



EUROPEAN CENTRAL BANK

EUROSYSTEM

Information Guide for TARGET participants

Part 3 – TIPS

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1 Introduction

1.1 Purpose of the Information Guide for TARGET participants

The Information Guide for TARGET participants (hereinafter referred to as the Infoguide) aims to provide TARGET participants (credit institutions, ancillary systems, other entities settling in TARGET¹) with a comprehensive set of information regarding the functioning and operational procedures of TARGET settlement services during both normal and abnormal situations.

The Infoguide consists of four parts:

1. Fundamentals
2. CLM & RTGS
3. **TIPS** and
4. T2S Cash

The Fundamentals part describes the aspects that apply similarly across TARGET settlement services, the CLM & RTGS part describes the specific procedures applicable to the operation of central liquidity management (CLM) and RTGS services, the **TIPS** part describes the specific procedures applicable to the TARGET Instant Payment Settlement (TIPS) service, and the T2S Cash part describes the specific procedures applicable to the T2S dedicated cash accounts (T2S DCAs).

While TARGET was developed to offer multi-currency services, this Infoguide describes all relevant procedures for the euro currency. For other currencies, the central bank making its currency available in TARGET² is responsible for the relevant operational procedures and they are not covered in this Infoguide.

The scope of this Infoguide **PART 3 – TIPS** (hereinafter referred to as the TIPS Infoguide) excludes functional/technical descriptions of TIPS as well as the internal processes of Level 3 NCBs³ (hereafter referred to as the 4CB).

Note: the TIPS Infoguide complements the Fundamentals Infoguide and is not to be used as a stand-alone document.

All references throughout this document to “TIPS participants” refer to participants as well as other entities authorised to access their account (i.e. parties with a technical connection to TIPS). All references throughout this document to “TIPS users” refer to

¹ Further information can be found in Chapter 2.4.

² By signing a Currency Participation Agreement (CPA).

³ Level 3 NCBs means the Deutsche Bundesbank, Banque de France, Banca d'Italia and Banco de España (4CB) in their capacity as the CBs developing and operating TARGET for the Eurosystem's benefit.

an individual or an application that can log into a service with a login name and password.

The TIPS Infoguide is not a legally binding document, and its content confers no legal rights on TARGET users, operations or any person or entity. All times in this document refer to the local time at the seat of the European Central Bank, i.e. Central European Time (CET).

1.2 Structure of the TIPS Infoguide

The TIPS Infoguide starts with an introductory part (**Chapter 1**) to explain to the reader the purpose and structure of the Infoguide.

Chapter 2 contains TIPS-specific information on participation in TIPS and communication flows.

Chapters 3 and 4 describe the TIPS-related operational procedures to be respectively applied under normal and abnormal situations.

Chapter 5 deals with how service continuity is assured by the use of different tools and business continuity measures.

Chapter 6 enlists and describes the testing activities for TIPS.

Chapter 7 covers the receipt and payment of TIPS invoices for participants.

Chapter 8 describes the change, release and deployment management procedures for TIPS for the annual releases and for other emergency changes and what are known as “hotfixes”.

1.3 TIPS Infoguide change management

The TIPS Infoguide is reviewed and updated in line with the Infoguide Fundamentals (see Chapter 1.4 “TARGET Infoguide change management”).

2 General information

2.1 Required reachability in TIPS – euro

In accordance with the decision taken by the Governing Council of the ECB on pan-European reachability for instant payments via TARGET Instant Payment Settlement (TIPS)⁴:

1. payment service providers (PSPs) adhering to the SEPA instant credit transfer (SCT Inst) scheme and reachable in TARGET should become reachable in TIPS either as a participant or as a reachable party, and
2. automated clearing houses (ACHs) offering instant payment services should hold their technical accounts in TIPS.

Note that parties that are already active in TIPS (i.e. TIPS participants and reachable parties) are also considered as parties active in the Mobile Proxy Lookup (MPL); in addition, it is technically possible for parties to be defined as MPL actors only, should they wish not to be active in TIPS.⁵

2.2 Types of participation – TIPS

Participant means an entity that holds at least one MCA and may additionally hold one or more DCAs in TARGET or ancillary systems (AS).

For the purpose of completeness, in this chapter reference is made to the participants (holding one or more accounts in TIPS) as well as other actors technically interacting directly (e.g. instructing parties and reachable parties if they interact directly with TIPS instead of relying on an instructing party) with TIPS.

TIPS DCA holder (participant)

The access criteria for holding a TIPS dedicated cash account (DCA), or any other TARGET cash account, are set out in the [Guideline \(EU\) of the European Central Bank on a new-generation Trans-European Automated Real-time Gross settlement Express Transfer system \(TARGET\) and repealing Guideline ECB/2012/27](#) (hereafter referred to as “TARGET Guideline”) (Annex I, Part I, Article 4).

TIPS DCAs are opened by the responsible central bank and are used to settle instant payment orders, positive recall answers, and liquidity transfer orders (to/from MCAs, to/from RTGS DCAs, to/from T2S DCAs, to overnight deposit accounts, and to/from TIPS ASTAs).

⁴ Governing Council decision of 22 July 2020.

⁵ As per the MIB decision, the usage of MPL is initially restricted to TIPS actors only (please refer to Resolution [MIB-19-02-017]).

TIPS DCA holders can set and manage:

1. credit memorandum balances (CMBs) linked to their own accounts and related limits;
2. reachable parties defined as authorised account users of their accounts or CMBs;
3. instructing party configuration for entities acting on behalf of themselves.

They can also act as instructing parties for other TIPS DCA holders and reachable parties.

TIPS AS technical account holder (participant)

As defined in the TARGET Guideline, ancillary systems (AS) are systems operated by entities established in the European Union or the EEA that are subject to supervision and/or oversight by a competent authority and comply with the oversight requirements for the location of infrastructures offering services in euro, as amended from time to time and published on the ECB's website, in which payments and/or financial instruments are exchanged and/or cleared or recorded with (a) the monetary obligations resulting in transfer orders which are settled in TARGET and/or (b) funds held in TARGET in accordance with the TARGET Guideline.

The access criteria for holding a TIPS AS technical account (TIPS ASTA) are set out in the TARGET Guideline (Annex I, Part I, Article 4).

TIPS ASTAs are opened and operated by the responsible central bank on the request of an AS that settles instant payments in accordance with the SCT Inst scheme or near instant payments settled in the books of the AS. TIPS ASTAs are used to settle instant payment orders, positive recall answers and liquidity transfer orders to and from TIPS DCAs.

TIPS ASTA holders can set and manage:

1. credit memorandum balances (CMBs) linked to their own accounts and related limits;
2. reachable parties defined as authorised account users of their accounts or CMBs;
3. instructing party configuration for entities acting on behalf of themselves.

Reachable party

Reachable parties do not hold TIPS DCAs and they rely on a TIPS DCA holder's account to settle instant payment orders and positive recall answers in TIPS. They can also act as instructing parties.

Instructing party

Instructing parties interact directly with TIPS. They are entities allowed by TIPS DCA holders, TIPS AS technical account holders or reachable parties to send/receive instant payment orders or liquidity transfer orders to/from TIPS on their behalf.

Instructing parties are not defined as parties, but as Distinguished Names (DNs) that participants and reachable parties can define and authorise to act on their behalf via a specific DN-BIC configuration. Instructing parties may be granted access rights for a subset or the whole set of functionalities that are available to the participant or reachable party. Participants and reachable parties may act as instructing parties as well.

Central bank

Central banks are responsible for maintaining the reference data of their respective banking community and may act on behalf of their participants in contingency (i.e. for liquidity transfers, queries and reference data changes).

2.3 Setting up Mobile Proxy Lookup actors

The set-up of Mobile Proxy Lookup (MPL) actors takes place in CRDM.

The MPL operator is responsible for setting up and maintaining party reference data for all central banks in the MPL. Central banks are responsible for setting up and maintaining party reference data for the parties of their national community, whereas the MPL participant is responsible setting up and configuring its own users.

MPL participants represent entities that set up and maintain Proxy-IBAN Mapping Table elements within the MPL service. They are uniquely identified by a BIC11 and are able to submit:

- Look-up requests towards MPL in order to obtain the IBAN corresponding to a given proxy digest;
- reachability check requests to check whether a given proxy digest has been mapped to an IBAN.

2.4 Distinguished Names (DN) in CRDM

Depending on the NSP naming guidelines, it should be noted that for personal tokens and personal HSM users, the distinguished names (DN) might need to stand for a person and to follow a format such as “firstname-lastname”, which means that personal data will be visible in the Common Reference Data Management (CRDM).

This risk will be eliminated at the occasion of the T2 R2025.JUN release with the deployment of the change request *T2-0129-URD CRDM admin users access rights scope limitation*.

2.5 Communication flows

Note that, in general, the contact point for TIPS participants is the National Service Desk (NSD). The communication flows used for TIPS are the same as for all TARGET settlement services.

Both the communication flows as well as the communication tools used for TIPS are described in detail in Fundamentals Infoguide (Chapter 2.3).

TIPS reachable parties and instructing parties

As reachable parties and instructing parties do not have a formal business relationship with a specific central bank as concerns TIPS, central banks must receive information from the TIPS DCA holder on whether it will be using an instructing party.

The following case-by-case set-up is applied to ensure that instructing parties receive the necessary business support:

1. Functional questions:

For **instructing parties**, questions related to the functionality of TIPS may be directed to an NSD, either to the NSD of the country where the instructing party is located or to the NSD that has a business relationship with a TIPS DCA holder using the instructing party.

Alternatively, such questions may be raised by a TIPS DCA holder using the instructing party. In this case, the TIPS DCA holder will submit the questions to the NSD of the central bank with which it has a contractual relationship. The NSD may either resolve the question on its own or, if it is unable to do so, involve the TIPS Service Desk.

For **reachable parties**, questions related to the functionality of TIPS should be addressed to the TIPS DCA holder with whom they have a relationship and the TIPS DCA holder may then contact the responsible NSD if necessary.

2. Enquiries related to individual TIPS DCAs or TIPS DCA holders:

Where an instructing party needs to obtain information about an individual TIPS DCA holder that is using the instructing party (e.g. where the instructing party has a question concerning a specific transaction), in order to indemnify a central bank from any legal obligation, the TIPS DCA holder must have given its consent in writing (by submitting a consent form) confirming that its home central bank may provide the instructing party with the required information about the TIPS DCA holder itself and/or its reachable parties.

If an instructing party makes an enquiry, it is implied that the TIPS DCA holder has obtained consent also from its reachable parties (if any) that such information may be provided to the instructing party.

3. Technical connectivity issues:

For **connectivity problems only**, a TIPS DCA holder may contact the TIPS Service Desk directly, which is available for connectivity-related issues 24/7/365, including TARGET closing days.

If the instructing party approaches the TIPS Service Desk in relation to issues other than connectivity, its request will be rejected.

3 Operational procedures during normal operations

3.1 TIPS daily operations

3.1.1 Business day – euro

TIPS processes instructions continuously during the day, on a 24/7/365 basis without any scheduled service downtime.

TIPS starts a new business day shortly after the end of the CLM RTS phase (i.e. shortly after 18:00 in normal situations) and continues to settle instant payments and process recalls without interruption throughout its business day.

The switch to the new business day in TIPS is triggered by a series of events in its interaction with CLM, as described in [Chapter 3.1.3 “End-of-day procedures – euro”](#).

Throughout its business day, during specific windows or timings, TIPS also processes other types of instructions, such as liquidity transfers, local reference data updates and query/reporting requests.

More specifically, **instructions processed in TIPS 24/7/365** are:

1. Instant payments
2. Intra-service liquidity transfers (between TIPS DCAs and TIPS ASTAs)
3. Recall requests and recall answers
4. Queries and reports
5. Local reference data updates **with immediate effect**. Note that these include only:
 - (a) Blocking/unblocking of a TIPS DCA/TIPS ASTA holder
 - (b) Blocking/unblocking of an account or a CMB
 - (c) Updates to CMB limits

The following **actions** also take place **during the day**:

17:00 – daily propagation of reference data from the CRDM is initiated.

Every CRDM opening day⁶, a time-driven event triggers the propagation of all TIPS and MPL reference data from CRDM to TIPS and MPL, respectively. The event

⁶ CRDM follows the CLM calendar and scheduling.

takes place at 17:00 to ensure a smooth and complete reference data propagation before the change of business day. The set of reference data that TIPS and MPL receive on each business day includes all the active data on that business date.

In the event of a contingency on the TIPS side, an ad-hoc propagation (contingency propagation) from CRDM to TIPS may be triggered.

Note: The daily propagation is performed as scheduled and includes all the active data on the relevant business date, **irrespective of the currency**.

17:45 – Blocking of liquidity transfers between TIPS and T2S (the time is indicative and follows the T2S cut-off, i.e. a delay in T2S results in a delay in blocking liquidity transfers between TIPS and T2S).

18:00 – Blocking of liquidity transfers between TIPS and CLM or RTGS (the time is indicative and follows the CLM RTS cut-off [same as the RTGS cut-off for interbank payments], i.e. a delay in CLM and RTGS results in a delay in blocking liquidity transfers between TIPS and CLM or RTGS).

Shortly after 18:00 (in normal situations) following the change of business day in TIPS, TIPS creates and sends to CLM a general ledger (GL) file with the end-of day-balances on the TIPS DCAs for the business day that just ended.

19:30 – Unblocking of liquidity transfers between TIPS and CLM or RTGS (the time is indicative and follows the change of business day in CLM, i.e. a delay in changing the business day in CLM results in a delay in unblocking liquidity transfers between TIPS and CLM or RTGS).

20:00 – Unblocking of liquidity transfers between TIPS and T2S (the time is indicative and follows the change of business day in T2S, i.e. a delay in changing the business day in T2S results in a delay in unblocking liquidity transfers between TIPS and T2S).

03:00-05:00 – If the optional maintenance window (MW) is activated, liquidity transfers to/from TIPS will be blocked during that window (the times follow the CLM, RTGS and T2S optional MW timings agreed upon). Intra-service liquidity transfers within TIPS are not affected. In normal situations, the respective unblocking takes place at 05:00.

In the event of a contingency on the MPL side, the MPL operator may trigger an ad-hoc propagation from CRDM to MPL. The contingency propagation is an additional daily propagation triggered intraday if an immediate change of a set of data (not manageable directly in MPL) must be performed. In this case, the steps are as follows:

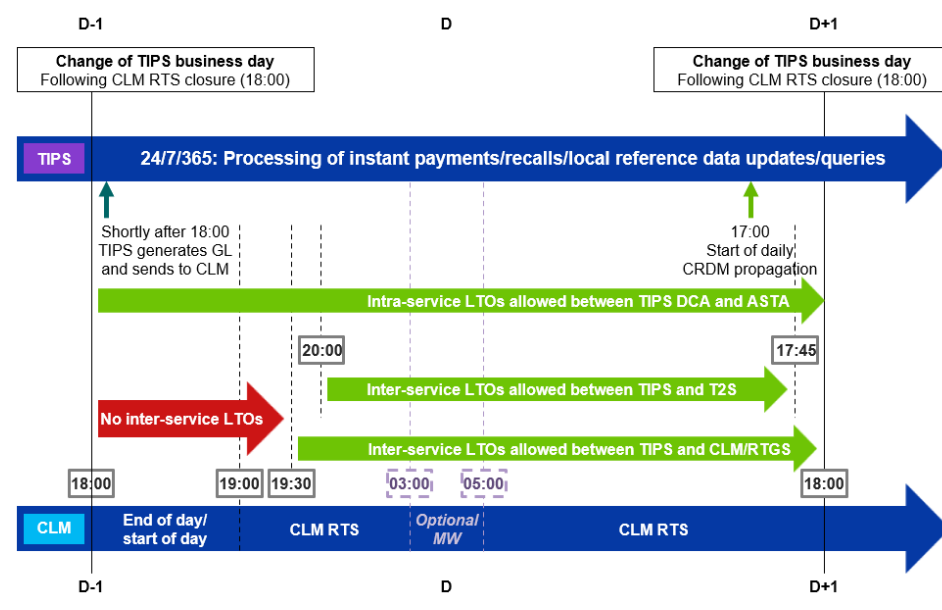
- All the data eligible for the daily propagation and valid at the time of the contingency propagation are propagated;
- The daily propagation is performed as scheduled and includes all active data on the relevant business date.

Operational day schedule – euro

The following figure below shows the different periods of the TIPS business day as applicable to the euro.

Figure 1

TIPS operational day schedule with optional MW – euro



Notes for Figure 1 – TIPS operational day schedule for the euro

TIPS

- Change of business day: as instant payments are continuously processed, TIPS changes its business day to the next CLM business day following CLM RTS closure.

MW

- **Optional: during weekdays**, the maintenance window (MW) is optional and if activated it takes place from 03:00-05:00. Its activation:
 - **impacts** the settlement of liquidity transfers between TIPS and CLM/RTGS/T2S;
 - **does not impact** TIPS processing of instant payments/intra-service liquidity transfers/recalls/local reference data changes/queries and ESMIG availability for TIPS.
- **Non-optional:** The non-optional MW takes place weekly from 02:30 Saturday until 02:30 Monday. For TARGET closing days, the non-optional MW is extended to include those days, starting at 02:30 on the closing day (e.g. Easter

Friday) and ending at 02:30 on the next TARGET working day (e.g. the following Tuesday after Easter). The non-optional MW has no impact on TIPS processing of instant payments/recalls/local reference data changes/queries/intra-service liquidity transfers. During this time, settlement of LTOs between TIPS and CLM, RTGS or T2S will be unavailable.

Liquidity transfer orders

The window for liquidity transfer orders (LTOs) between TIPS and CLM or RTGS differs from the window for LTOs between TIPS and T2S.

Table 1
High-level schedule with non-optional MW – euro

CLM schedule	Time	TIPS schedule
SoD Change of business day	18:45	<ul style="list-style-type: none"> Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs
CLM RTS <ul style="list-style-type: none"> Settlement of CBOs Reimbursement of marginal lending Refunding of overnight deposit Processing of automated and rule-based liquidity transfers From 19:30, also: <ul style="list-style-type: none"> Processing of standing orders (for liquidity transfers) Processing of immediate liquidity transfers 	19:00 19:30 20:00	<ul style="list-style-type: none"> Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs Liquidity transfers between TIPS and CLM/RTGS Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs Liquidity transfers between TIPS and CLM/RTGS Liquidity transfers between TIPS and T2S
CLM maintenance window (MW) <ul style="list-style-type: none"> 02:30 Sat/ TARGET Closing day – 02:30 Mon/ next TARGET business day 	02:30	<ul style="list-style-type: none"> Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs
CLM RTS <ul style="list-style-type: none"> Settlement of CBOs resumes Processing of automated, rule-based and immediate liquidity transfers resumes 18:00: Cut-off for: <ul style="list-style-type: none"> liquidity transfer orders CBOs, except standing facilities and credit line modifications 	02:30 17:45	<ul style="list-style-type: none"> Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs Liquidity transfers between TIPS and CLM/RTGS Liquidity transfers between TIPS and T2S Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs Liquidity transfers between TIPS and CLM/RTGS
EoD processing <ul style="list-style-type: none"> Collection of balances from other settlement services Delivery of non-CLM GL files Calculation of cross-CB turnover 18:15⁽¹⁾: Cut-off for the use of standing facilities 18:40⁽¹⁾: Cut-off for use of marginal lending (NCBs only) Delivery of CLM GL files after automatic marginal lending 	18:00 18:45	<ul style="list-style-type: none"> Processing of instant payments Liquidity transfers between TIPS DCAs and TIPS ASTAs Shortly after 18:00: <ul style="list-style-type: none"> Change of business day (after receiving the camt.019 message from CLM) Snapshot of TIPS DCAs balances and end-of-day reporting

⁽¹⁾ Additional 15 minutes on the last business day of the minimum reserve maintenance period.

While common reference data can be captured during all periods except during the maintenance window, reference data changes are propagated to TIPS only at 17:00.

A detailed description of the business day can be found in the TIPS UDFS.

3.1.2 Liquidity transfers – euro

TIPS provides inter-service liquidity transfer orders and intra-service liquidity transfers.

Inter-service liquidity transfer orders may be inbound or outbound. **Inbound liquidity transfer orders** transfer liquidity from another TARGET settlement service (CLM, RTGS, T2S) to TIPS, while outbound liquidity transfer orders transfer liquidity from TIPS to any other TARGET settlement service (CLM, RTGS, T2S). Intra-service liquidity transfers are used to move liquidity within TIPS between TIPS DCAs and TIPS ASTAs.

Inter-service liquidity transfer orders

Inbound liquidity transfer orders can be triggered by any authorised user in another TARGET settlement service and are received by TIPS.

Outbound liquidity transfer orders may be executed:

- In *push mode* (i.e. instructed in TIPS), to transfer liquidity from a TIPS DCA to an account in CLM, RTGS or T2S.
- In *pull mode* (i.e. instructed in CLM by the TIPS DCA holder), to transfer liquidity from a TIPS DCA to an MCA of that TIPS DCA holder. Note: this is only available in user-to-application (U2A) mode.

If an outbound liquidity transfer is initiated in TIPS but no timely⁷ response is received from the other relevant TARGET settlement service (CLM, RTGS or T2S), an appropriate operational procedure is initiated.

Liquidity transfers do not entail a reservation of funds, unlike instant payment transactions, and are settled immediately.

Inter-service liquidity transfer windows

Inter-service liquidity transfers to/from TIPS are not available:

- from 18:00 until 19:30 for CLM/RTGS on all TARGET business days
- from 17:45 until 20:00 for T2S on all TARGET business days, and
- during the maintenance window/TARGET closing days

In the case of any abnormal events causing changes to the operational day of CLM and RTGS, the liquidity provisioning windows will be impacted accordingly for all settlement services.

Inter-service liquidity transfers sent during the maintenance window will be rejected.

⁷ Currently set to 15 minutes.

Intra-service liquidity transfer orders

Intra-service liquidity transfers are available 24/7/365. They can be triggered in application-to-application (A2A) mode and in user-to-application (U2A) mode (via a dedicated TIPS GUI screen) and are executed immediately. Note that intra-service liquidity transfers between two TIPS DCAs or between two TIPS AS technical accounts are not possible.

Intra-service liquidity transfers:

1. liquidity may be transferred from a TIPS DCA to a TIPS ASTA by a central bank, a TIPS participant, ancillary system or instructing party acting on behalf of the TIPS participant.
2. liquidity may be transferred from a TIPS ASTA to a TIPS DCA by a central bank, an ancillary system or an instructing party acting on behalf of the ancillary system.

The following types of liquidity transfer orders can be executed in TIPS:

Table 2
TIPS liquidity transfer order types

Liquidity transfer order type	Initiated	Note	Intra-/Inter-service
Immediate liquidity transfer order Enabling the immediate transfer of liquidity: <ul style="list-style-type: none"> • from CLM/RTGS/T2S to a TIPS DCA or • from a TIPS DCA to CLM/RTGS/T2S or • between a TIPS DCA and ASTA 	By the TARGET user	Available in A2A and U2A	Both
Standing order liquidity transfer (one-way only from CLM/RTGS/T2S to TIPS) Recurring transfer of a fixed amount processed every business day at certain business day events	Automatically by the system	(to be configured in CRDM)	Inter-service
Rule-based liquidity transfer order (between CLM and TIPS)⁸ Initiated upon breach of a pre-defined limit (floor/ceiling) on a TIPS DCA	Automatically by the system	(to be configured in CRDM)	Inter-service

Notes: Rule-based liquidity transfer orders will be usable as from the implementation of TIPS CR-0028 and CSLD CR-0067.

3.1.3 End-of-day procedures – euro

TIPS changes its business day, without any interruption to the service, shortly after the end of the CLM RTS period (i.e. shortly after 18:00 in normal situations). The change of business day depends on the interaction between TIPS and CLM and includes the following steps:

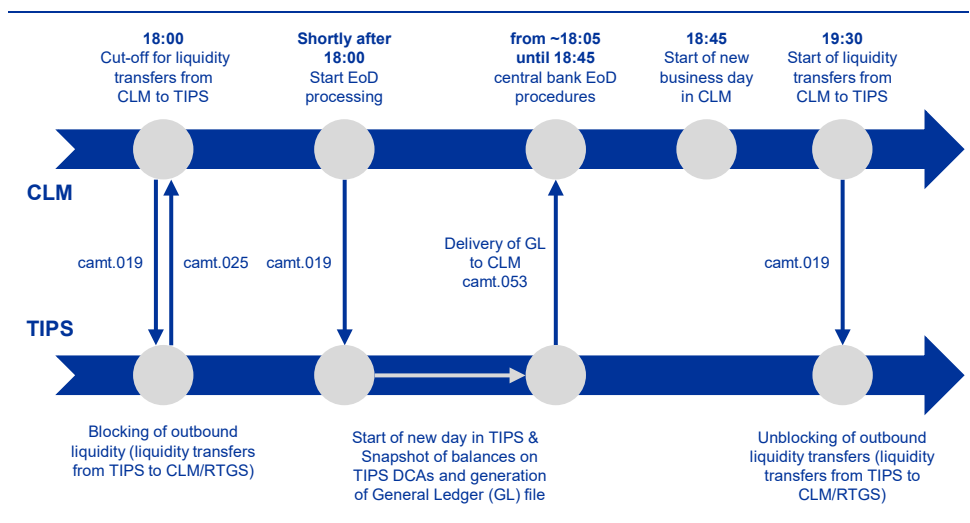
1. CLM sends a status message informing TIPS that the cut-off for liquidity transfers has been reached.

⁸ Rule-based liquidity transfer orders will be usable with the implementation of TIPS CR-0028 and CSLD CR-0067.

2. Any outbound liquidity transfer message reaching TIPS after the reception of this message is rejected.
3. Meanwhile, CLM, RTGS, and TIPS⁹ continue to settle liquidity transfers received before the cut-off. The related notifications continue to be sent to TIPS so that all pending transactions can be aligned. TIPS continues to accept and process inbound liquidity transfers;
4. When TIPS receives confirmation of settlement for all transient liquidity transfers, it informs CLM that it may proceed.
5. When CLM completes the settlement of the pending liquidity transfers on its side and has received TIPS confirmation to proceed, it transmits another status message informing TIPS that the change of business date can be performed. This status message contains the new business date CLM is moving to. TIPS updates the status and the business date and starts gathering data on the end-of-day balances for the business day that has just ended;
6. TIPS takes a snapshot of the balances and sends the TIPS general ledger file to CLM. TIPS DCA balances at end of day are taken into account for the respective TARGET participant's balance, according to the information included in the CRDM configuration, for minimum reserve requirements and recourse to automatic marginal lending.
7. When CLM reopens (at 19:30 in normal situations), it sends another status message informing TIPS that liquidity transfers can be again accepted and processed.

The above process under normal situations is also reflected in the figure below:

Figure 2
End-of-day procedures in CLM and TIPS



⁹ The cut-off time for liquidity transfers between TIPS and T2S is 17:45 in normal situations.

3.1.4 TIPS planned maintenance activities

Planned maintenance activities of TIPS may be envisaged in exceptional cases, such as in the event of an exceptional change that cannot be managed without stopping the service, or in response to a business decision taken by the relevant governance bodies. In such cases, the TIPS actors shall be notified of the resulting system unavailability.

Given the 24/7/365 nature of TIPS, it is essential that TIPS actors are informed about any planned maintenance activities as early as possible. In addition, maintenance activities should generally be planned for periods of time with low traffic.

Unlike unexpected downtime (e.g. in response to issues that must be urgently resolved), planned maintenance activities refer to a specific time period established in advance during which the operation of the TIPS service may become unavailable.

Participants are informed of any planned maintenance activities by their respective central banks and should further share this information with their reachable/instructing parties. This communication should include the:

- reason for the maintenance activities
- date and weekday
- expected time window during which the maintenance activities will take place
- expected impact on the service.

If, during the time window, it is suspected that the time needed to complete the necessary activities will exceed the scheduled and pre-announced time window, participants will be informed without undue delay. Moreover, if it is suspected that the procedure will not be completed within 15 minutes, participants are informed without undue delay.

4 Operational procedures during abnormal situations

Because of the 24/7/365 nature of TIPS, an incident can occur at any time of day and has the same consequences on instant payment settlement whatever the hour of its emergence.

For incidents taking place outside standard support hours, the TIPS Service Desk will make use of the TIPS email notification tool to inform all central banks, as well as all TIPS DCA holders/TIPS ASTA holders/reachable parties/instructing parties that have provided their contact details for this purpose (see Fundamentals Infoguide – Chapter 2.3.1 “External communication tools”).

4.1 Operational incidents and operational procedures to be followed

4.1.1 Service continuity

TIPS is based on a three-site architecture, whereby all three sites are running simultaneously and the load of running the service is balanced among the three data centres. While smaller failures are covered by redundant elements within each site, major failures or disasters (e.g. disruption of major hardware caused by fire, flood or terrorist attacks, or by telecommunications faults) affecting just one of the three sites are managed by the TIPS nodes which are able to detect a site unavailability and can then activate a configuration change to converge towards a new topology that includes only the two remaining sites.. As multiple nodes always synchronously run in the three sites, no service interruption is expected, and no reconciliation is required.

4.1.2 Delay in delivering general ledger file to CLM

During the change of business day procedures in TIPS, the interaction between CLM and TIPS is critical, and any incident could impact both services. A delay in delivering the general ledger file from TIPS might cause a delay in the cut-off for the use of standing facilities in CLM. In such a scenario, the participants are informed by the responsible NSD.

4.1.3 Failure at central bank level

As a general rule, if there is a problem impacting a central bank's access to TIPS the central bank should, at first, rely on its own error handling measures. Should this not be possible or efficient, the central bank will rely on the Eurosystem agreed contingency arrangements. Regarding the management of reference data changes, only time-critical reference data changes will be processed. Non time-critical updates of reference data should be postponed until the problem has been resolved.

4.1.3.1 Communication of failure

Depending on national rules and procedures, the National Service Desk may inform its banking community directly about such problems.

4.1.3.2 Failure at ECB level

In the event of a failure at ECB level, all the above measures that apply in the case of central banks will apply.

4.1.4 Failure at NSP level

In the event of an NSP failure:

1. the TARGET Service Desk may act on behalf of the central bank;
2. if there is a failure at only one of the NSPs, the other one could be used, provided that the participant has set up the connection via both NSPs.

4.1.5 Failure at participant level (excluding AS) – euro

4.1.5.1 Communication of failure

Any operational or technical failure of a TIPS DCA holder that is known to have lasted for more than ten minutes should be reported to the respective National Service Desk as soon as possible.

4.1.5.2 Procedures for handling failure

In the event that a TIPS DCA holder encounters a problem that prevents it from settling instant payments or making immediate liquidity transfers to/from TIPS DCAs or TIPS ASTAs, including problems with their network service provider, it shall use

its own contingency means to the fullest extent possible. This includes in-house solutions as well as the GUI functionality to process liquidity transfers.

If its own contingency means are not enough, the participant may rely on the support offered by its NSD for liquidity transfers, queries and reference data changes on its behalf. The detailed contingency means result from the bilateral relationship between a participant and its central bank. If the issue cannot be resolved, the responsible NSD may also report the issue to the TARGET Service Desk in order to receive support on a best effort basis.

4.1.5.3 Participants' incident reporting

Once a participant is live in TARGET, it is closely monitored¹⁰ by the relevant Central Bank. The participant shall inform the responsible central bank about an internal incident as soon as possible if the internal system of a participant is affected by an operational or technical disruption lasting more than 10 minutes. Once the participant has resumed operations, the central bank may send an incident report form ([Annex II](#)) to this institution for completion. This report requires the participant to describe the root cause of the problem, the impact, the steps taken to resolve the issue and any mitigating action that should prevent the incident from reoccurring.

It is up to the relevant central bank to decide whether an incident report is required. The decisive factor is whether the incident had an impact on the smooth functioning of TIPS or other participants.

If a central bank observes repetitive short service interruptions from a participant lasting less than 30 minutes, it should contact that participant and request for a clarification which could ultimately result in the need for a formal response.

Incidents affecting the participant's availability are probably the only ones that could be identified by the system operator itself by comparing actual payment processing with normal patterns. When a central bank notices a deviation from the normal pattern and suspects that the participant may be experiencing potentially serious availability problems it has not been informed about, the participant will be contacted, and an explanation will be requested. However, the participants are encouraged to carry out regular and possibly intraday account reconciliations using the different tools and features offered by the system, such as for example daily account statements (camt.053) and sender notification (pacs.008) messages.

Apart from those incidents affecting the availability of participants' internal system, participants shall also report security problems concerning confidentiality and integrity, such as a security-related incident in their technical infrastructure and, where appropriate, security-related incidents that occur in the technical infrastructure of the third-party providers. Reporting such cases as quickly as possible is essential for ensuring that a meaningful and concise communication can be prepared and

¹⁰ CP VII (7.7.4): System operator activities should also involve "monitoring the security and operational reliability of the participants, for example the availability of their components during normal business hours".

possibly other measures reassuring financial markets and the public can be applied. These types of incidents may not be visible for the monitoring central bank. Instead, as per the Guideline Annex I, Part I, Article 20, a participant shall proactively report on these to its central bank.

4.1.6 Failure at TIPS ancillary system level

Any operational or technical failure of an ancillary system (AS) in TIPS lasting more than ten minutes should be reported to the respective NSD.

If, when assessing the problem, it becomes apparent that it might have originated from a TIPS failure, the standard incident management procedures will be initiated.

An AS is expected to have its own business continuity management arrangements in place to cope with any internal technical or operational incident that may arise and to minimise the impact on instant payments settlement and restore its processing as quickly as possible. In this regard, the AS will coordinate communication on the incident with its settlement members.

If needed, the respective NSD may act on behalf of the AS for intra-service liquidity transfers in TIPS, queries and reference data changes. A central bank may bilaterally agree with an AS under its scope to offer further support. However, this is at the central bank's discretion and therefore not within the scope of the Infoguide.

Simulation of the receipt of technical notification message

A problem in delivering or processing a technical notification message¹¹ may result in a blockage of the settlement of instant payments on the AS side. Accordingly, it is strongly recommended that ancillary systems are able to simulate the receipt of such messages. This should be done on the AS' own initiative following a check in the TIPS GUI or on the basis of a confirmation of the settlement result received from the NSD via the local communication means in place. Ultimately, the AS can choose the most appropriate solution in agreement with its NSD.

4.2 Suspension and termination procedures – euro

4.2.1 Suspension or termination of TIPS DCA holder

1. Procedure for suspending or terminating a TIPS DCA holder

If it proves necessary to suspend or terminate a TIPS DCA holder, the respective central bank shall:

¹¹ For example: BankToCustomerDebitCreditNotification (camt.054), Receipt (camt.025), ReturnAccount (camt.004).

- (a) Block, in the TIPS GUI, the TIPS DCA holder for debiting and crediting, which then results in an equivalent blocking on all accounts owned by that participant and all CMBs linked to those accounts with immediate effect on a 24/7/365 basis.

It is also possible for the central bank to block parties/accounts/CMBs directly in CRDM, which will be propagated instantly to TIPS with immediate effect. This implies that the information on the blocking of a party/account/CMB will be available in CRDM. The blocking of a TIPS DCA holder does not affect reserved amounts (i.e. if an amount is already reserved for an ongoing payment when the blocking is applied, the payment transaction will be completed). If the suspension takes place outside standard support hours (e.g. on a weekend), each central bank must ensure that appropriate procedures are in place so that the necessary action can be taken. If all required actions cannot be executed, the TIPS Service Desk will block the participant on the central bank's behalf.

- (b) Inform other central banks and all participants about the TIPS DCA suspension or termination, via CLM GUI broadcast¹². For suspensions/terminations that take place outside CLM operating hours, such broadcast should be sent as soon as the GUI is available again.

Consequently, the central banks thus informed shall notify their community via the communication channels used at national level.

- (c) Following a suspension, the funds may remain on the TIPS DCA.
- (d) In the event of termination, the central bank will transfer any remaining liquidity on the TIPS DCA to the participant's MCA or a different account, as decided on a case by case basis (this is possible when the TIPS DCA is blocked but also when the TIPS DCA is closed), close the TIPS DCA, and then delete the TIPS DCA if necessary.
- (e) In case of suspension or termination of a TIPS DCA holder, the relevant NSD will inform the TIPS ACHs of their community about the specific suspension or termination, using the communication channels agreed at national level. The TIPS ACHs are responsible for taking all necessary actions according to their own procedures.

TIPS DCA holders are bound by the actions taken by their reachable parties and should any issue arise from their actions, the TIPS DCA holders must respond accordingly (blocking of CMB, informing their central bank, etc.).

¹² Broadcast functionality in TIPS is going to be deployed with TIPS CR-14.

2. Effects of suspending TIPS DCA holder

If a TIPS DCA holder is suspended from a central bank's TARGET component system on grounds other than those specified in Part 1, Article 25(1) (a) of the TARGET Guideline, the suspended TIPS DCA holder's central bank shall either:

- (a) reject all of its incoming cash transfer orders;
- (b) reject all of its outgoing cash transfer orders; or
- (c) reject both incoming and outgoing cash transfer orders.

If a TIPS DCA holder is suspended on the grounds specified in Part 1, Article 25(1) (a) of the TARGET Guideline, the suspended TIPS DCA holder's central bank shall reject all incoming and outgoing payment orders.

The responsible central bank shall process instant payment orders of a TIPS DCA holder whose participation in the relevant TARGET component system has been suspended or terminated under Part 1, Article 25(1) or (2) of the TARGET Guideline and in relation to which the central bank has reserved funds on a TIPS DCA pursuant to Article 6(3) (b) prior to the suspension or termination.

4.2.2 Suspension or termination of TIPS AS technical account holder

If a TIPS ASTA holder is suspended from a central bank's TARGET component system on grounds other than those specified in Part I, Article 25(1) (a) of the TARGET Guideline, the central bank of the suspended TIPS ASTA holder shall either:

1. reject all of its incoming cash transfer orders;
2. reject all of its outgoing cash transfer orders; or
3. reject both incoming and outgoing cash transfer orders.

If a TIPS ASTA holder is suspended from TARGET, the central bank of the suspended TIPS ASTA holder shall reject all incoming and outgoing payment orders.

The responsible central bank shall process instant payment orders of a TIPS ASTA holder whose participation in the relevant TARGET component system has been suspended or terminated under Part I, Article 25(1) or (2) of the TARGET Guideline and in relation to which the central bank has reserved funds on a TIPS ASTA holder pursuant to Article 4(3) (b) prior to the suspension or termination.

4.3 Operational procedures related to information security events

In the unlikely case a participant is affected by an information security event (such as a cyberattack), at first instance it is the responsibility of the respective participant to implement all local measures to contain the issue internally and avoid any spillover to TIPS. A key measure could be the disabling of the local connection by the participant (or its instructing party).

The participant should inform its responsible NSD of the event without undue delay.

1. Information gathering

Upon being notified of an information security event detected by a participant, the decision on further actions by the responsible central bank would largely depend on the availability of relevant information. Gathering such information is primarily within the prerogatives of the home central bank of the participant concerned and the process may be based on the data provided by the participant or obtained from other available sources (e.g. TIPS Service Desk reports). Relevant information may encompass the following aspects:

- (a) **Impacted transactions:** the type and details of the fraudulent messages together with the total number, value, time of submission/settlement and receivers of the impacted messages.
- (b) **Impacted connectivity channel:** information on the participant's connection type (NSP) and possible use of a service bureau, with all related details.
- (c) **Already informed parties:** seeking confirmation that the participant's banking supervisor and relevant law enforcement authorities were notified. If this is not the case, the TIPS DCA holder should be reminded/advised to inform them accordingly.
- (d) **Cross-border aspects:** information on whether the same infrastructure is used to connect to several TARGET component systems and other cross-border considerations (if relevant).
- (e) **Information on cash transfer orders initiated by the participant in the period preceding the instance of fraud.** The data can be obtained via ex-post scrutiny of the instant payments and liquidity transfers initiated by the participant before the information security breach occurred. The investigation could help to identify when the fraud/fraud attempt took place in comparison to when it was detected.
- (f) **Any other relevant information,** including initial assumptions as to the source of the fraud.

2. Mitigation measures

Should the local containment measures of the participant (or its instructing party) prove insufficient to mitigate the event, the responsible NSD may offer to apply the following measures:

- (a) To safeguard the funds, the liquidity can be transferred to a CLM MCA or RTGS DCA of the responsible NCB through an inter-service liquidity transfer.
- (b) Block the TIPS account.
- (c) Exclusion of the participant from the TIPS CGU by the NSP. Following a request from the responsible central bank to the TIPS Service Desk, the latter will ask the NSP to implement the exclusion from the TIPS CGU.

If a participant is informed or suspects that the authorised account user on one of its CMBs is affected by an information security event, the participant may block the CMB. Only when the participant encounters an issue preventing it from performing the action itself may it request its responsible NSD to act on its behalf.

3. Additional support for the affected participant

In addition to the mechanisms described above, the respective central bank may also provide further assistance to a participant affected by a fraud event. Depending on the circumstances and assessment of the fraud event, the following measures may be considered:

- **Support in recovering fraudulently processed cash transfer orders:** the support provided to the participant may include, for example, assistance in collecting the contact details and other relevant information of the recipients of cash transfer orders (if necessary, in collaboration with other central banks).
- **Immediate investigation on the source of the fraud:** the central bank, possibly liaising with the TIPS Service Desk, may provide further support in identifying the source, spreading and impact of the fraudulent activity.

5 Business continuity management

For an overview of business continuity management, please see Chapter 7 of the Fundamentals Infoguide.

5.1 TIPS business continuity management model

The TIPS business continuity model envisages an operational model based on service continuity arrangements (i.e. “one region, three sites”) and contingency arrangements.

5.1.1 TIPS service continuity arrangements

The TIPS architecture provides a high level of resilience thanks to application redundancy and its self-healing capability. The operational model of TIPS is based on the “one region, three sites” model and an infrastructure realised by a cluster of processing nodes, which play different roles. A subset of these nodes is responsible for settlement activities and can be seen as multiple instances of the settlement engine running in parallel. At each point in time, only one of those instances plays the role of “primary node” and sends outbound messages from TIPS. All the remaining instances act as “secondary node”. At a given point in time, in case of need each “secondary node” is ready to take up the role and replace the “primary node” in its activity. Consequently, if certain local nodes within the application cluster become unavailable or one out of the three sites becomes unavailable, TIPS adapts its behaviour as far as possible to continue operating (self-healing capability).

The self-healing capability is applied to the operational database of TIPS. However, the approach for the informational database is different, since it is spread over only two sites. At each point in time, two copies of the full informational database are kept aligned between the two sites. One active copy is stored on one site, which can be accessed in write mode by the whole TIPS application and is being periodically updated with data arriving from the operational database. The second copy, stored on the other site, can be accessed in read-only mode.

Transactional integrity and data persistence are ensured by a dedicated journaling component, storing all essential information. The status of TIPS can be determined based on its input stream (unlike in CLM and RTGS, where optimisation mechanisms and manual modification of a payment queue can result in multiple outputs based on the same input). Therefore, the journaling component can be used at any time to rebuild the current status of TIPS.

In the event of a site failover, the operational database remains fully active thanks to the self-healing approach. The new “primary node” is selected from among the nodes of the site to which TIPS is being moved. Throughout the site failover, TIPS

participants are informed accordingly about the status and availability of the informational database.

5.1.2 TIPS contingency arrangements

Due to the nature of instant payments, the contingency arrangements for TIPS are limited. In the event of a failure at the level of a TIPS DCA holder or a TIPS ACH, the responsible NSD may act on behalf of the TIPS participants for liquidity transfers, queries and reference data updates, based on local agreements.

6 Testing activities for TIPS

6.1 Overview of testing activities for TIPS

The following table provides an overview of the tests to be performed.

Table 3
Overview of testing activities for TIPS

Test name	Environment	Frequency	Participation for critical participants	Participation for non-critical participants
BCM tests				
Service continuity				
Intra-regional one site unavailability	PROD	Once a year	N/A	N/A
Other operational procedures tested				
TIPS email notification tool	PROD	Once a year	Optional	Optional

6.2 BCM tests

6.2.1 Service continuity tests

TIPS intra-region one site unavailability

No specific contingency procedures are foreseen due to the self-healing capability of TIPS. However, the scenario in which one of the three data centres becomes unavailable is verified biannually in the production environment, though without the involvement of participants.

Description of the TIPS failover can be found in “Chapter 5.1.1. TIPS service continuity arrangements” of this document.

6.3 Other operational procedures tested

TIPS email notification tool

At least once a year, the TIPS email notification tool is tested to ensure that the test message is shared with the subscribed participants.

A description of the TIPS email notification tool can be found in the Fundamentals Infoguide, “Chapter 2.3.1 External communication tools”.

7 Financial management

The process of collecting TIPS revenues takes place once a month.

Further information on the receipt and payment of TIPS invoices can be found in Chapter 10 "Financial management" of the Fundamentals Infoguide.

8 Change, release and deployment management

The change, release and deployment management process (hereafter referred to as CRM) defines how functional changes to TIPS are managed. The CRM covers the life cycle of change requests, from the moment a change is formally requested to its release in the production environment, including planning and agreement on the content of a release, and the consequent design, build, configuration and testing of the new software and hardware components.

8.1 CRM procedures for TIPS

The change and release management processes govern the procedure for managing modifications and enhancements requested to TIPS during its lifecycle, from the time a change request is formally requested until it reaches its final status (i.e. withdrawn, rejected or implemented in a release).

8.1.1 Main applicable deadlines

Change requests (CRs) can be raised at any point in time. However, in order to ensure that a change request can be considered for implementation in a particular release, under normal circumstances, a change request shall be raised at the latest approximately 19 months before the planned go-live of its target release. The NSDs shall inform their TIPS participants of the applicable deadline.

Change requests and solutions to problems are allocated to a release scope at least 12 months ahead of the planned go-live of that specific release. The content of the release including the assigned change requests and the main milestones of the release are published on the [ECB's website](#).

8.1.2 Change management

Change management governs the life cycle of requested modifications and enhancements that may result in functional or non-functional changes.

The ECB, all central banks in TARGET (euro and non-euro), TIPS participants and the 4CB may formally **submit a change request** (see form in [Annex I](#)).

8.1.3 Release management

Release management is a specific process for assessing and ranking change requests and production problems and for defining the scope and the proposed target implementation date of a new TIPS release. This ensures that all aspects of a change, both technical and non-technical, are taken into account, including coordination aspects with other TARGET services, if needed. Release management addresses all types of possible releases.

Note: the deployment of the release to the production environment via rolling upgrade usually lasts one week.

- (a) **A yearly release** following the third weekend in November;
 - includes a set of software changes, changes stemming from the SCT Inst Scheme, as well as fixes or resolution of identified production problems;
- (b) **An optional release** following the second weekend in June, if needed;
 - generally required only in case of changes or fixes/resolutions to identified production problems that, owing to their urgency or criticality, cannot wait for the regular release in November
- (c) **Changes to common components** may happen outside the standard TIPS release schedule.

8.1.4 Deployment management

Deployment management organises the rollout of TIPS software releases¹³, configurable parameter changes and/or any associated operational service changes to the certification test environment (CERT) and the production environment (PROD).

8.1.4.1 Standard deployment path

The standard deployment path for a release follows a phased approach, meaning it starts with a deployment in the EAC environment, followed by CERT environment and finally the PROD environment. Except as otherwise agreed by the TIPS-WG, the releases are deployed to production on a rolling basis during the week when the release is planned.

Prior to the deployment, the new release is first tested by the Eurosystem in the EAC environment. That is followed by user testing in the CERT environment.

¹³ TIPS software releases include changes (change requests and fixes/resolutions to production problems/release defects) to the dedicated TIPS components as well as all changes to common components.

Figure 3

TIPS environments for release deployment



8.1.4.2 Deployment actions

Important note related to the expected behaviour of TIPS during the rolling upgrade:

If a TIPS release introduces (i) a new message type to be used in TIPS or (ii) new fields in a message type or changes to fields in a message type already used in TIPS, then in order to avoid rejections, **participants are advised to:**

- (a) send to TIPS the new message type from the day after the rolling upgrade has been completed. During the rolling upgrade, participants are advised to continue sending the old version of the message.
- (b) have their systems ready to receive from TIPS both the old and new versions of the message type during the rolling upgrade

8.1.4.3 Post-deployment activities

In general, in order to evaluate release and deployment effectiveness, a post implementation review is undertaken to capture experiences and feedback on the satisfaction with the deployment and the potential lessons learnt.

8.2 Emergency changes and hotfixes

Emergency change means deployment of a change directly to the production environment by the TIPS Service Desk to resolve or avoid a major incident that could potentially result in the complete unavailability of some or all services for which no work-around is available.

The following categories of changes are discussed:

- Emergency changes
- Urgent production problems to be implemented as a hotfix

Any other changes shall be considered as part of the normal change and release management procedures applicable for the annual releases.

8.2.1 Emergency change deployment

In the event of system difficulties, it may be decided to execute an immediate change in order to resume the normal operations of TIPS. Any such emergency change is performed directly in the PROD environment and does not go through all testing stages before its deployment.

8.2.2 Hotfix deployment

A hotfix is a change that includes all software corrections to be delivered in advance of a normal release due to the urgency of the fix (i.e. a fix for production problems that could lead to substantial operational issues, require heavy workarounds and/or lead to any other clear increase in the operational risk level). Due to time constraints, the change management process or the standard release management process cannot be followed for these changes and only the hotfix release management process shall be applied.

Contrary to an emergency change, a hotfix is tested – to the extent possible – in the UTEST environment prior to its deployment to PROD.

9 Annex

9.1 Annex I – Market Infrastructure and Application Change Request form

General Information (Origin of request)		
<input type="checkbox"/> User Requirements Document (URD)		
<input type="checkbox"/> User Detailed Functional Specification (UDFS)		
<input type="checkbox"/> User Handbook (UHB)		
<input type="checkbox"/> Other User Functional or Technical Documentation (SYS)		
Request raised by:	Institution:	Date raised:
Request title:		Request ref. no ¹⁴ : [filled in by ECB]
Request type		
1. Legal/business importance parameter:	2. Market implementation efforts parameter – Stakeholder impact:	
3. Operational impact:	4. Financial impact parameter:	
5. Functional/ Technical impact:	6. Interoperability impact:	
Requestor Category:	Status:	
Reason for change and expected benefits/business motivation		
Description of requested change		

¹⁴ XXXX = ECMS /TIPS / CONS, NNNN = 9999, DDDD = URD/UDFS/UHB

Submitted annexes / related documents
Proposed wording for the change request
High level description of impact
Impacts on other projects and products
Outcome/decision

9.2 Annex II – Incident report for TARGET participant

Confidentiality

The information included in this document will only be used by the Eurosystem to further strengthen the resilience of the TARGET system as a whole. Within the Eurosystem, access to this information is only granted to those with a business-related need to know

Name of the central bank responsible	Click or tap here to enter text.
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Point of contact (POC) information

Name of the TARGET participant	Click or tap here to enter text.
Name of the contact person	Click or tap here to enter text.
Title/function	Click or tap here to enter text.
Telephone number	Click or tap here to enter text.
E-mail address	Click or tap here to enter text.

General incident information

Incident ID (to be assigned by the central bank responsible)	Click or tap here to enter text.
Status	<input type="checkbox"/> Interim <input type="checkbox"/> Final ¹⁵
Type of failing component	<input type="checkbox"/> Hardware <input type="checkbox"/> Software ¹⁶ <input type="checkbox"/> Network ¹⁷ <input type="checkbox"/> Infrastructure ¹⁸ <input type="checkbox"/> Human error
Date and time the incident started (CET)	Click or tap to enter a date.
Date and time the incident ended (CET)	Click or tap to enter a date.
Duration	Click or tap here to enter text.

Description of the incident

The summary should be a high-level description suitable for senior management and avoiding technical language to the extent possible. The summary should include for instance the following elements:

- basic description of the events and their impact
- services/systems affected by the incident and
- external effects (e.g. other TARGET participants affected).

Click or tap here to enter text.

Details of the cause of the incident

Specifically, the root cause of the incident - who, what, where, when, how.

Click or tap here to enter text.

Remedial action

This section should include for instance the following elements:

- action taken to resolve the incident and

¹⁵ An incident report is considered "final" when the implementation date of the remedial measure is indicated.

¹⁶ Software comprises system software (including DB systems) and application software.

¹⁷ Network comprises only the internal network. External network failures should be listed under infrastructure.

¹⁸ Infrastructure comprises premises, supporting services (e.g. air conditioning, power supply, telecommunication (including NSP)).

<ul style="list-style-type: none"> measures taken to prevent the incident from reoccurring/implementation scheduled for.
<p><i>Initial resolution:</i></p> <p>Click or tap here to enter text.</p> <p><i>Long term solution:</i></p> <p>Click or tap here to enter text.</p>

Date and signature: _____

Name of the signatory (Print): _____

Title: _____

This form should be returned to the central bank mentioned above:

Address	
Contact person	

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For specific terminology please refer to the [ECB glossary](#) (available in English only).