect list.

4. RELEASE TESTING

This section will be updated after the TWSWG consultation on the governance of TIPS release management.

5. USER TESTING ORGANISATION, ROLES AND RESPONSIBILITIES

5.1.1. User Testing support and coordination

In order to address fully the User Testing related aspects, the Eurosystem provides support via three interlocutors – the ECB User Testing and Migration Team (ECB UT-MIG), the TIPS Service Desk and the Eurosystem Central Banks.

5.1.2. ECB User Testing and Migration team

The ECB UT-MIG team is the interlocutor for the Central Bank test managers for coordination, planning and overall User Testing aspects and does not provide support to the participants directly.

5.1.3. TIPS Service Desk

TIPS participants can contact the TIPS Service Desk for pure technical connectivity issues, i.e. issues preventing them from reaching the TIPS platform and/or receiving any response from TIPS. Negative responses, e.g. due to a misconfiguration, are considered successful from the connectivity point of view and therefore should not be addressed to the TIPS Service Desk directly. For questions on functionality, data configuration, test execution and identified incidents, these entities shall turn to the service desk of their Eurosystem Central Bank (National Service Desk).

The TIPS Service Desk conducts the operational monitoring of testing infrastructure (e.g. test environments for TIPS and TARGET2, message flow to/from the network service providers), provides the agreement for any change of the User Testing Calendar and informs the National Service Desks of any planned service changes or system downtimes. In addition, the TIPS Service Desk is the interlocutor for Central Bank test managers on any matter related to the execution of User Testing e.g. reporting of incidents and clarification of failed test cases.

5.1.4. Eurosystem Central Banks

Eurosystem Central Banks will be the main point of contact for the entities acting as Participants or Reachable Parties in terms of reporting of incidents and to accept the results of certification testing. Following successful certification testing, confirmed by the National Service Desk (in consultation with the TIPS Service Desk, if necessary), the certificate will be issued to the TIPS Participant or Reachable Party by the relevant Eurosystem Central Bank.

Furthermore, a Eurosystem Central Bank is the main point of contact for their community on any questions on TIPS functionality and User Testing organisation. A Eurosystem Central Bank is also responsible for distribution of any information with regards to TIPS User Testing to their community (e.g. release notes, calendar, etc.).

5.2. SERVICE SUPPORT DURING USER TESTING

The TIPS Service Desk provides service support on the TIPS certification test environment between 08:30 and 17:30 CET on all the TARGET2 business days during User Testing. Specific arrangements for testing support outside opening hours foreseen by this document, e.g. on call support, could be agreed on demand.

5.3. USER TESTING REPORTING

The ECB UT-MIG team will provide a reporting template to the Central Banks to be returned to the ECB UT-MIG team at regular intervals during the year. The report shall cover the testing status of the Central Bank's community.

The ECB UT-MIG team will compile the Central Banks' reports into an overall User Testing status report. This report will be shared with the TARGET Services Working Group which is mandated to monitor the progress of the testing activities and the readiness of the prospective participants for their TIPS Go-live and also distributed to the Eurosystem Central Bank test managers.

5.3.1. Content of the Reporting

User Testers should report on a regular basis on:

- Progress of Connectivity;
- Progress of Certification;
- Status of free testing;
- Status of end-to-end testing;
- Status of testing of Billing (if applicable);
- Progress of reference data testing ;
- Status of Operational Testing (if applicable) ;
- Overall progress and Risk Status;

The TIPS Service Desk will report on the number of Incidents and Problems raised and closed.

6. ANNEXES

Opening hours :

CRDM Pre-production test environment: 0700-1900 Mon-Fri

TIPS Certification test environment: 0830-1900 Mon-Fri

T2S Pre-production test environment: 0700-1900 Mon-Fri

[Guide to TARGET2 User testing](#)

[Registration forms and Guide](#)