Enhanced Contingency Solution (ECONS II)

User Detailed Functional Specifications

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1 Introduction

This document describes all the features of the Enhanced Contingency Solution (ECONS II) and its interaction with ECONS II Actors, focusing on application-to-application communication.

This document is intended to guide ECONS II Actors to the proper understanding of the component and to offer all the information needed for the implementation of software interfaces on their side.

The UDFS document focuses on the provision of information for the whole community of ECONS II Actors related to the interaction with ECONS II (U2A) and to design and build the interface of their business applications via A2A for CBs only. In order to ensure the same level of knowledge for all ECONS II Actors the information relevant for CBs, Payment Banks, Ancillary Systems and the Operator is contained in one single book of UDFS.

The document is divided into three main chapters:

- The first chapter provides a full description of all the ECONS II features and the related reference and transactional data models, non-technical details concerning access to the component and connectivity, dependencies and interactions with other services, operations and support features. The background information provided in Chapter 3 guides the understanding of Chapter 4. Information provided in Chapter 3 on the ECONS II feature is mainly user-oriented, but it also includes some details on the internal ECONS II processes, when relevant.
- The second chapter provides a formalised description of the (A2A) dialogues, which allow an ECONS II Actor's application to interact with ECONS II. This part aims at providing an exhaustive description of the different (positive and negative) use cases ECONS II Actors may experience, by providing many detailed examples. The section guides the reader through the steps of the different scenarios – highlighting the actions undertaken by ECONS II and by all the involved ECONS II Actors. The following parts compose a scenario:
    - End-to-end description of the process – by means of activity diagrams and explanatory text;
    - Involved actors;
    - Exchanged messages;
    - List of meaningful business cases.

  The description of each step of the process includes an exhaustive list of all the checks performed by ECONS II. The detailed description of the business rules is reported in the list at the end of the document (6.1 Business Rules~~Business Rules~~).
- The list of meaningful business cases is composed by:
    - The content of the main fields of the relevant inbound messages;
    - A description of the main steps taking place in ECONS II;
    - The content of the main fields of the resulting outbound messages.
- The third chapter provides a detailed description of all XML messages.

Central Bank Actors may use A2A mode to interact with ECONS II. Wherever a message or its fields are referenced throughout the document, only the reference name is used.

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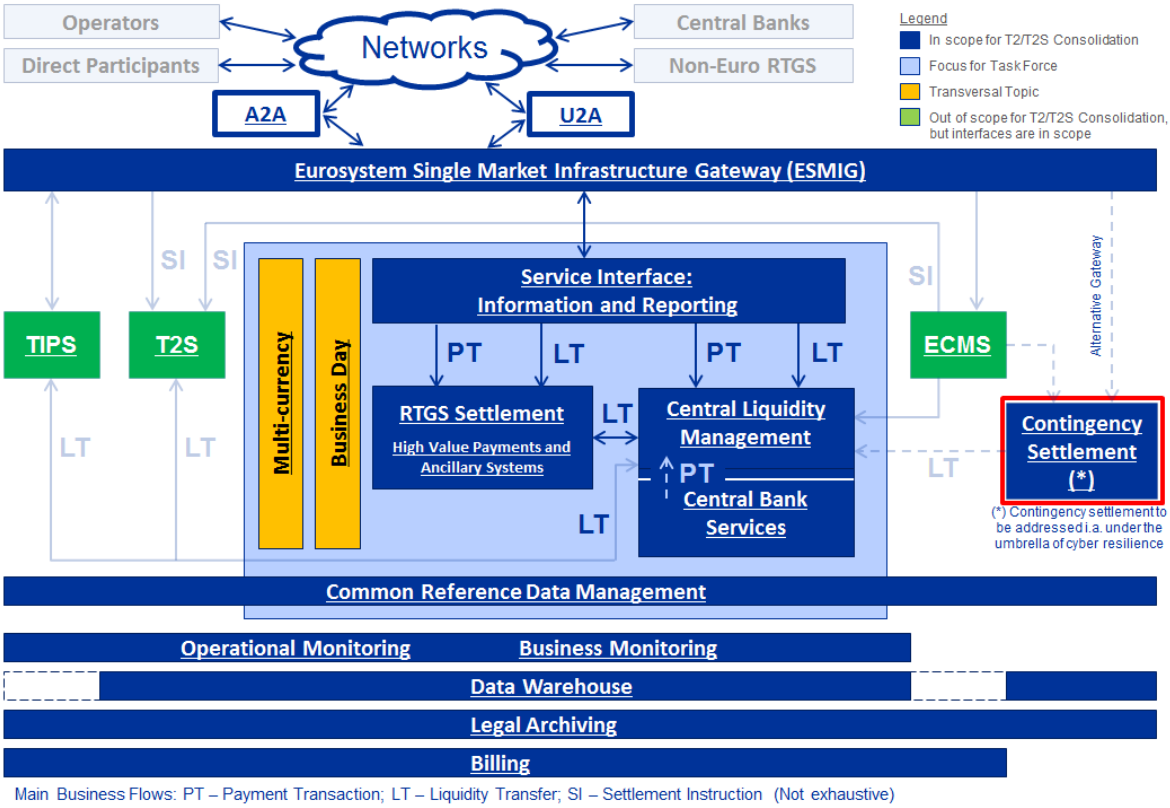
2 Reader's guide

The document is structured as to guide the readers through the steps of the whole A2A interaction and processing details whose scope is highlighted in the following diagram.

Figure 1 – Scope of ECONS II



Different readers may have different needs and priorities and may not need to read the whole book. For instance, business readers, interested mainly in organisational issues, may not wish to enter into the full details of each and every message description, but they might prefer going through a description of the application processes and the information flows between their own business applications and the contingency component. On the other hand, technical readers involved in the specification and development of technical interfaces to ECONS II may not be interested in the complete description of the ECONS II application processes that are leading to the sending of a given message. They would probably search the necessary information to design and build the interface of the ECONS II Actors' business application with the contingency component. Every reader can decide their own reading plan and it is not mandatory for every reader to read the entire UDFS book.

The following paragraphs show with a couple of examples how business readers and technical readers may follow different reading patterns, in order to fulfil their needs.

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Business oriented perspective

The business reader may be interested in the way information is structured in ECONS II. This user may want to follow the reading plan described below to find information about the operations that are needed in order to process a Payment Order in the contingency component:

- The business reader finds in section 3.3 ECONS II Actors and account structure~~ECONS II Actors and account structure~~ a general description of the main Reference data needed to work on ECONS II, specifying how they are used for the settlement of Payment Orders (e.g. what is a Participant and the related Accounts it owns and how to authorise a BIC to use a contingency account for contingency settlement). Also section 3.4 Dynamic data model~~Dynamic data model~~ is important to understand how the information is managed in ECONS II.
- From this point, the business reader may jump to section 4.3 Payment Transactions~~Payment Transactions~~ to find a description of the processing of the Payment Orders during the contingency scenario. Here they can find useful examples in order to understand the main scenarios.
- For further details on the validations to be performed, they may jump to section 6.1 Business Rules~~Business Rules~~, where the functional checks are described.

Technical oriented perspective

For a technical reader, it is more likely that the reading plans would pass through:

- Chapter 4 Dialogue between ECONS II and ECONS II Actors~~Dialogue between ECONS II and ECONS II Actors~~, where a complete overview of the possible A2A dialogue with ECONS II is required, e.g. when structuring the interface of a ECONS II Actor towards ECONS II. Each sub-section of this chapter describes, then, the flows involving the functionalities of ECONS II. The readers can focus on the functionality they are interested in analysing the process and the main scenarios.
- Chapter 5 Catalogue of messages where a detailed description of the content of a given XML message is provided, e.g. when specifying the details of the interface of an ECONS II Actor towards ECONS II.
- For further details on the checks to be performed and ISO codes used in the message, they may jump to chapter 6 Appendices~~Appendices~~.

All readers, whether business or technical, are invited to read the following UDFS sections, which are providing a background to the understanding of any other UDFS section:

- 3.3 ECONS II Actors and account structure~~ECONS II Actors and account structure~~, which provides the basis for reference data organisation in ECONS II;
- 3.5 ECONS II Features~~ECONS II Features~~, which is a summary providing the basis for the understanding of the main contingency component concepts (access to ECONS II, authentication and authorisation processes, security, etc.).

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3 General features of the contingency component

The present chapter, after a short introduction of ECONS II, describes all the features provided by the contingency component.

Section 3.2 introduces the details regarding the access to ECONS II, covering the different modes of connectivity, the authentication and authorisation processes, as well as security aspects and an introduction to the Graphical User Interface (GUI).

Sections 3.3 and 3.4 describe respectively the reference data and the dynamic data models of ECONS II, including a description of all the relevant entities and their relationships.

Section 3.5 describes the various features of ECONS II and the underlying business processes, including Payment Order settlement, liquidity management, reference data management, queries, reports and archiving.

Section 3.6 describes the interactions that the contingency component, as a part of the Eurosystem Market Infrastructure, has with the other main services or components provided by the Eurosystem.

The last section 3.7 describes processes supporting the Operator in the operational management of the system and the exact perimeter of the system introducing its limitations.

3.1 Introduction to the contingency component

The contingency component aims at addressing the situation where the T2 service, i.e. the CLM and/or the RTGS component is not usable. Following its activation, the contingency component will always replace both the CLM and the RTGS components for contingency settlement. The settlement of transactions in a contingency session shall be performed on specific accounts, dedicated for contingency settlement, having a starting balance of zero. The liquidity used for the processing in the contingency component may be obtained from other available sources or be based either on already available collateral or newly provided collateral.

The contingency component, when activated, provides:

- real-time gross settlement in Central Bank Money for Payment Orders and Ancillary System transactions submitted by ECONS II Actors, in the event of unavailability of CLM and/or RTGS components;
- liquidity management functionalities to support the contingency settlement;
- queries and reporting tools to support monitoring and reconciliation activities;
- contingency session opened for several business days (up to 5 business days).

Contingency Accounts are legally opened in T2 by the responsible Central Bank and have to be dedicated to contingency settlement in ECONS II. If a contingency session is activated, ECONS II can operate continuously for several business day and it makes use of the following common components:

- The **Eurosystem Single Market Infrastructure Gateway (ESMIG)** which allows users to gain access to all Eurosystem services, including ECONS II, after being authenticated and

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authorised to access the relevant service or component. The ESMIG, moreover, guarantees sanitisation of messages for security purposes and technical validation of the standard messages sent to the different services or components.

- The **Common Reference Data Management (CRDM)**, i.e. the centralised, harmonised reference data management component that handles in a single point all data that is shared by more than one Eurosystem service. The CRDM allows users to configure, create and keep up-to-date all the reference data needed in the different Eurosystem services and components, including ECONS II. As an example, the setup of reference data related to an ECONS II Participant, as the creation of a contingency account, is up to the responsible National Central Bank (NCB).
- The **Legal Archiving (LeA)** component, which collects and stores business transactions and reporting data from different Eurosystem services and components, including ECONS II after the closure of the contingency session. The Legal Archiving component stores data in a secure manner and in its original content and format and makes it accessible throughout a predefined retention period.
- The **Data Warehouse (DWH)**, as long as the aim is that all data of the single transactions executed in ECONS II are available in DWH as of the day after end of contingency. For this reason the data received from ECONS II has to be integrated in DWH databases in such way that they can be used for the specific contingency queries/reports as well as for the normal transaction-related queries/reports available in DWH.

ECONS II Actors can access the contingency component through two different channels:

- Application-to-Application (A2A) channel, that is application-oriented and allows only CB Actors' systems to interact with ECONS II;
- User-to-Application (U2A) channel, that is user-oriented and offers human-friendly application access through a Graphical User Interface.

3.2 Access to ECONS II

The purpose of this section is to introduce the basic connectivity to ECONS II. It does not aim to describe in details the technical connection with ECONS II.

ECONS II Actors access the contingency component via the respective Network Service Provider (NSP) and through a dedicated instance of the ESMIG component segregated from the instance serving T2 Production environment. ECONS II Actors shall bilaterally have defined a relationship with one or more selected NSPs for the purpose of getting connected to ECONS II.

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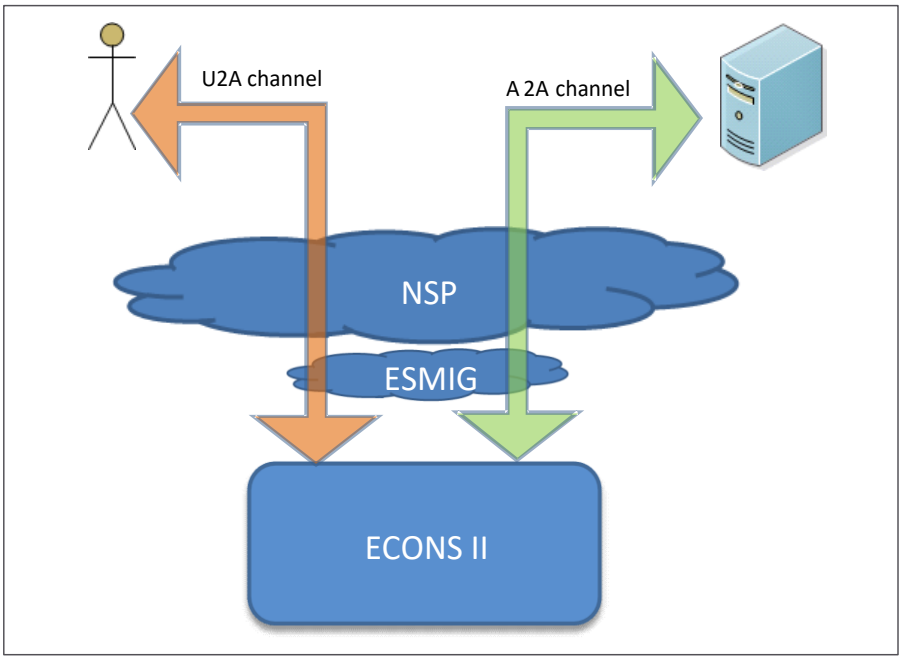
Figure 2 – ECONS II Connectivity



3.2.1 Connectivity (A2A/U2A)

ECONS II can be accessed through two different channels: Application-to-Application channel and User-to-Application channel.

- **A2A**: software applications can communicate with ECONS II exchanging single messages or Ancillary System (AS) transaction files. A2A communication relies on ISO 20022 standard XML messages, where applicable, for both inbound and outbound communication. In addition the ECONS II component shall be able to process files for the settlement of Ancillary System transactions. The access in A2A mode is only available for Central Banks.
- **U2A**: the ECONS II Actors can access the contingency component through a Graphical User Interface. This channel is foreseen for the provision of a set of functionalities and queries (see 3.2.5 Graphical user interface~~Graphical user interface~~).

3.2.2 Authentication and authorisation process

Any individual or application interacting with ECONS II is identified by a Distinguished Name (DN). A DN is a sequence of attribute-value assertions separated by commas, e.g.

<cn=smith,ou=cont-ops,o=bnkacct,o=nsp-1>

DNs are uniquely linked to digital certificates[1], which ECONS II Actors assign to their individuals (interacting with ECONS II in U2A mode) or applications (interacting with ECONS II in A2A mode).

[1] A digital certificate is an electronic document binding an identity to a pair of electronic keys, a private key (used to sign digital information to be sent to a counterpart or to decrypt digital information received from a counterpart) and a public key (used to encrypt digital information to be sent to a counterpart or to perform the authentication and to ensure the integrity of digital information received from a counterpart).

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Certificates are issued by each NSP. For each request submitted to ECONS II in U2A and A2A mode, the relevant connectivity provider performs authentication of the sender at network infrastructure level. If the authentication is successful, the connectivity provider forwards the request and the sender's DN to the ESMIG.

The ESMIG carries out the authorisation check at service level, in order to verify whether the DN is enabled to submit requests to ECONS II. The ESMIG documentation [ESMIG - User Detailed Functional Specifications~~ESMIG - User Detailed Functional Specifications~~] contains exhaustive information on all the checks the ESMIG carries out. If these checks are successful, the request and the sender's DN are forwarded to ECONS II.

ECONS II then carries out the authorisation of the sender at application level. The DN that is used to sign the A2A message shall be linked to a user. The user may have one or many roles. According to the role's access privileges the authorisation of the request is checked based on the user access rights profile. Section 3.2.3 Access rights~~Access rights~~ provides details on this process.

Distinguished Names, their connection to ECONS II Actors and users, as well as access rights profiles are defined in the CRDM component. Additional information on the setup of access rights and on the underlying concepts can be found in the CRDM documentation [CRDM - User Detailed Functional Specifications~~CRDM - User Detailed Functional Specifications~~].

3.2.3 Access rights

ECONS II authorises requests from specific users (i.e. individuals or applications identified by means of a System User Reference) based on their relevant access rights profile. Each interaction with ECONS II that can be triggered either in A2A mode by means of a message (e.g. sending a Liquidity Transfer order) or U2A mode via GUI screen (e.g. querying the balance of a Contingency Account) is defined as an ECONS II user function. The capability to trigger a specific ECONS II user function is granted by means of the related Privilege.

All Privileges that are relevant for ECONS II are defined and stored within the CRDM, which also offers the possibility to group different Privileges into sets known as Roles. Each of these Roles will define a specific business role for ECONS II Actors to interact with ECONS II. ECONS II users will be assigned one or more roles in the CRDM, depending on their business requirements, and these roles will define their access rights configuration.

Roles are then granted to users identified by specific DNs. This allows the users linked to the Role to trigger user functions in ECONS II by exercising the Privileges contained within the Role.

ECONS II authorises the sender of a given request only if the System User Reference fulfils both of the following conditions:

- The System User Reference has the relevant privilege(s) required to submit the request;
- The System User Reference is enabled to submit the request on the requested business object(s).

The first condition depends on the user's access rights profile, which is defined by the role(s) assigned to it in the CRDM. For example, a user may be authorised to send Ancillary System transactions whereas it might not be authorised to submit liquidity transfers.

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The second condition is based on the business object itself on which a request is being performed. For instance, in a Contingency Account balance query, the object is represented by the Contingency Account. If a certain user is authorised to exercise a type of request (related to a specific Privilege) on a specific business object, that object is said to be within the user data scope for that Privilege.

The access rights configuration process is carried out within the CRDM; the CRDM documentation [CRDM - User Detailed Functional Specifications~~CRDM - User Detailed Functional Specifications~~] provides additional details on these aspects.

3.2.4 Security

This section aims at describing the main processes performed by ECONS II in terms of principles applied to ensure ECONS II Actors can securely exchange information with the contingency component.

It means that the following security conditions are met:

- **Confidentiality**: Ensuring that information is accessible only to authenticated and authorised ECONS II Actors;
- **Integrity**: Safeguarding the accuracy and completeness of information;
- **Availability**: Ensuring that authorised users have access to information and associated assets when required;
- **Monitoring**: Detecting operational and technical problems and recording appropriate information for crisis management scenarios and future investigations;
- **Auditability**: Ensuring the possibility to establish whether a system is functioning properly and that it has worked appropriately.

3.2.4.1 Confidentiality

The confidentiality of data is ensured by the possibility to grant specific access rights for any given set of data, as detailed in section 3.2.3 Access rights~~Access rights~~. In conjunction with mechanisms of authentication and authorisation applied to all requests received by ECONS II in both A2A and U2A mode, this guarantees that each ECONS II Actor's data is treated confidentially and is not accessible to non-authorised users.

3.2.4.2 Integrity

Within ECONS II, various business validations ensure the integrity of information. If a business validation fails, ECONS II has a concept of Error handling in place. The requested action is not processed and ECONS II provides the user with detailed information regarding the nature of the error.

In U2A mode, ECONS II offers the possibility to further ensure the data integrity via usage of a dual authorisation concept, the 4-Eyes principle. In case this option is chosen for a specified set of ECONS II operations, a second independent verification and confirmation is required before an operation becomes active in ECONS II. If, for example, a critical set of data should be modified and the person requesting the change is only allowed to do so under the 4-Eyes principle, then a second person of the same Party has to confirm the correctness of the request. Otherwise, the requested change is not implemented.

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3.2.4.3 Availability

The contingency component, when activated, operates during regular T2 Service business hours. However, it shall be available around the clock throughout the contingency case, apart from during necessary functional or technical maintenance windows.

When the contingency component changes the business date, there is an End of Day/Start of Day phase through which the contingency component is not available. Apart from that phase, there are no specific time windows for specific settlement mechanisms during the contingency case. The operating hours can be modified by the Operator, subject to a decision of the Crisis Managers.

However, the night-time settlement phase is not envisaged in the contingency component.

3.2.4.4 Monitoring

ECONS II operational monitoring provides tools to the Operator for the detection in real-time of functional or operational problems when the contingency component is activated. Technical monitoring allows for the detection of hardware and software problems via real-time monitoring of the technical components involved in the processing, including the network connections.

3.2.4.5 Auditability

ECONS II provides an audit trail with which it is possible to reconstruct user activities, exceptions and information security events. More in detail, the following data are collected:

- payment order and liquidity transfer records;
- authentication successes and failures of normal and privileged users.

3.2.5 Graphical user interface

ECONS II offers a set of functions accessible via a dedicated Graphical User Interface in U2A mode. Authorised users are able to access ECONS II functions and data via the GUI based on their access rights profile.

The following table provides the exhaustive list of ECONS II U2A functions provided through the GUI.

Each ECONS II Actor may trigger all or only a subset of these functions depending on the participant type (e.g. Central Bank, Payment Bank, Ancillary System) and only in relation to the objects in its own data scope.

Table 1 – ECONS II U2A functions

Function	Actor
Account balance monitoring	Operator, CB, Participant[2]
Account management (new/edit and search)	Operator

[2] A Participant can be of type Payment Bank and Ancillary System.

Function	Actor
Account management (edit and search)	CB
Liquidity monitoring (single view)	Operator, CB, Participant
Liquidity monitoring (consolidated view for CB)	Operator, CB
Transaction/Payment monitoring (details, report)	Operator, CB, Participant
Transaction/Payment monitoring (agree/disagree functionality)	Operator, CB
New Transaction/Payment (excluding Liquidity Transfers)	Operator, CB, Payment Bank
New Transaction/Payment (including Liquidity Transfers)	Operator, CB
ECONS II Settlement Day monitoring	Operator, CB, Participant
ECONS II Settlement Day management	Operator
Task Queue (details, approve/revoke functionality)	Operator, CB, Payment Bank

The ECONS II User Handbook [ECONS II – User Handbook] provides exhaustive information on each of the screens listed above, including the type of actors authorised to trigger the corresponding functionality.

3.3 ECONS II Actors and account structure

3.3.1 Parties and ECONS II Actors

Entities that interact with the contingency component are generally known as ECONS II Actors. Following the T2 (e.g. CLM/RTGS) model, the ECONS II participation model envisions different types of Actors, with different roles and responsibilities, as outlined in section 3.3.1.2. Concept of party in ECONS II~~Concept of party in ECONS II~~. ECONS II Actors are defined as different entities in the Common Reference Data Management component.

This section provides a detailed description of all the reference data CRDM stores and ECONS II uses for all the ECONS II Actors. More in detail, section 3.3.1.1 identifies the reference data related to the setup of actors for ECONS II and it provides detailed information as to who is responsible for the setup of these reference data. Section 3.3.1.2 defines the concept of party in the CRDM component and the way this concept relates with the different types of legal entities that can interact with ECONS II. Section 3.3.1.3 describes the so-called hierarchical party model, i.e. the organisational structure of parties in the CRDM repository. Sections 3.3.1.4 and 3.3.1.5 illustrate in detail the reference data required by ECONS II for each actor, i.e. the way a party can be identified in ECONS II and which attributes have to be stored for each actor.

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3.3.1.1 Setup of ECONS II Actors

The setup of ECONS II Actors takes place in the Common Reference Data Management component.

The Operator is responsible for setting up and maintaining party reference data for all Central Banks participating in ECONS II. Central Banks are responsible for setting up and maintaining party reference data for the parties of their national community.

The following table summarises, for each reference data object related to the setup of ECONS II Actors, the Actor responsible for its configuration and it specifies which mode the Actor can use for the configuration.

Table 2 – Setup of Parties for ECONS II

Reference Data Object	Responsible Actor	Mode
Party (CB)	Operator	U2A
Party (Payment Bank)	Central Bank	U2A/A2A
Party (Ancillary System)	Central Bank	U2A/A2A

3.3.1.2 Concept of party in ECONS II

Any ECONS II Actor, meaning any legal entity or organisation participating in and interacting with ECONS II, is defined as an entity in the Common Reference Data Management (CRDM) repository. Depending on their role, ECONS II Actors may be defined as a Party (or several parties, as explained later in this section) in CRDM.

Each party belongs to one of the following party types:

- Operator
- Central Bank
- Payment Bank
- Ancillary System

The **Operator** is the legal and organisational entity that activates, operates and deactivates the contingency component. They are responsible for the activation, the day-to-day operations of ECONS II when a contingency session is open, and act as single point of contact for Central Banks and directly connected ECONS II Actors[3]. The Operator is responsible for monitoring the component and carrying out corrective actions in case of incidents or in the event of service unavailability. The Operator is also responsible for setting up and maintaining Central Banks reference data in the CRDM repository and, if required, it may operate on behalf of any ECONS II Actor, upon request of the respective Central Bank.

Central Banks are responsible for setting up and maintaining reference data in the Common Reference Data Management repository for all the ECONS II Actors belonging to their community. Central Banks can also act as Payment Banks themselves. In addition, they can act on behalf of one of their Participants in case of need. The European Central Bank owns and manages several Contingency

[3] ECONS II Actors different from Central Banks may contact the Service Desk only for connectivity-related incidents.

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Transit Accounts (see section 3.3.2.4 Contingency Transit Accounts~~Contingency Transit Accounts~~) in euro that must exist in ECONS II, in order to mirror the transfer of liquidity from the contingency component to other Eurosystem Market Infrastructure Services and vice versa. With the same purpose, for any other settlement currency in ECONS II, the relevant non-euro Central Bank may define Contingency Transit Accounts for their currency.

A **Payment Bank** represents an entity that may hold one or several Contingency Accounts. Each Payment Bank is identified by a BIC11 and it receives liquidity on its Contingency Account by means of Liquidity Transfers, e.g. (i) received from the Eurosystem Collateral Management System (ECMS) application, (ii) via liquidity injection operated by the responsible CB, or (iii) transferred from other Eurosystem Market Infrastructure Services.

Ancillary systems represent entities that hold, at least, one Contingency Technical Account that can be used for the settlement of AS transaction files. Each Ancillary System is identified by a BIC11.

3.3.1.3 Hierarchical party model

The party model of ECONS II is based on the same hierarchical three-level structure which is already in place for other services/components (e.g. T2, T2S, TIPS). The Operator is the only party on the top level of the hierarchy and it is responsible for the setup of each party of the second level, i.e. each Central Bank. Similarly, each party belonging to the second level (i.e., a Central Bank) is responsible for the setup of all parties of its community (i.e., Payment Banks and Ancillary Systems), represented by parties of the third level.

The hierarchical model also determines the so-called reference data scope, i.e. the area of responsibility of each Central Bank and of the Operator. More into detail:

- The reference data scope of a Central Bank includes its reference data, plus the reference data of all its parties;
- The reference data scope of the Operator includes all the reference data, i.e. (i) all the reference data included in the data scope of any Central Bank and (ii) all the system parameters (e.g., countries and currencies reference data).

Each Central Bank (and the Operator) is responsible for its own reference data scope, i.e. each of them is responsible for the input and maintenance of all information included in its reference data scope. The Operator may also act, upon request, on the reference data scope of a Central Bank.

3.3.1.4 Party identification

Each legal entity is identified in the financial market by a BIC (Business Identifier Code), according to the ISO 9362 standard. As previously described, each legal entity or organisation may result in the definition of multiple parties in the CRDM repository. This implies that the usage of one BIC is not enough to ensure uniqueness in the identification of parties, as these parties may be related to the same legal entity and, consequently, they may have been assigned the same BIC. For this reason, the CRDM component requires two BICs to identify each party. More precisely, the CRDM service identifies each party with the BIC of the party itself and the BIC of the party with which it has established a business relation. Therefore:

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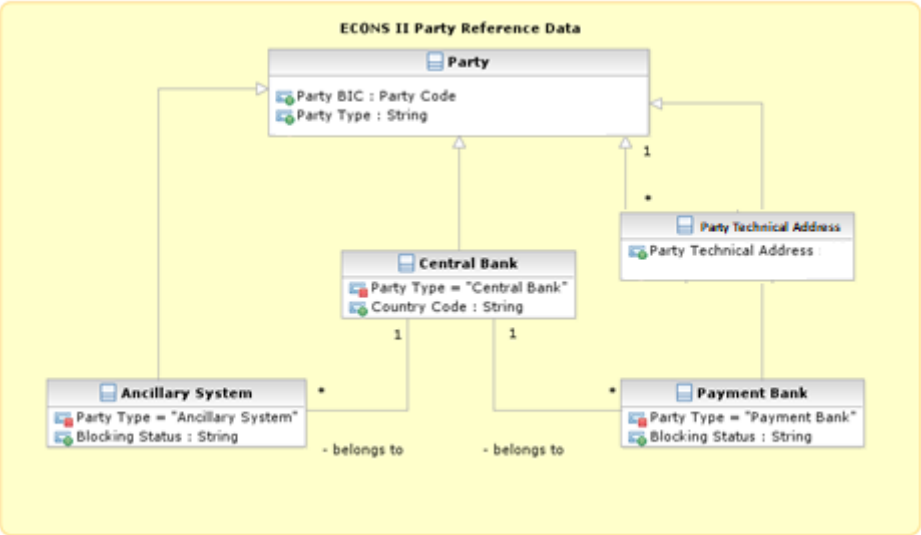
- Each Payment Bank and Ancillary System is identified in CRDM by the 11-character BIC of its Central Bank plus its own 11-character BIC;

  Each Central Bank is identified in CRDM by the 11-character BIC of the Operator plus its own 11-character BIC.

3.3.1.5 Reference data for parties in ECONS II

The following diagram shows the conceptual data model for party reference data in ECONS II. All related entities, attributes and relationships between different entities are described in detail in the rest of this section.

Figure 3 – Party reference data model



The following table shows the exhaustive list of Party reference data attributes that ECONS II receives from the Common Reference Data Management component and stores in its Local Reference Data Management (LRDM) repository.

Table 3 – Party reference data

Attribute	Description
Party BIC	11-character Business Identifier Code (BIC11) to uniquely identify the party in ECONS II.
Party Type	Type of party. The exhaustive list of party types is as follows: • Operator • Central Bank • Payment Bank • Ancillary System
Country	Country code of the Central Bank the party belongs to.

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Attribute	Description
Party Technical Address	Distinguished Name defined for the receipt of messages relevant for the Party.
Blocking Status	Blocking status for the Party[4], only relevant for Payment banks and Ancillary Systems Exhaustive list of possible values is: - Blocked; - Unblocked.

All other party reference data are stored in the CRDM repository, as they are not needed for processing purposes in ECONS II.

Each Participant is linked to only one Contingency Account for a given currency.

3.3.2 Accounts structure and organisation

Under normal operating conditions accounts to be used for contingency settlement are opened in CRDM and afterwards propagated to ECONS II on a daily basis. When ECONS II is activated, the accounts are used for the provision of liquidity and the settlement of Payment Orders and Ancillary System transaction files. After the contingency session is closed, the balances of the Contingency Accounts are transferred back to CLM for the needed reconciliation activities.

Under exceptional circumstances, a contingency account can also be created during a contingency session. This function triggers a change directly in the ECONS II Local Reference Data Management and it mitigates the risk of having incomplete set of reference data when ECONS II is active (e.g., in the scenario where the communication with CRDM could be not available).

The following diagram shows the conceptual data model for account reference data in ECONS II. This section provides a detailed description of all the reference data CRDM stores and ECONS II uses for all its accounts.

[4] As long as each Payment Bank and Ancillary System will be using only one Contingency Account for their contingency settlement activity, the function to block a Participant is fully equivalent to the function to block its relevant contingency account.

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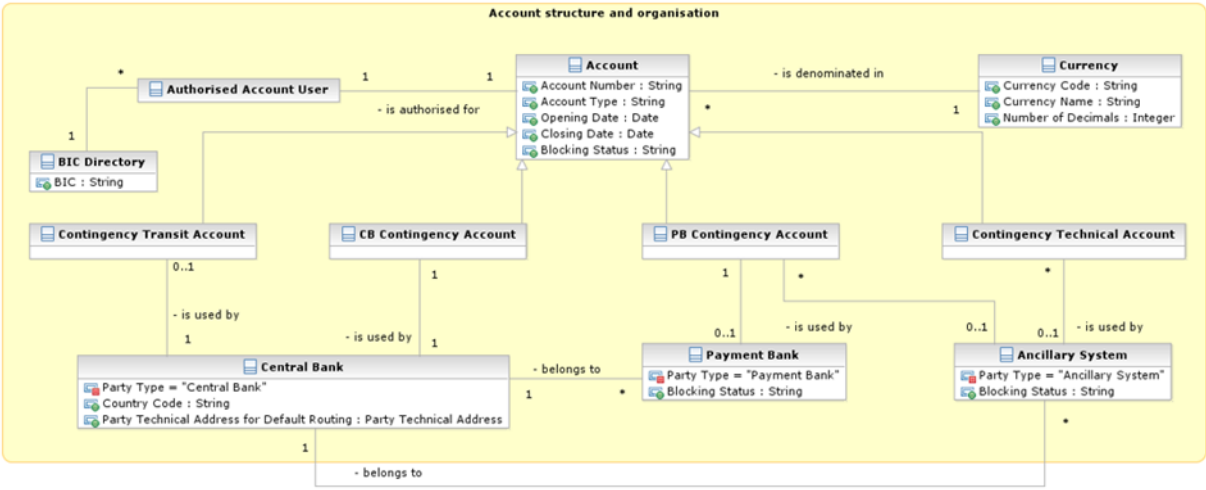
Figure 4 – Account structure and organisation



The Operator and Central Banks input and maintain in the Common Reference Data Management repository the following categories of accounts, depending on their role:

- CB Contingency Accounts;
- Payment Bank Contingency Accounts;
- Contingency Technical Accounts;
- Contingency Transit Accounts.

The following four sections define the above mentioned reference data objects, whereas section 3.3.2.5 provides a detailed description of the reference data required by ECONS II for the same reference data objects.

3.3.2.1 CB Contingency Accounts

CB Contingency Accounts are used by Central Banks for the settlement of Liquidity Transfers. A Central Bank Contingency Account can hold negative balance for the provision of liquidity to support the contingency settlement.

Each Central Bank may have as many CB Contingency Accounts as it has CLM CB Accounts, exclusively for its contingency settlement activities.

Each Central Bank Contingency Account shall be linked to a different CLM CB Account, i.e. no two Contingency Accounts can be linked to the same CLM CB Account in CRDM through the attribute Linked Account.

The CB Contingency Account inherits the AAU BIC of the linked CLM CB Account and it will be used for the balance sweep after the ECONS II closure.

Central Banks create in CRDM both the (i) CB Contingency Account for themselves and (ii) the Contingency Accounts[5] for the Participants under their responsibility.

[5] Contingency Account stands here for Payment Bank Contingency Account and Contingency Technical Account.

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3.3.2.2 Payment Bank Contingency Accounts

PB Contingency Accounts are used by Payment Banks and by the Ancillary System, acting as Payment Bank, for the settlement of Payment Orders, AS transaction files and Liquidity Transfers. The balance of a Payment Bank Contingency Account cannot go below zero.

Each Payment Bank may have as many Contingency Accounts as it has MCAs, exclusively for its contingency settlement activities.

Each Payment Bank Contingency Account shall be linked to a different MCA, i.e. no two Contingency Accounts can be linked to the same MCA in CRDM through the attribute Linked Account.

The PB Contingency Account inherits the AAU BIC of the linked MCA and it will be used for the balance sweep after the ECONS II closure.

3.3.2.3 Contingency Technical Accounts

Contingency Technical Accounts are accounts that Ancillary Systems use for the settlement of their AS transaction files in the contingency component. The Contingency Technical Accounts cannot hold a negative balance and are created in CRDM by the responsible Central Bank.

Each Ancillary System can open one or several Contingency Technical Accounts. However, for contingency settlement, its BIC shall be linked to only one Contingency Technical Account. Of course, the AS may use another BIC (e.g. different branch code) to settle on a different Contingency Technical Account.

3.3.2.4 Contingency Transit Accounts

Contingency Transit Accounts in ECONS II belong to Central Banks which may have a negative balance as they reflect any movement of liquidity from/to ECONS II to/from the respective Eurosystem Market Infrastructure service or application. The Contingency Transit Accounts are technical accounts involved in the process of liquidity provision from or repatriation towards other Eurosystem Market Infrastructure service or application.

In order to define the relation between Contingency Transit Account for TIPS and the Transit Account for TIPS in CLM, for each currency, starting from the “CLM dedicated Transit Account for TIPS”, the relevant AAU BIC will be checked and forwarded, together with the Contingency Transit Account, to ECONS II.

3.3.2.5 Reference data for accounts in ECONS II

The following table shows the exhaustive list of Account reference data attributes that ECONS II receives from the CRDM component and stores in its LRDM repository.

Table 4 – Account reference data

Attribute	Description
Account Number	It specifies the unique number of the account.

Attribute	Description
Account Type	Type of account. The exhaustive list of account types is as follows: • (CB) Contingency account • (Payment Bank) Contingency account • Contingency Technical account • Contingency Transit account
Country code	It represents the country code of the responsible Central Bank.
Currency	It specifies the currency in which the account is denominated.
Opening Date	It represents the Opening date of the account.
Closing Date	It represents the Closing date of the account.
Blocking Status	Blocking status for the Contingency Account. Exhaustive list of possible values: - Blocked; - Unblocked.

All other account reference data are stored in the Common Reference Data Management repository, as they are not needed for settlement in the contingency component.

Each Contingency Account is linked to one and only one Actor; similarly, if settlement in non-euro currencies is activated in one of the Eurosystem Market Services, the relevant Contingency Transit Account may be mirrored in ECONS II (and owned by the respecting Central Bank). For the euro currency the European Central Bank owns the Contingency Transit Accounts related to other services (e.g., TIPS).

After the closing date is exceeded, a Contingency Account cannot be used for contingency settlement any longer. If its balance is different from zero, only the responsible Central Bank (and the Operator, upon request, in contingency) is authorised to instruct Outbound Liquidity Transfers on the closed account to repatriate the liquidity to the appropriate CB Contingency Account.

The following table shows the exhaustive list of Authorised Account User reference data attributes that ECONS II receives from the Common Reference Data Management component and stores in its Local Reference Data Management repository. Each Authorised Account User specifies a BIC which is allowed to use the related Contingency Account for settlement.

Table 5 – Authorised Account User reference data

Attribute	Description
User BIC	BIC authorised for settling on the Contingency Account.

All other Authorised Account User reference data are stored in the Common Reference Data Management repository, as they are not needed for settlement in ECONS II.

Each Authorised Account User can be linked to one and only one Contingency Account. It is worth noting that no dedicated Authorised Account User setup has to be captured in the CRDM for ECONS II.

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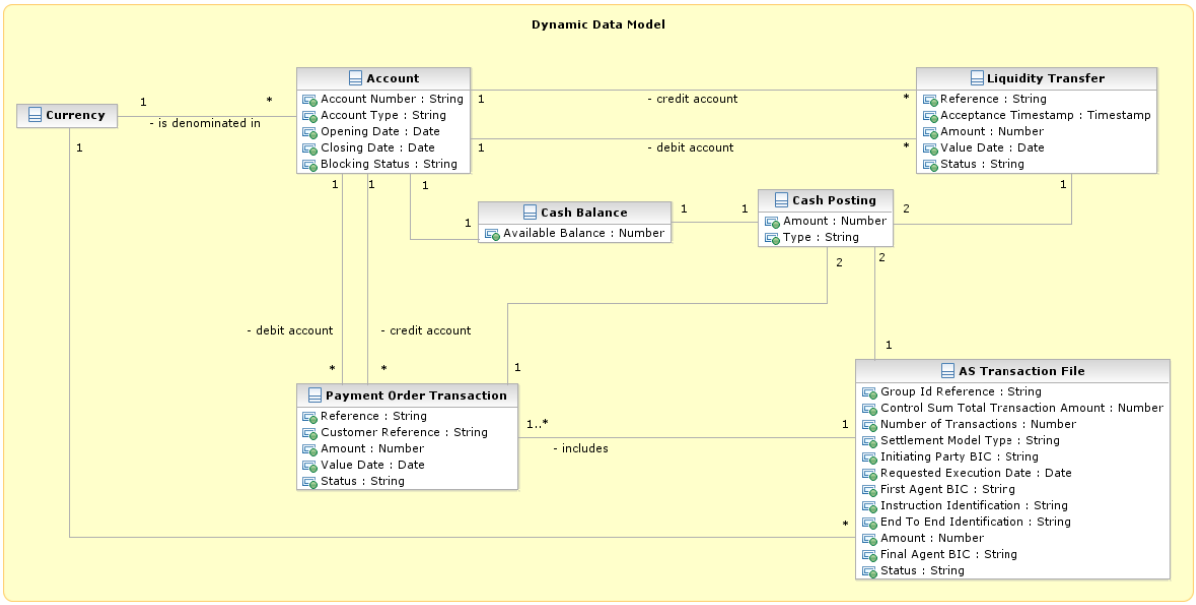
In fact, ECONS II shall inherit the Authorised Account User configuration already existing for CLM (i.e., from MCA and CLM CB Account). Therefore, as an example, when a Payment Bank Contingency Account is linked to an MCA, by means of the mandatory attribute “Linked Account”, a link between the Payment Bank Contingency Account and the User BIC authorised to settle on the MCA will be propagated to ECONS II. As a result, the same User BIC of the MCA will be authorised to settle also on the linked Payment Bank Contingency Account.

3.4 Dynamic data model

This section describes the dynamic data model of the contingency component. It contains all the data concerning settlement-related messages (i.e. Payment Orders, AS transactions and Liquidity Transfers), such as transaction data and contingency account balances. Furthermore, it also includes dynamic data related to local reference data objects, e.g. the blocking status of parties and contingency accounts.

Additionally, it also encompasses dynamic data concerning the current status of the component and the running business date.

Figure 5 – Dynamic data model



3.4.1 Liquidity Transfer

This entity represents data related to liquidity transfers submitted by CB ECONS II Actors or received from the relevant Eurosystem Market Infrastructure Services. Liquidity Transfer data includes the following attributes.

Table 6 – Liquidity Transfer data

Attribute	Description
Reference	Reference number of the Liquidity Transfer. It represents (i) the reference inserted by the customer if the LT is received via A2A, or (ii) the automatically generated reference created by the system if the LT is submitted via U2A.
Acceptance Timestamp	Timestamp assigned to the Liquidity Transfer when received by ECONS II.
Amount	Amount intended to be transferred.
Currency	The currency relevant for the Liquidity Transfer.
Debiting Account	CB Contingency Account, Payment Bank Contingency Account or Contingency Transit Account to be debited.
Debiting BIC	The BIC authorised to settle, via the Authorised Account User setup, on either a debited (i) CB Contingency Account, (ii) PB Contingency Account or (iii) Contingency Transit Account to be used by the ECB or by the relevant CB for any other currency different from Euro.
Debiting Account Status	Blocking status for the contingency account to be debited for Liquidity Transfer. Exhaustive list of possible values: - Blocked; - Unblocked.
Crediting Account	CB Contingency Account, Payment Bank Contingency Account or Contingency Transit Account to be credited.
Crediting BIC	The BIC authorised to settle, via the Authorised Account User setup, on either a credited (i) CB Contingency Account, (ii) PB Contingency Account or (iii) Contingency Transit Account to be used by the CB of the debtor.
Crediting Account Status	Blocking status for the contingency account to be credited for Liquidity Transfer. Exhaustive list of possible values: - Blocked; - Unblocked.
Status	Status of the Liquidity Transfer. Exhaustive list of possible values: - Received - Settled - Failed - Cancelled[6] - Waiting approval (for 4-Eyes only) - Revoked (for 4-Eyes only)
Value Date	Liquidity Transfer settlement date in accordance to the related contingency component business date.

[6] A Liquidity Transfer whose status is not yet final, will be moved to status 'cancelled' whenever either the business date change is triggered in ECONS II or the Contingency session is going to be closed,

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Each Liquidity Transfer shall reference both a credited contingency account and a debited contingency account.

3.4.2 Payment Order transaction

This entity represents data related to Payment Order submitted by authorised ECONS II Actors in U2A mode and/or by the CBs also via A2A. Payment Order transaction data includes the following attributes.

Table 7 – Payment Order transaction

Attribute	Description
Reference	Reference number of the Payment Order transaction. It represents (i) the reference inserted by the customer if the Payment Order is received via A2A, or (ii) the automatically generated reference created by the system if the Payment Order is submitted via U2A.
Customer reference	Reference number of the Payment Order transaction, customised via GUI screen by the customer. For Payment Order received via A2A this field contains the same identifier of the Reference field defined above.
Amount	Amount intended to be transferred.
Currency	The currency relevant for the Payment Order Transaction.
Debiting Account	CB/PB Contingency Account to be debited.
Debiting BIC	The BIC authorised to settle, via the Authorised Account User setup, on either a debited (i) CB Contingency Account or (ii) PB Contingency Account to be used by the CB in A2A mode.
Debiting Account Status	Blocking status for the contingency account to be debited for Payment Order transaction. Exhaustive list of possible values: - Blocked; - Unblocked.
Crediting Account	CB/PB Contingency Account to be credited.
Crediting BIC	The BIC authorised to settle, via the Authorised Account User setup, on either a credited (i) CB Contingency Account or (ii) PB Contingency Account to be used by the CB in A2A mode.
Crediting Account Status	Blocking status for the Contingency Account to be credited for Payment Order transaction. Exhaustive list of possible values: - Blocked; - Unblocked.
Status	Status of the Payment Order transaction[7]. Exhaustive list of possible values:

[7] It is worth noting that a Payment Order transaction in waiting approval status which is approved by the responsible Central bank or by the Operator, is immediately submitted to settlement even if (i) a blocked account is detected or if agree/disagree functionality is activated.

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Attribute	Description
	- Received - Settled - Failed - Cancelled[8] - Waiting for CB approval (for Agree/Disagree only) - Rejected (for Agree/Disagree only) - Waiting for CB unblock (if a blocked account is detected) - Waiting approval (for 4-Eyes only) - Revoked (for 4-Eyes and Waiting for CB unblock)
Value Date	Payment Order transaction settlement date in accordance to the related contingency component business date.

Each Payment Order transaction shall reference both a credited Contingency Account and a debited Contingency Account.

3.4.3 AS Transaction file

This entity represents data related to AS Transaction files submitted by the Central Banks via A2A on behalf of one of their Ancillary Systems. AS Transaction files data includes the following attributes.

Table 8 – AS Transaction files

Attribute	Description
Group Id Reference	Reference number of the AS Transaction file, assigned by the sender to identify the group of individual transfers being sent. ECONS II checks *GroupIdentification* together with the sender BIC: this couple of tags has to be unique over a period of one day.
Control Sum Total Transaction Amount	Total of all the individual instructed amounts. If filled, ECONS II calculates the sum of the individual amounts in Payment Transaction and checks if it is equal to the *ControlSum*.
Number of Transactions	Number of individual transactions contained in the message, i.e. the number of occurrences of *PaymentTransaction* - If filled, ECONS II checks that this number is equal to the number of occurrences of *PaymentTransaction* in the message
Settlement Model Type	Specifies the generic settlement Procedure - Must contain the codeword for Model A (Standard multilateral settlement).
Initiating Party BIC	The optional sequence is filled when a CB or Operator is sending the message on behalf of an AS. If the sender is a CB then the Initiating Party must be filled with a BIC of an authorised AS and member of this CB.

[8] A Payment Order transaction whose status is not yet final, will be moved to status 'cancelled' whenever either the business date change is triggered in ECONS II or the Contingency session is going to be closed,

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Attribute	Description
	If the sender is the Operator then the initiating party must be filled with a BIC of an authorised AS.
Requested Execution Date	Date at which the initiating party requests that the payment instruction be processed (=settlement date). Must be the current ECONS II business day.
First Agent BIC	BIC debited in ECONS II - Procedure A: *FirstAgent* or *FinalAgent* must be a Contingency Technical Account
Instruction Identification	Unique and unambiguous identifier for a payment instruction assigned by the initiating party. Must be unique between all *InstructionIdentification* in the message. Additionally, the reference of transaction, composed of BIC-11 of the AS which initiates the transaction (if the sender is the CB which sends on behalf of the AS) must be unique over a period of one business day
End To End Identification	Unique and unambiguous identification of a payment transaction, as assigned by any of the parties on the initiating side that will be passed on throughout the entire end-to-end chain. This identification must comply with the allowed set of characters and must not contain slashes.
Amount	Amount intended to be transferred - Model A: The total amount of debited payments to the AS Contingency Technical Account must be equal to the total amount of credited payments to the AS Contingency Technical Account.
Final Agent BIC	BIC credited in ECONS II - Procedure A : *FirstAgent* or *FinalAgent* must be a Contingency Technical Account
Currency	The currency relevant for the AS Transaction file.
Status	Status of the AS Transaction file. Exhaustive list of possible values: - Failed - Settled

3.4.4 Cash Posting

Cash Postings are created for each Payment Order, AS Transaction and Liquidity Transfer that results in a settled amount on a Contingency Account. Cash Posting data includes the following attributes.

Table 9 – Cash Posting data

Attribute	Description

Amount	Amount settled by the Payment Order, AS Transaction and Liquidity Transfer.
Type	The field specifies the origin of the Cash Posting. Exhaustive list of possible values: - Payment Order - Liquidity Transfer - AS Transaction

Each Cash Posting is linked to a single Payment Order, AS Transaction or Liquidity Transfer, as well as a single Cash Balance.

3.4.5 Cash Balance

A Cash Balance is created for each Contingency Account and Transit Account and modified each time a Payment Order, an Ancillary System transaction or a Liquidity Transfer is settled. Cash Balance data includes the following attributes.

Table 10 – Cash Balance data

Attribute	Description
Available Balance	Current balance available for settlement on the CB/PB Contingency account, Contingency Technical Account or Contingency Transit Account.

Each Cash Balance is linked to a single Contingency Account as well as a single Cash Posting.

3.5 ECONS II Features

3.5.1 General concepts

During the normal operation of the T2 service, the contingency component is closed. ECONS II runs in the opposite Region where the Production system is running and it receives, on a daily basis, the CRDM data propagation in order to feed the Local Reference Data Management database. The daily data propagation is acquired in ECONS II only if the status of the contingency component is set to '*Close*'.

In the event of a major incident causing the unavailability of the CLM and/or RTGS component, upon mandate from the responsible governance, the Operator may be asked to activate ECONSII to allow contingency settlement. It is also assumed that the network connections between the participants involved and the contingency component are available.

Upon activation of the contingency component, the balances of the Contingency Accounts in ECONS II are initialised to zero. Provided that the appropriate amount of liquidity is injected by the responsible Central Banks, settlement in contingency can occur only when the status of the contingency component is set to '*Open*'.

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In the scenario of long lasting incident, the Operator can trigger the EoD/SoD procedure and the business date change directly in ECONS II. In fact, it is currently envisaged to run up to five consecutive business date changes[9] in ECONS II.

As soon as CLM and/or RTGS are resumed and ready to restart the normal operation, when the business date is aligned between T2 and ECONS II, the Operator can start the closure of the contingency component that moves in status '*Closing'*. When the status of ECONS II is set to '*Closing'*, no additional Payment Order, Liquidity Transfer or AS transaction file can be processed. The aforementioned limitation stems from the fact that ECONS II shall transfer the final Contingency Account balances to CLM and shall wait until an acknowledgment is received.

If a positive acknowledgment is received from CLM, ECONS II will set the balance of the Contingency Accounts to zero and will set its status to '*Close'*. If a negative acknowledgment is received from CLM the contingency component will set the status to '*Lock'*. In such condition, the Operator shall either decide to extend the contingency session (moving to status '*Open*') or to try another closure attempt (moving to status '*Closing'*).

Upon request in order to stop the contingency processing without closing the session, e.g. (i) to deploy contingency fix or (ii) during the night when no business activity is expected, the Operator can activate the Maintainance Window in ECONS II (moving to status '*MAWI*').

The following status diagram can be used as a reference for all Contingency Management processes.

[9] The limitation to five consecutive business days for the duration of a contingency session stems from the non-functional requirement stated in the URD and it is not enforced at functional or technical level.

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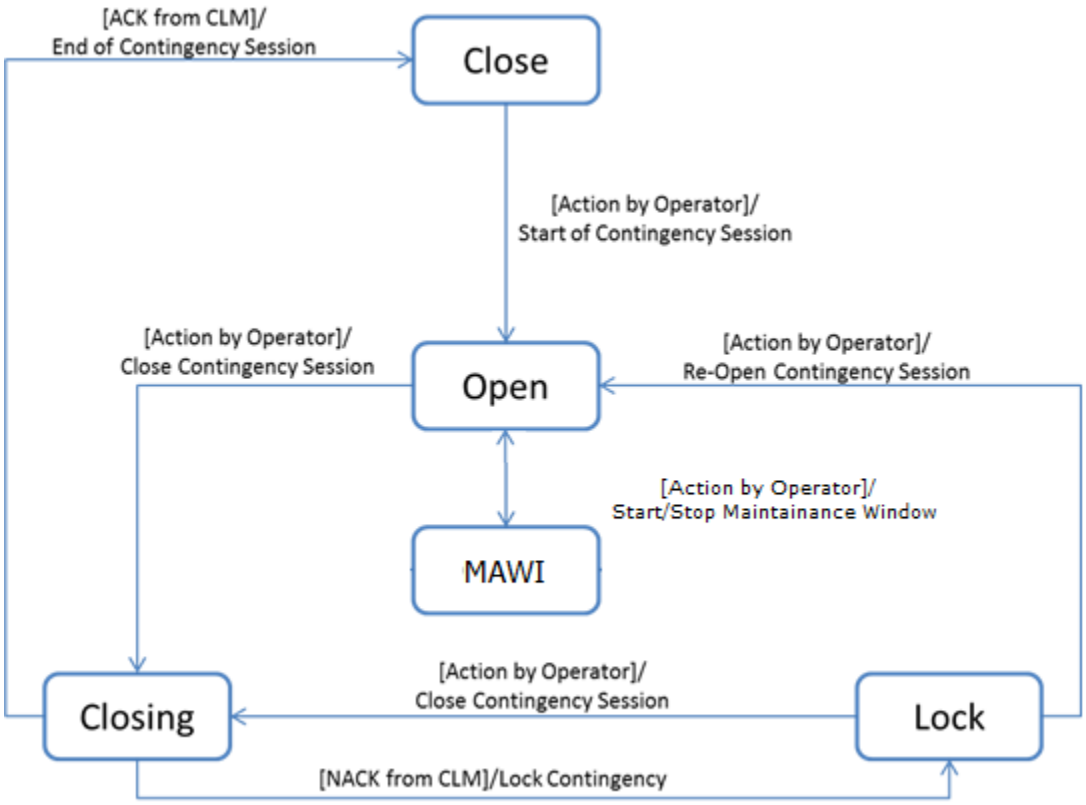
Figure 6 – Contingency component status diagram



The trigger of functionalities in A2A mode, when foreseen, is only available to the CBs.

The contingency component shall attempt settlement of a Payment Order immediately after it has been submitted for settlement by the party and agreed by the Central Bank. If the settlement attempt fails, the contingency component shall reject the Payment Order, since no queuing mechanism is foreseen.

The possible types of instructions processed by ECONS II are listed below:

- Payment Order transactions for the settlement of cash (CBs either in U2A or A2A; only U2A is permitted for all the other Actors);
- Liquidity Transfers to instruct the transfer of liquidity (only CBs, either in U2A or A2A);
- Ancillary System Transaction files (sent by the responsible CB on behalf of an Ancillary System, only via A2A).

Local Reference Data maintenance within ECONS II is limited to the following set of operations that can be performed only by the responsible Central Bank (or by the Operator on their behalf) in U2A mode and having immediate effect:

- Blocking/unblocking of a Payment Bank Contingency Account and Contingency Technical Account [10].

[10] The blocking of an account is equivalent to the blocking of a Participant, due to the 1:1 relationship between the two entities. With Participant is meant either a Payment Bank or an Ancillary System.

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Upon request of the responsible Central Bank, the Operator can create a new Contingency Account in the LRDM repository, with immediate effect during a contingency session:

- Opening of a Payment Bank Contingency Account and Contingency Technical Account.

Any update of the reference data captured in the LRDM repository is only permitted when ECONS II has been activated.

Deletion functionality does not need to be supported by the LRDM in the contingency component. Moreover, after the closure of the contingency case, the contingency component does not need to reconcile the reference data with CRDM or any other Common Component. Suitable operational procedures should be put in place for the management of possible inconsistencies, in particular for the delivery of the Contingency Account balances towards CLM.

All remaining reference data setup and maintenance operations are performed in the CRDM; reference data are then propagated from the CRDM to the contingency component asynchronously, on a daily basis (as described in section 3.6.3).

Besides settlement related features, during the activation of the contingency session, ECONS II offers querying and reporting functionalities to its Actors. Data included in reports depends on the access rights profile of the relevant ECONS II Actor. In the event of a contingency session which spreads over multiple business dates (up to 5), the contingency component provides, for each business date operated in contingency, the following types of report:

- Statement of Accounts;
- General Ledger (for Central Bank only).

Upon notification from the internal scheduling functionality (see §3.5.10) that a new business date has been reached in ECONS II, the contingency component shall provide the Central Banks with the data related to the business day that just elapsed in the form of General Ledger which keeps track of any settlement activity recorded in ECONS II.

If the contingency component has been activated, queries are available and allow users to access data in real time.

ECONS II provides the following types of queries:

- Monitoring of Contingency Account (CBs via U2A and A2A, only U2A for all the remaining Actors);
- Monitoring of Overall Liquidity (only CBs via U2A);
- Monitoring the Status of the contingency component (CBs via U2A and A2A, only U2A for all the remaining Actors);
- Monitoring of transactions/files (only U2A for all the Actors).

The following subsections cover in depth the aforementioned features.

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3.5.2 Liquidity Management

The contingency component provides liquidity management functionalities to allow the transfer of liquidity across CB Contingency Accounts, Payment Bank Contingency Accounts and Contingency Transit Accounts.

In the contingency component context, the Liquidity Transfer is used by the Central Bank either to fund their ECONS II Participants, since the Contingency Account owned by a Central Bank can hold a negative balance, or to drain liquidity from a Contingency Account belonging to one of their Participants.

Although ECONS II is intrinsically supporting multi-currency features, Liquidity Transfers can only be settled between Contingency Accounts denominated in the same currency, which must be specified in the message and shall exist in ECONS II.

The contingency component foresees to cope with liquidity injections generated by external and authorised Collateral Management System (e.g. ECMS) aiming at funding a Payment Bank Contingency Account, in A2A mode by means of camt.050 message. However, the amount to be transferred has to be elaborated outside of the contingency component, based on the provided collateral.

The following internal liquidity movements are allowed:

- between a CB Contingency Account and a Payment Bank Contingency Account (or vice-versa); it is triggered only by CBs in A2A or U2A;
- from a Contingency Transit Account to a Payment Bank Contingency Account: it is triggered by the ECB, or by the relevant CB for any other currency different from Euro (in A2A or U2A);
- from a Payment Bank Contingency Account to a Contingency Transit Account; it is triggered by the responsible CB (in A2A or U2A).

ECONS II can manage one or several Contingency Transit Accounts for each currency, depending on the number of Eurosystem Market Infrastructure Services or applications possibly interacting with ECONS II. The ECB is responsible for all the Contingency Transit Accounts denominated in euro.

Each Liquidity Transfer, after its validation, is immediately either fully settled or rejected. No partial settlement or queuing mechanism are foreseen in the contingency component.

Liquidity Transfers that debit/credit a Contingency Transit Account in ECONS II would require manual actions to be performed on the corresponding Eurosystem Market Infrastructure Services (e.g. TIPS) in order to mirror the transfer of liquidity occurred in ECONS II, according to operational procedures to be defined outside of the contingency component scope.

ECONS II provides also the Central Bank users with a functionality to monitor in real time the liquidity usage on all the Contingency Accounts of their participants via U2A.

The same processing envisaged for Liquidity Transfers in euro applies also to Liquidity Transfers in other currencies. The only deviation may stand in the Contingency Transit Accounts denominated in other currencies which are managed by the responsible non-euro Central Bank.

3.5.2.1 Inbound Liquidity Transfer

Inbound Liquidity Transfers are categorised into the following two types:

- External Inbound Liquidity transfers
- Internal Inbound Liquidity transfers

External Inbound Liquidity Transfer orders can be triggered only by an authorised CMS (i.e. ECMS) and they are sent towards ECONS II through the internal network channel which interconnects the two services. When an External Inbound Liquidity Transfer is received by ECONS II, the DN of the CMS shall be recognised as authorised to move liquidity from a CB Contingency Account to an ECONS II Payment Bank Contingency Account denominated in the same currency.

An authorised CMS can initiate an External Inbound Liquidity Transfer order via A2A towards ECONS II, under the assumption that the internal network channel is working properly.

An **Internal Inbound Liquidity Transfer** order is initiated by the responsible CB, via A2A and/or U2A, and it moves liquidity from their own CB Contingency Account to an ECONS II Payment Bank Contingency Account denominated in the same currency.

If an authorised CB triggers an Internal Inbound Liquidity Transfer order via A2A, both a CB Contingency Account to be debited and Payment Bank Contingency Account to be credited, or the relevant BICs, must be specified in the message and shall exist in ECONS II.

Contingency Technical Account is not allowed in the processing of Internal Inbound Liquidity Transfer, with the exception of the Contingency Transit Account as described later on.

Internal Inbound Liquidity Transfer orders, between a Contingency Transit Account (e.g. the one defined in ECONS II for TIPS) and a Payment Bank Contingency Account denominated in the same currency, can be initiated by the European Central Bank (ECB) via U2A only, upon request.

In fact, prior to the injection of such a Liquidity Transfer in ECONS II, the corresponding movement of liquidity shall have been settled in the originating service, e.g. in TIPS or in T2S[11].

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With regards to Liquidity Transfer processing, the following operations are not allowed in ECONS II:

- Liquidity Transfers between two Contingency Transit Accounts, regardless of their currency denomination;
- Liquidity Transfers between a Contingency Transit Account and a Contingency Technical account (or vice versa).

In their lifecycle within ECONS II, the Inbound Liquidity Transfer orders can assume different statuses depending on the status of the processing, as shown in the following diagram.

[11] The transfer of liquidity from(to) T2S to(from) ECONS II relies on the CB Contingency Account instead of using a dedicated Contingency Transit Account for T2S.

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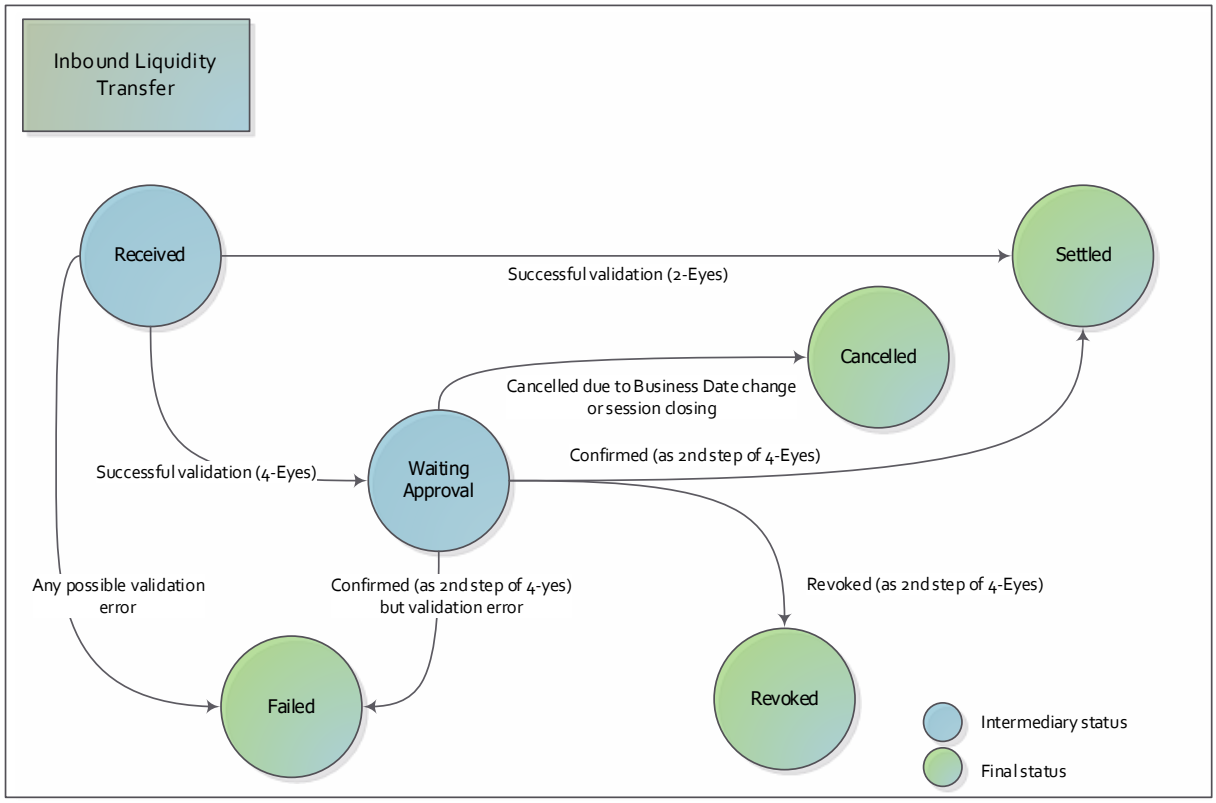
Figure 7 – Inbound Liquidity Transfer status diagram



A received Inbound Liquidity Transfer order is submitted to settlement by ECONS II if it passes all validation checks (see Table 18 – Inbound Liquidity Transfer Order steps~~Table 18 – Inbound Liquidity Transfer Order steps~~) successfully, otherwise its status is set to *Failed*. Subsequently, it moves to *Settled* status once ECONS II settles the full amount of the Liquidity Transfer order. Besides the standard A2A processing, the diagram above takes into account the scenario in which an Inbound Liquidity Transfer is injected by using the GUI, following the 2-Eyes/4-Eyes principle, and therefore being subject to confirmation/revocation.

Checks on the agree/disagree functionality and on the blocking status of an account (see §3.5.7 Agree/Disagree functionality) are not triggered.

As for the A2A processing, Inbound liquidity transfers make use of LiquidityCreditTransfer (camt.050) ~~LiquidityCreditTransfer (camt.050)~~ and Receipt (camt.025) ~~Receipt (camt.025)~~ messages.

Exhaustive examples of Inbound Liquidity Transfer scenarios are provided with section 4.2.1.1.

3.5.2.2 Outbound Liquidity Transfer

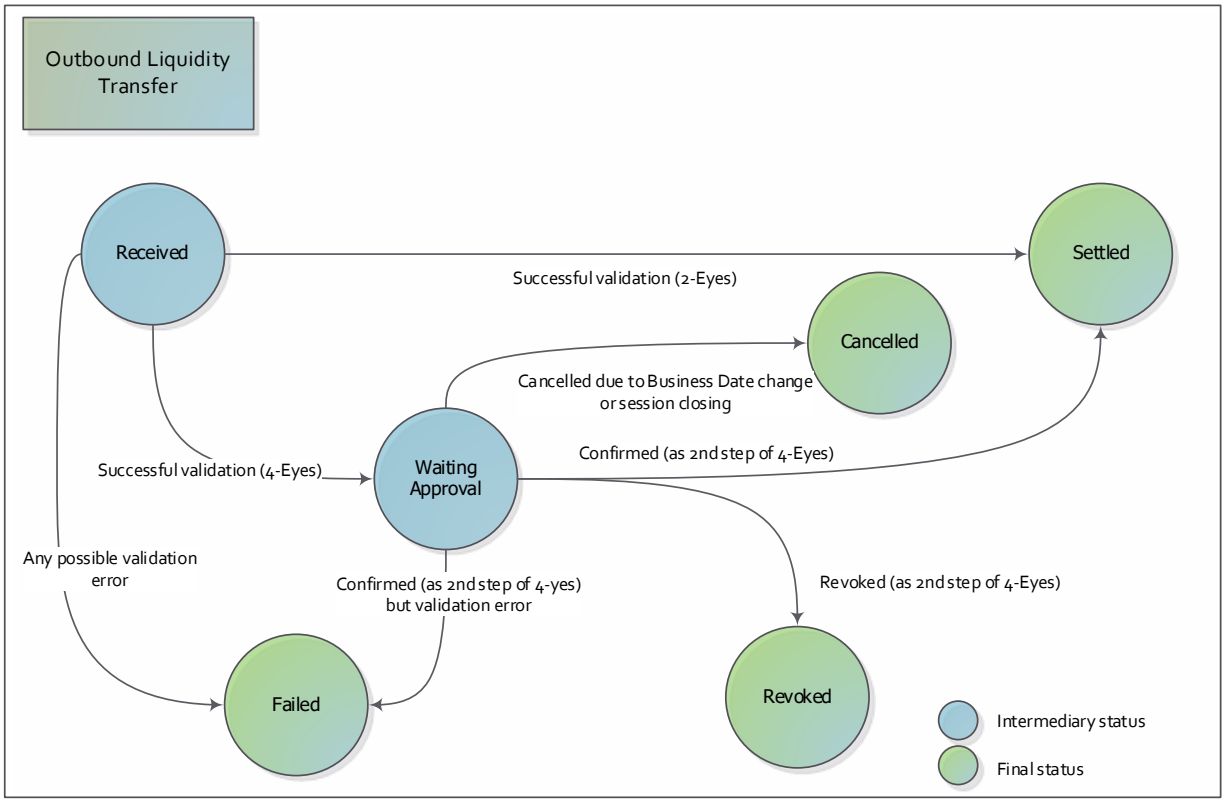
An **Outbound Liquidity Transfer** is used in order to (i) either drain liquidity from a Payment Bank Contingency Account and credit the relevant CB Contingency Account or (ii) to repatriate the liquidity, injected from a specific Eurosystem Market Infrastructure Service, from a Payment Bank Contingency Account to a given Contingency Transit Account.

The Outbound Liquidity Transfer order shall be triggered by the responsible CB only, via U2A or A2A. It moves liquidity from a Payment Bank Contingency Account to the CB Contingency Account denominated in the same currency.

Similarly to what has been defined for Inbound Liquidity Transfers, each responsible CB is also allowed to drain liquidity from one of its Payment Bank Contingency Account and credit an existing Contingency Transit Account (e.g., the one defined for TIPS) via U2A or A2A.

Outbound Liquidity Transfer orders can have different statuses depending on the status of the processing, as shown in the following diagram.

Figure 8 – Outbound Liquidity Transfer status diagram



A received Outbound Liquidity Transfer order is submitted to settlement by ECONS II if it passes all validations checks (see Table 19 – Outbound Liquidity Transfer Order steps~~Table 19 – Outbound Liquidity Transfer Order steps~~) successfully; otherwise its status is set to *Failed*. Subsequently, it moves to *Settled* status once ECONS II settled the full amount of the Liquidity Transfer order. Besides the standard A2A processing, the diagram above takes into account the scenario in which an Outbound Liquidity Transfer is injected by using the GUI, following the 2-Eyes/4-Eyes principle, and therefore being subject to confirmation/revocation.

Similarly to the inbound scenario, the checks on the agree/disagree functionality and on blocking status of an account are not triggered.

As for the A2A processing, Outbound Liquidity Transfers make use of LiquidityCreditTransfer (camt.050)~~ LiquidityCreditTransfer (camt.050)~~ and Receipt (camt.025)~~ Receipt (camt.025)~~ messages.

Exhaustive examples of Outbound Liquidity Transfer scenarios are provided with section 4.2.2.1.

3.5.3 Settlement of Payment Orders transactions

The contingency component provides payment order functionalities to allow the credit transfer across CB Contingency Accounts and PB Contingency Accounts.

Credit Transfer is used by the Central Bank (i) to set up single payments on their own CB Contingency Account, (ii) to set up payments on behalf of their Payment Banks, and (iii) to send Ancillary System Transaction files on behalf of the AS in a quasi-model A [RTGS – User Detailed Functional Specification].

Credit Transfer is used by the Participant, only via U2A, to set up single payments on their own PB Contingency Account.

The contingency component allows the responsible Central Bank to agree/disagree, following the 2-Eyes principle and by using a dedicated screen, on the processing of each Payment Order entered by one of their Payment Banks.

Credit Transfers can only be performed between Contingency Accounts that are denominated in the same currency.

Moreover, Credit Transfers do not entail a reservation of funds and, after the successful validation, are fully settled or rejected immediately. No partial settlement or queuing mechanism are foreseen.

Payment order transactions, inserted via U2A, between two different Contingency Accounts can be triggered by the Participants and by the Central Bank on behalf of one of its Participants. In the latter case the agree/disagree functionality, even if activated, will not be triggered.

The CB shall specify:

- an existing Payment Bank Contingency Account to be debited, which belongs to its data scope;
- an existing Payment Bank Contingency Account to be credited;
- amount and currency.

A participant is allowed to move funds from his own Contingency Account and credit a different Contingency Account.

CBs may trigger the same type of payment order transactions, on behalf of a participant, via A2A (e.g., by using a camt.050 message).

Payment Orders can have different statuses, as shown in the following diagram.

Moreover, the following diagram shows the scenario in which a payment order, inserted by a participant using the GUI, regardless agree/disagree functionality, is set in status “waiting for CB unblock”, because it involves a debiting blocked Contingency Account.

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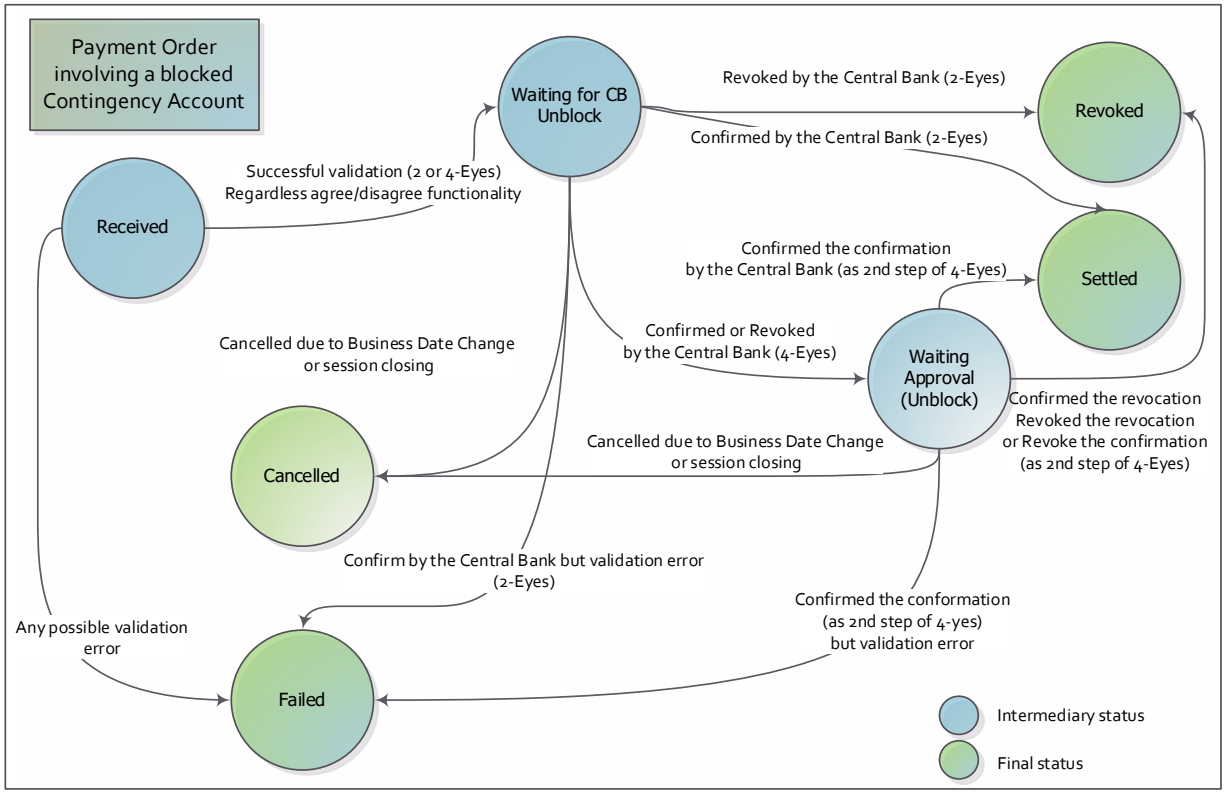
Figure 9 – Payment Order Transaction involving a blocked Contingency Account status diagram



As soon as the Payment Order is received by ECONS II, if it passes all validation checks (see Table 20 – Payment Order Transactions steps~~Table 20 – Payment Order Transactions steps~~), it is submitted to settlement, otherwise its status is set to *Failed*.

As a general remark, in the lifecycle of Payment Orders, the checks on the agree/disagree functionality and on blocking status of an account are activated by default (see Table 12 – Processing of payments in ECONS II depending on Agree/Disagree status~~Table 12 – Processing of payments in ECONS II depending on Agree/Disagree status~~).

Besides the standard A2A processing, the diagram above takes into account the scenario in which an Outbound Liquidity Transfer is injected by using the GUI, following the 2-Eyes/4-Eyes principle, and therefore subject to confirmation/revocation.

3.5.4 Settlement of AS Transaction files

The contingency component supports the processing of AS Transaction files (i.e. quasi-model A). The AS Transaction files are uploaded by the responsible CB on behalf of one of their Ancillary Systems by using the A2A mode. As long as the transaction is submitted by the responsible Central Bank, for the processing of AS Transaction files no agree/disagree confirmation is envisaged. The AS Transfer Initiation file is sent by the CB on behalf of an AS to debit/credit a Settlement Bank against a Technical Account in the framework of ECONS II based on model A [RTGS – User Detailed Functional Specification].

The following conditions have to be met:

- The AS inserted in field <InitgPty> has to be under the sender CB responsibility;
- The Contingency Technical Account inserted in First/Final Agent fields has to be linked to the AS inserted in field <InitgPty>;
- The Settlement Banks inserted in First/Final Agent fields have to be linked to the AS inserted in field <InitgPty>.

The file shall contain also the following different orders:

*Debit Operation = order to debit the debtor Settlement Bank's account and to credit the AS Technical Account;

*Credit Operation = order to debit the AS Technical Account and to credit the creditor Settlement Bank's Account.

Model A is based on "debit first" principle. This means that ECONS II verifies if all the "Debit Operations", as described above, can be settled. Only after this condition is met then the whole AS Transaction file is processed.

If no errors are encountered, ECONS II settles all the "Debit Operations" and, when finished, it starts to settle the corresponding "Credit Operations", as described above.

It is worth to mention that the sum of the credits has to be equal to the sum of the debits. In case of error during the "Debit Operation" verification (i.e. one of the individual payments cannot be settled), the process "debit first" is terminated and ECONS II reverses automatically the transaction(s) already settled and rejects the file as a whole.

In the ECONS II processing, AS Transaction files can have different statuses, as shown in the following diagram.

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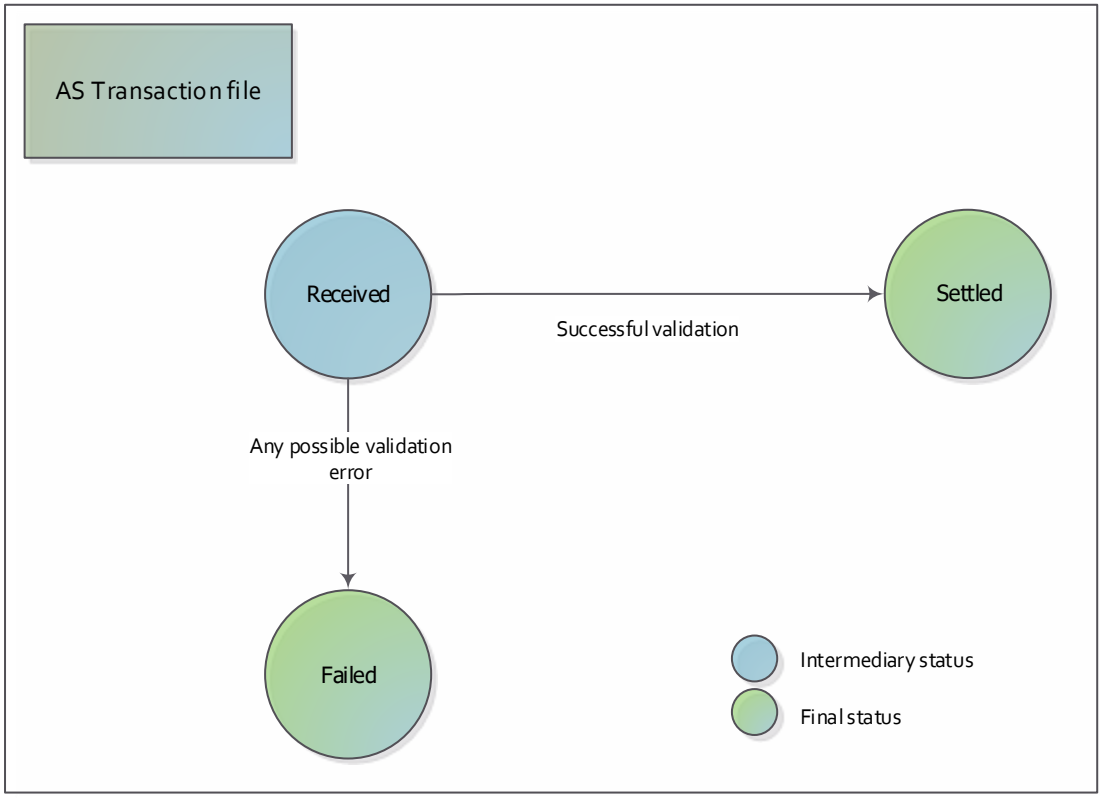
Figure 10 – AS Transaction file status diagram



As soon as the AS Transaction file is received by ECONS II, if it passes all validation checks (see Table 21 – AS Transfer Initiation steps~~Table 21 – AS Transfer Initiation steps~~) it is submitted to settlement, otherwise its status is set to *Failed*.

Due to the fact that the AS Transaction files are submitted by Central Banks they are not subject to the checks on agree/disagree functionality and on blocked accounts.

To allow the settlement of AS transaction files the Settlement Bank Account Group (SBAG), foreseen in RTGS, will be replicated in ECONS II according to the following rules:

- Starting from the RTGS CB Account, RTGS DCA and RTGS sub-accounts included in the RTGS SBAG, the relevant linked CLM CB Account or CLM Account will be found. If no such a link exists, the relevant RTGS DCA and/or sub-accounts will not be taken into consideration for any ECONS II processing..
- From every linked CLM CB Account or CLM Account found at the previous step, the relevant Authorised Account User (AAU) BIC(s) and the linked ECONS II Contingency Account will be retrieved. If the link between the CLM CB Account or CLM Account and the Contingency Account does not exist, the relevant info will not be taken into consideration for any ECONS II processing.
- Every AAU BIC(s) and linked ECONS II Contingency Account(s), found in the previous step, will be propagated to ECONS II as Settlement Bank Account Group to be used for contingency settlement. Additionally, (i) the responsible Central Bank AAU BIC, (ii) the relevant CB Contingency Account, (iii) the AS Party BIC, (iv) the Technical Account AAU BIC and (v) the relevant Contingency Technical Account will also be propagated.

- In order to find the Technical Account to be used in AS settlement transactions, the "AS Procedure" object will be checked, where the AS Technical Account(s), linked to the relevant party AS, are listed. For each AS Technical Account found, irrespective the mentioned AS procedure, the relevant AAU BIC and the Contingency Technical account (using the “linked account” attribute) will be found and both info will be connected to the AS included in a SBAG and sent to ECONS II.

3.5.5 Reference data management

ECONS II reference data offers to Central Banks, Participants and the Operator an integrated and consistent set of common information, along with the ability to input and maintain reference data of Participants and their Accounts relevant for contingency settlement. During the contingency session it is also possible to open a new Contingency Account/Contingency Technical Account in the Local Reference Data Management database.

The contingency component uses for contingency settlement purposes the latest non tampered reference data available from the last activated set of the Common Reference Data and valid for the business day the incident occurred. Reference data shall be propagated from CRDM to the contingency component on a daily basis.

In fact, the management of reference data is split across the external Common Reference Data Management component (CRDM) and ECONS II itself. The CRDM allows users to setup and maintain reference data that is common to multiple Eurosystem Services and components, including ECONS II, and propagates such data to the relevant services or components. In this respect, changes to ECONS II reference data fall into two categories:

- **Common reference data changes, when ECONS II is deactivated**: this class of operations covers notably the creation, update and deletion of ECONS II Actors and Contingency Accounts. These operations are carried out by authorised users in the CRDM via its dedicated interface and propagated to ECONS II on a daily basis, before the change of T2 business day. As the CRDM interface is available 22 hours a day[12] and during the weekdays, this class of operations is only available during that time window. Please refer to CRDM documentation for additional details [CRDM - User Detailed Functional Specifications].

  The propagation of Common Reference Data to ECONS II is achieved by means of a process that propagates the required set of data.

  As the propagation of Common Reference Data requires a certain amount of time each day, it is necessary to input in advance all the changes needed for a certain business day, before a specific pre-defined cut-off time (see §3.6.3).
- **Immediate reference data changes, when ECONS II is active**: this class of operations refers to high-priority settlement-relevant reference data changes that need to be implemented in ECONS II when the contingency session is activated. These operations are carried out by authorised users directly in ECONS II, via the screens, and are processed with immediate effect

[12] The timeframe of 22 hours of availability may be subject to revision, depending on possible decisions made in the context of the T2-T2S Consolidation project.

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in the Local Reference Data Management database. The immediate reference data changes permitted in ECONS II when a contingency session is ongoing are listed below:

- Blocking/unblocking of a Contingency Account[13];
- Creation of a new Contingency Account or a Contingency Technical Account

U2A functions can also be triggered in 4-Eyes mode, so that a final approval from a different user is required before the change comes into effect. When a 4-Eyes reference data maintenance instruction is submitted, it is provisionally validated and put on hold until a second user, different from the initial requestor and with the adequate privileges, confirms or revokes it. If the instruction is confirmed, it is submitted to the LRDM back-end.

The following table lists the reference data operations that are available within ECONS II, the types of ECONS II Actors that are responsible for their maintenance and the respective availability in U2A. All the following operations are available only when an ECONS II session is open and they are implemented with immediate effect in ECONS II LRDM database.

Table 11 – Reference data management functions available in ECONS II

Entity	Possible operations	Responsible Actors(s)	Mode
Contingency Account	Update of blocking status of a Payment Bank Contingency Account or a Contingency Technical Account.	Operator[14], CB	U2A
Contingency Account	Create a new Payment Bank Contingency Account or a Contingency Technical Account.	Operator[15]	U2A

The contingency component does not need to reconcile the reference data with CRDM or any another Common Component, therefore an operational procedure should be put in place to ensure that all the actions performed in the LRDM database, in particular in case of a Contingency Account creation, are properly reflected in CRDM by the CBs (or by the Operator) before the closure of ECONS II session to avoid inconsistency during the transfer of balances to CLM.

3.5.5.1 Blocking of a Contingency Account

ECONS II allows Central Banks to block/unblock with immediate effect a Contingency Account open for one of their Participants.

Blocking/unblocking of a Contingency Account results in an equivalent blocking/unblocking of the corresponding Payment Bank or Ancillary System if they will be using only one for their contingency settlement activity. In case an account owner needs to be blocked and it is responsible for many accounts, blocking shall be performed on each of them. The Contingency Account blocking functionality can only be triggered in U2A mode. Once the account is blocked, no distinction between block for debit or block for credit is made. However, for ECONS II only the blocking status on the debited account is checked.

[13] Considering the 1:1 relation between a BIC and a Contingency Account, a blocked account is fully equivalent to a blocked participant.

[14] The Operator can block/unblock Contingency Accounts and Contingency Technical Account upon request of the responsible Central Bank.

[15] The Operator can create Contingency Accounts and Contingency Technical Account upon request of the responsible Central Bank.

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3.5.5.2 Contingency Account Creation

The contingency component allows the Operator to create new Contingency Account or Contingency Technical Account, upon request.

During the contingency session, ECONS II performs the creation of a new Contingency Account with immediate effect.

The Operator can create a Contingency Account (via U2A), upon request of the responsible Central Bank. The Central Bank shall provide via operational procedure the following set of information:

- Owner BIC
- Participant BIC
- Contingency Account number
- Account type (i.e., PB Contingency Account or Contingency Technical Account)
- Currency
- Responsible Central Bank (Country code)
- Opening date
- Closing date

On optional basis, the requestor might insert a blocking status. The Contingency Account number shall be unique in ECONS II. Additionally, for the same pair BIC-Currency, only one Contingency Account can be present in the contingency component.

3.5.6 Queries and reports

ECONS II allows to perform real-time queries. The dataset on the basis of the Queries and Reports feature are calculated and aggregated on a continuous basis i.e. each time a given instruction/action is executed, any calculated or aggregated data that depends on the executed instruction is immediately updated/available for query. ECONS II shall take into account all access rights while processing queries and reports and only return results if the interested data are part of the ECONS II Actor data scope.

3.5.6.1 Queries

ECONS II provides the query functionality to ECONS II Actors to satisfy their information needs on demand.

It is possible to obtain information directly on the screens, in U2A mode, on:

- Status of the contingency component
- Account information
- Account balances
- Overall Liquidity
- Status of the transactions

Only the CBs are allowed to get the following information in A2A mode:

- Get Business Day Information (camt.018)

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- Get Account (camt.003)

Moreover, the contingency component provides the CBs with a facility for the continuous monitoring of the overall liquidity on all accounts of their Payment Banks/Ancillary Systems in U2A mode via a dedicated screen. The screen allows for the use of filters and export the data[16] (e.g. in .xls or .csv format).

Any authorised user can look up and display details about all Payment Orders, Liquidity Transfers and AS transactions processed in ECONS II for the whole duration of the contingency session. It shall be also possible to filter the data, e.g. per business day.

A brief outline of the purpose of each query and the exact description of its respective selection and return parameters are given:

- In section 4.4 Queries~~Queries~~ for the A2A mode;
- In the relevant section of the UHB (see [ECONS II – User Handbook~~ECONS II – User Handbook~~]) for the U2A mode.

3.5.6.2 Reports

In case of a contingency session opened for several business days, the contingency component provides Statements of Accounts, in U2A mode only, with an overview of the transactions for the Central Banks, Payment Banks and Ancillary Systems to allow them to reconcile their transactions.

An "export function" in the corresponding screen allows the user to download, after a query, the requested data[17] (e.g. in .xls or .csv format).

The BankToCustomerStatement~~BankToCustomerStatement~~ message is used for General Ledger reporting to CBs and to the ECB. This is described in section 3.5.8 and in the section related to the ISO message (i.e. camt.053).

3.5.7 Agree/Disagree functionality

The contingency component allows Central Banks to agree/disagree, according to the 2-Eyes principle, on the processing of each Payment Order entered by their participants in U2A mode.

By default the agree/disagree functionality is enabled when the contingency component is activated. Therefore, each payment entered by a Payment Bank is subject to explicit approval from its responsible Central Bank. The Payment Order is set to status "**waiting for CB approval**" and the responsible CB will have the possibility to approve (agree) or reject (disagree) the payment via a dedicated screen.

This functionality shall be driven by a configuration parameter under the control of the Operator.

Upon request, it is possible for the Operator to disable (and/or re-enable) the agree/disagree functionality having effect on all the ECONS II Actors. When the agree/disagree function is disabled, all the Payment Orders submitted by the Participants are directly sent to settlement without explicit confirmation required by the responsible Central Bank. An exception to this behaviour applies in case of Payment Orders on blocked Contingency Accounts. In fact, if ECONS II receives a Payment Order

[16] Possible limitations on the number of occurrences to be downloaded can be applied

[17] Possible limitations on the number of occurrences to be downloaded can be applied.

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which involves one blocked Contingency Account, regardless of the status of the agree/disagree functionality, the Payment Order is set to status '**waiting for CB unblock**". In this scenario the CB is informed that the Payment order insists on a blocked account and may either decide to send to settlement or reject it.

Additionally, for the sake of usability, each Central Bank can select multiple payments and agree/disagree on their processing in one go.

Table 12 – Processing of payments in ECONS II depending on Agree/Disagree status

Action	Agree/Disagree enabled	Agree/Disagree disabled
Payment Order submitted by a CB[18]	Sent to settlement directly	Sent to settlement directly
Payment Order submitted by a PB (debiting account unblocked)	Subject to CB approval, payment in status "**waiting for CB approval**"	Sent to settlement directly
Payment Order submitted by a PB (debiting account blocked)	Subject to CB approval in status "**waiting for CB unblock**"	Subject to CB approval, payment in status "**waiting for CB unblock**"
LT submitted by a CB[19]	Sent to settlement directly	Sent to settlement directly
AS Transaction file sent by a CB	Sent to settlement directly	Sent to settlement directly

In case of transaction(s) inserted by a Payment Bank, ECONS II performs as preliminary check if the debiting account is blocked and then, in case it is not, if the agree/disagree functionality is enabled or disabled.

3.5.8 ECONS II General Ledger

In the specific case of the euro, when the contingency component is activated, ECONS II provides each participating Central Bank with a General Ledger (GL) file which includes the data pertaining to its community and related to the business date. The ECONS II General Ledger generation process can be triggered in two separate phases:

- after a new business date is reached in the contingency component;
- before the status of the contingency session is set to '*close*'.

The GL files are produced and sent out by ECONS II only if the contingency component has been activated.

[18] The processing is done regardless of the blocking status of the debited account, as long as the responsible Central Bank shall be in a position to transfer the balance from one of its blocked accounts.

[19] The processing is done regardless of the blocking status of the debited account, as long as the responsible Central Bank shall be in a position to transfer the balance from one of its blocked accounts.

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3.5.8.1 GL generation and delivery

When ECONS II triggers the GL generation, a separate GL file is produced for each CB based on activity processed in the contingency component related to the business day that has just been closed.

However, the GL is sent to the CB only if at least one account of a Participant belonging to a community of a given Central Bank was involved in settlement during the business day run in contingency and in case of account balance different from zero, even without turnover.

The following two scenarios can occur:

- The contingency session is activated and terminated during the same business date: in this scenario, ECONS II sends the GL to each CB before closing the contingency session, after the balances have been transferred to CLM and a positive feedback is returned;
- The contingency session lasts for more than one business dates: in this scenario, for each successful business date change in contingency, ECONS II sends the GL to each CB. Additionally, for the last business date running in contingency, ECONS II sends the GL to each CB before closing the contingency session, after the balances have been transferred to CLM and a positive feedback is returned.

Moreover, a file, for each business day of a contingency session, is provided internally reporting the whole activity performed for EUR currency.

3.5.8.2 GL structure

The GL file produced by ECONS II for euro currency contains all Contingency Accounts in euro held in the contingency component by a Central Bank, including CB/PB Contingency Accounts, Contingency Transit Accounts and Contingency Technical Accounts denominated in euro.

The process extracts, only for the accounts involved in the contingency settlement:

- The Contingency Account number;
- The start of day balance of the Contingency Account (for the given business date);
- The sum of all the credit movements;
- The sum of all the debit movements;
- The final balance of the Contingency Account (for the given business date).

The current assumption is that the same rules defined for euro currency shall apply also to GL for non-euro currencies.

3.5.9 Raw Data extraction

ECONS II produces, on a daily basis when the contingency component is activated, raw data files related to all the activities performed in the contingency component during the business day.

During the activation of a contingency session, and within each End of Day process, ECONS II provides also raw data files to the CBs that include the activities on the contingency component.

ECONS II does not produce raw data for reference data, as they are provided by the CRDM component.

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The raw data files produced by ECONS II are also made available to the Data Warehouse after the recovery.

The files are then sent to the Legal Archiving component. The list of expected raw data is shown in the following table.

Table 13 – Raw data

Raw data file	Related information	Receiving Component
Raw data for archiving	Transactional data	Legal Archiving and Data Warehouse

3.5.9.1 Raw data for Archiving and Data Warehouse

ECONS II provides the following information for the Archiving and Data Warehouse:

- Message signature and content of the settlement messages: all the A2A traffic related to Liquidity Transfers, Payment Orders and AS Transaction files.

The list of messages to be legally archived in the new LeA component are shown in the following table.

Table 14 – List of messages for Legal Archiving

Message	Inbound/Outbound	Related Service/ Common Component
LiquidityCreditTransfer (camt.050) (CB A2A)	Inbound	ESMIG
LiquidityCreditTransfer (camt.050)[20]	Inbound	ECONS II
Receipt (camt.025)[20~~20~~]	Outbound	ECONS II
ReceiptAcknowledgement (admi.007)	Outbound	ESMIG, ECONS II
General ledger (camt.053)	Outbound	ECONS II
BusinessApplicationHeader (head.001)	Outbound	BAH
ASTransferInitiation (pain.998)	Inbound	ESMIG

1.5.9.2. Raw data Structure

Raw data is generated as a fixed length record and the flat file is encapsulated in an XML envelope.

The structure of the records of the raw data file is as follows:

```
<raw_data fileID="CCCCCREYYMMDD">
<sessions>
…
</sessions>
<transactions>
…
<transactions>
</raw_data>
```

The raw data fileID is as follows: CCCCCREYYMMDD (i.e. ITEURRE210823) where:
CC = country code of the relevant CB

[20] Valid also for internal interaction with ECMS.

CCC = Currency
R = kind of file (R for raw data file)
E = component (E for ECONS II)
YY = year
MM = month
DD = day

One occurrence inside tags <sessions>…</sessions>

Field No.	Field Name	Format	Description
1	DT_OPDAY	DATE (10)	Date of the operational day session
2	NM_SESSION	NUMBER (10)	Number of the session.
3	TS_START	TIMESTAMP (26)	Start timestamp of the session
4	TS_END	TIMESTAMP (26)	End timestamp of the session

Several occurrences inside tags <transactions>…</transactions>

Field No.	Field Name	Format	Description
1	CD_CM_OP_ID	VARCHAR2 (64)	Unique ID of the transaction
2	CD_ACC_NUMBER	VARCHAR2 (34)	Account number
3	CD_DC_MARK	CHAR (1)	Sign of the transaction on the account involved, “D” for debit, “C” for credit
4	AM_AMOUNT	NUMBER (20)	Amount of the transaction
5	DT_SETTLE	DATE (10)	Business Date of the settled transaction
6	TS_SETTLE	TIMESTAMP (26)	Timestamp of the settled transaction

Flat File example:

<raw_data fileID=”ITEURRE210823”>
<sessions>
2021-08-2300000000672021-08-13-20.11.14.4200002021-08-13-20.13.15.102000
</sessions>
<transactions>
MOLQTCSOTCS0XXXIE2 21081300189800161712013 0 account CBCITCS0XXX
D00000000000000000001302021-08-232021-08-23-20.13.05.033000
MOLQTCSOTCS0XXXIE2 21081300189800161712013 0 account PMBITCS0XXX
C00000000000000000001302021-08-232021-08-23-20.13.05.033000
</transactions>
</raw_data>

The current assumption is that the same rules defined for euro currency shall apply also to GL for non-euro currencies.

1.5.9.3 Distribution

ECONS II CBs shall receive the Raw Data on the same channel used to send the General Ledger (see 2.1 Message routing – Table 16).

The Request Type used is the following: camt.xxx.econs.rawdata.

3.5.10 ECONS II Operating Day

The contingency component provides the possibility to be open for a number of consecutive days (up to 5) and to manage the Business Date change.

The Operator has the possibility to Open and Close the contingency session but also to start End of Day/Start of Day phase to trigger the business day change. Inserting the date of the next business date the EoD change will be triggered immediately after submission.

A separate function allows the Operator to Start and Stop the Maintenance Window (status MAWI) in order, for instance, to block the sending of the payments and/or for software deployment.

3.6 Interactions with other services and components

This section describes all interactions between ECONS II, T2 service and common components (e.g. CRDM, ESMIG, Legal Archiving) required respectively (i) to resume the normal operation at the end of the contingency session and (ii) to make sure ECONS II is provided with the suitable set of reference data and can exchange messages in both inbound and outbound directions when it is activated.

3.6.1 T2 service

This sub-section describes all the needed interactions between ECONS II and the T2 service. ECONS II is designed to be multi-currency and to provide contingency settlement in euro and non-euro Central Bank Money.

The interactions with the CLM component aim at transferring ECONS II balances at the end of the Contingency session. The process shall produce a flow for CLM, with instances composed by:

- Participant BIC;
- ECONS II Contingency Account Balance.

Only information about Contingency Account whose balance is different from zero are transferred to CLM at the end of the contingency session.

As already mentioned, in the event of the unavailability of CLM and/or RTGS, it is possible to activate ECONS II for a number of consecutive business days (up to 5) in order to allow contingency settlement. As soon as T2 service is recovered a process is in place to transfer the required information from ECONS II to CLM (e.g. the contingency account balances), before the smooth closure of the contingency component and the consistent reopening of the T2 service.

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Taking as an assumption the condition where business date T is running on CLM when an incident requiring the activation of ECONS II is detected, the following scenarios can occur:

- Activation of ECONS II in business date T, closure of the contingency case without any business date change;
- Activation of ECONS II in business date T, closure of the contingency case with one (or several) business date change(s), e.g. T+1, T+2, …, T+5.

The two scenarios are described in more details in the following sections §3.6.1.1 and §3.6.1.2.

3.6.1.1 Reconciliation activities without business date change in ECONS II

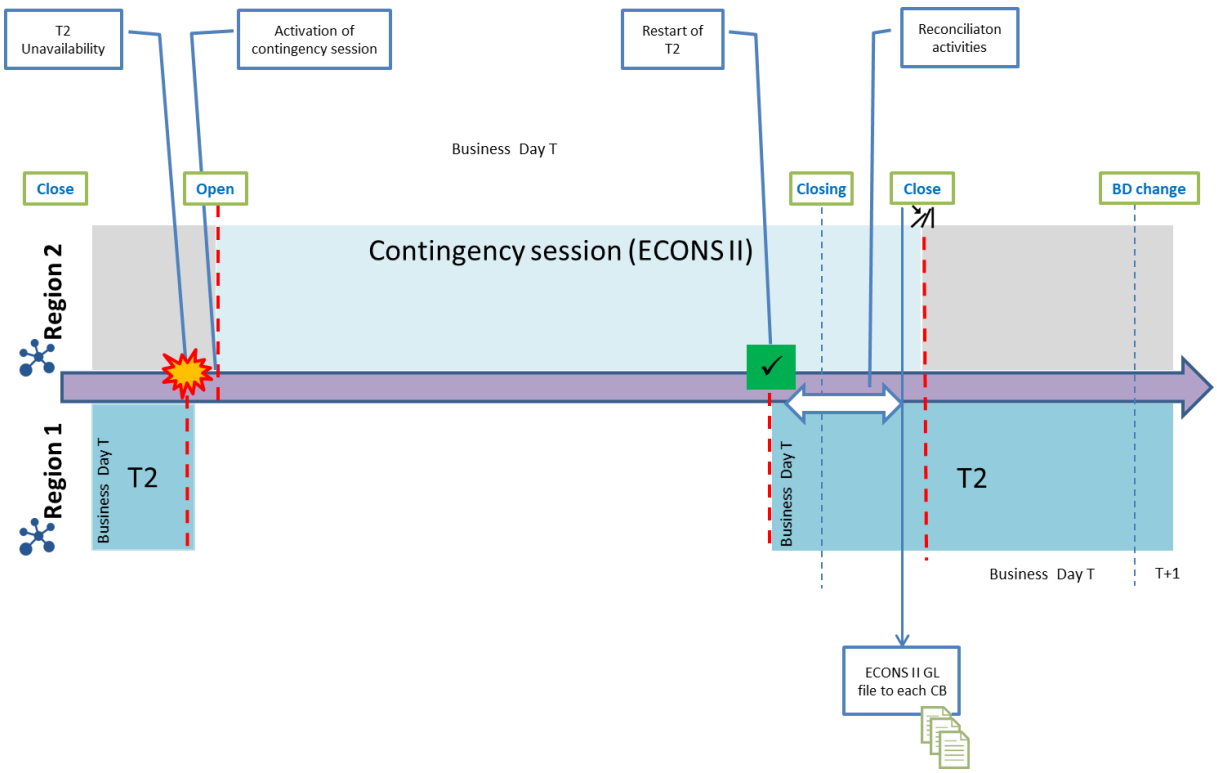
The following procedure applies in case the contingency session is started and terminated without triggering any business date change. In such scenario, when the status of the contingency component is set to '*closing*' by the Operator, ECONS II shall freeze the balances of all the Contingency Accounts and send the final balances to CLM.

In case of multi-currency transactions session, ECONS II sends the final balances to CLM in different files, one for each currency. In case one, or more, file is not acknowledged by CLM, ECONS II will send again only the balances related to the currency not acknowledged before.

After the confirmation from CLM about the successful acquisition of the final balances, the status of ECONS II switches from '*closing'* to '*close'*. In this phase ECONS II shall produce and send out, for each CB, a separate General Ledger file.

The details of the scenario are described in the following diagram.

Figure 11 – Contingency session open and closed in the same business day



3.6.1.2 Reconciliation activities with business date change in ECONS II

The following procedure applies in case the contingency session lasts for one or several business days.

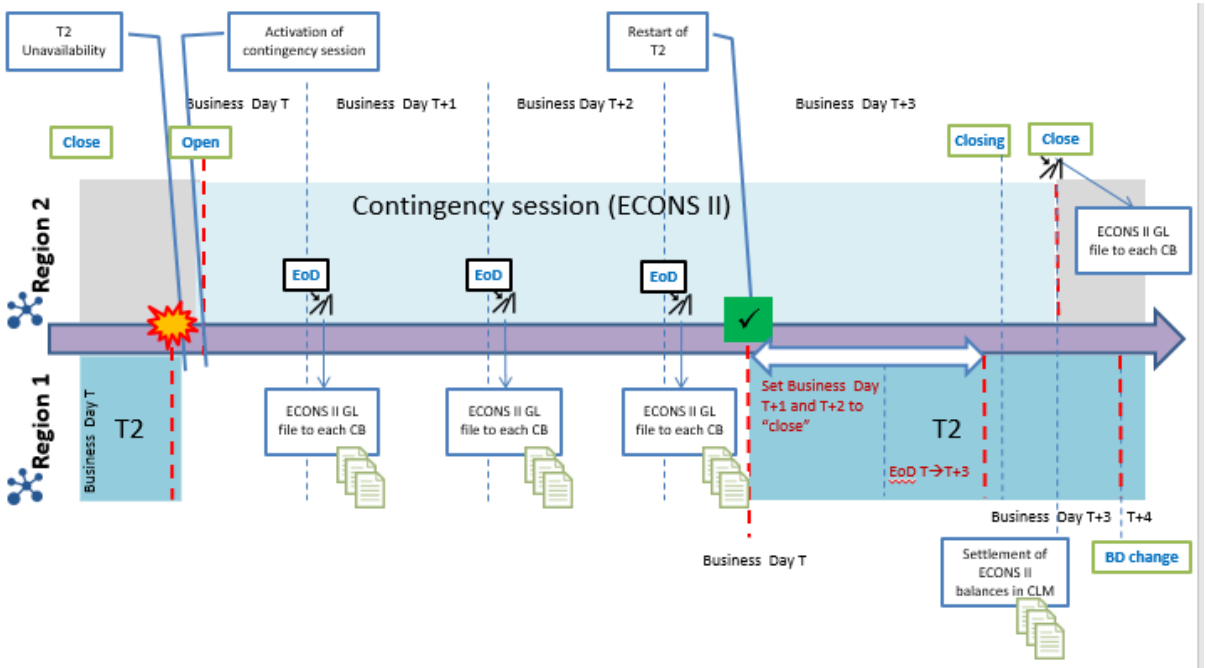
In this scenario any business date change occurred in the contingency component triggers the process in charge of producing and sending the GL files to each responsible Central Bank. It is worth noting that the GL file is generated for every CB but it is sent out to the CB only if at least one account of a participant of that country was involved in the successful settlement of Payment Orders or Liquidity Transfers for the given business day. However, it is not foreseen to deliver the General Ledger files generated in ECONS II towards CLM, even after the successful recovery of the T2 service.

As soon as T2 service runs through the reconciliation activities for the previous business days executed in contingency and it reaches the same business day of ECONS II, the status of the contingency component can be set to '*closing*' by the Operator.

Similarly to the previous scenario (§3.6.1.1), ECONS II shall freeze the balances of all the Contingency Accounts and send the final balances to CLM for the current business day (in the form of a camt.053 message). In case of multi-currency transactions session, ECONS II sends the final balances to CLM in different files, one for each currency. In case one, or more, file is not acknowledged by CLM, ECONS II will send again only the balances related to the currency not acknowledged before. After the confirmation from CLM about the successful acquisition of all the final balances, the status of ECONS II can be switched from '*closing'* to '*close'*. In this phase ECONS II shall produce and send out, for each CB, a GL file for the last business date (i.e., in the example BD=T+3).

The details of the scenario are described in the following diagram.

Figure 12 – Contingency session spread over multiple business days



3.6.2 Eurosystem Single Market Infrastructure Gateway

The Eurosystem Single Market Infrastructure Gateway (ESMIG) component provides access to the Market Infrastructure services and components, including ECONS II, both in A2A and U2A mode.

In A2A ESMIG allows the access from the outside world to the contingency component establishing the communication channel between ECONS II and the NSPs and checks the A2A message has a valid format (XML schema validation). The NSPs are expected to perform the checks of authentication of the sender and the signature verification for the messages received by ECONS II. Thus, a message arriving to the contingency component must be considered authenticated, properly signed, well-formed after technical validation and sent by a sender recognised as authorised for using the ECONS II service.

ECONS II performs, afterwards, the authorisation tasks for the sender. The authorisation tasks consist in checking that the access rights configuration of the sender allows it to submit the given request.

In U2A, the ESMIG Identity Access Management (IAM) component of the ESMIG checks the authentication for U2A users attempting to enter the ECONS II Graphical User Interface. Once the user has been successfully authenticated, the GUI retrieves the granted roles and checks that the requested action is allowed for the user.

For further details, the reader may refer to ESMIG documentation [ESMIG UDFS].

3.6.3 Common Reference Data Management

The Common Reference Data Management (CRDM) component provides features that allow duly authorised users to set up, maintain and query all reference data that are shared by multiple services (e.g. T2, T2S and TIPS) for their processing activities.

The access to CRDM is possible in U2A mode (for all functions) and in A2A mode (for a subset of functions) via ESMIG (see section 3.2).

In order to ensure a timely and consistent propagation of common reference data to the relevant services and components, CRDM implements a publish-subscribe feature allowing each service to receive all the common reference data (and their changes) they require for their processing.

In a nutshell:

- CRDM publishes all changes (in push mode) of common reference data (e.g. creations of new objects, updates of already existing objects);
- Other subscriber services get those changes (in pull mode) and apply them to their Local Reference Data Management components, according to their needs.

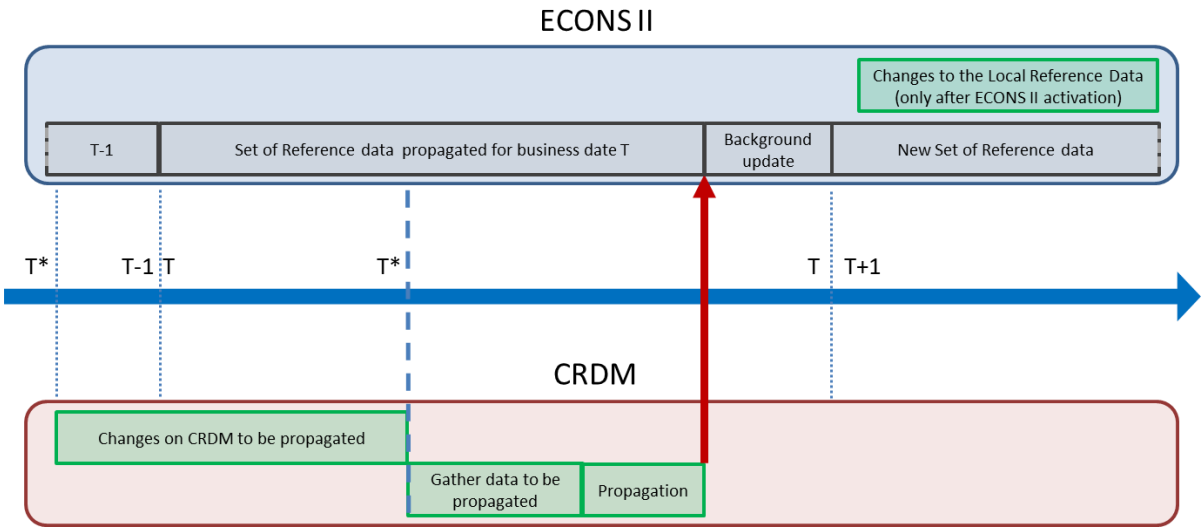
Further detailed information can be found in the CRDM documentation [CRDM UDFS].

As far as ECONS II is concerned, as anticipated in 3.5.1 General concepts~~General concepts~~ and in 3.5.5 Reference data management~~Reference data management~~, all reference data setup and maintenance operations – other than the immediate changes in the LRDM – are performed in the CRDM. The reference data are then propagated from the CRDM to ECONS II asynchronously on a daily basis. The dialogue between CRDM and ECONS II envisages two types of interactions:

- **Daily propagation**: this is the main interaction between CRDM and ECONS II. Every CRDM opening day, an ad-hoc event triggers the propagation of contingency reference data from CRDM to ECONS II, provided that the status of the contingency component is set to 'closed'. The event takes place to ensure a smooth and complete reference data propagation before the new business date is reached. This allows to propagate a consistent and full set of reference data to ECONS II to be used in case the contingency component has to be activated during the following business day, e.g. due to a major failure in the CLM/RTGS components. The set of reference data that ECONS II receives on business day T includes all the active data on the mentioned business date. Additionally, this set includes objects, like contingency accounts, whose validity date starts in the future.
  Therefore, if an item propagated on date T starts its validity in the future (e.g. T+2), ECONS II acquires it during the daily propagation but the item will be valid in ECONS II, provided that the contingency component is activated, only when the corresponding validity date is reached.
- **Contingency propagation:** in case of contingency situation, the Operator may trigger an ad-hoc propagation from CRDM to ECONS II, if the status of the contingency component is set to '*closed*'. The contingency propagation is a daily propagation triggered intraday when an immediate and urgent change of a set of data (not manageable directly into ECONS II) must be performed. In this case, the following steps happen:
  - All the data eligible for the daily propagation and valid at the moment of the contingency propagation are propagated;
  - The following daily propagation is performed as scheduled and includes all the active data in the relevant business date.

The following diagram (see Figure 13~~Figure 13~~) shows a conceptual overview of the interactions between CRDM and ECONS II.

Figure 13 – Interaction between CRDM and ECONS II[21]



[21] The cut-off considered for the loading of new data is the business date change.

3.6.4 Archiving

The contingency component provides features that allow the archiving of legally relevant data for regulatory purposes. Payment Orders, Liquidity Transfers and AS Transactions data are archived for a period of ten years.

ECONS II produces for each business date executed during the activation of the contingency component the data of Payment Orders, Liquidity Transfers and AS Transactions to be archived.

The raw data are provided to DWH and LeA common components after the recovery of the normal operation. For what concerns A2A traffic, data for LeA will be provided by ESMIG whereas, for U2A traffic, the ECONS II web application is in charge of feeding the LeA module with the required information

3.6.5 Billing

Due to current pricing principle based on which there are no billable items for contingency settlement, the contingency component shall not calculate any consumption relevant to ECONS II Actors' activity made during the ECONS II activation time frame.

3.6.6 Interaction with Collateral Management Systems

The contingency component shall enable a Collateral Management System to inject liquidity in A2A mode to the Contingency Accounts.

The amount to be provided needs to be elaborated by the Central Bank outside of the contingency component.

The liquidity transfer should take the form of a message debiting a CB Contingency Account and crediting a Payment Bank Contingency Account in the contingency component.

This setup would imply that the Collateral Management System Distinguished Name is recognised as authorised to debit any CB Contingency Account defined in the contingency component. The configuration shall be (i) captured in CRDM (e.g. by defining a System User Reference, under each Central Bank willing to operate in the contingency component, linked to the CMS DN and with appropriate access rights) (ii) and then propagated to ECONS II.

3.7 Operations and support

3.7.1 Service configuration

ECONS II relies on system parameters configured and maintained by the Operator. The parameters are configured in the ECONS II component.

The following table includes the exhaustive list of system parameters and their default values.

Table 15 – System Parameters

Parameter name	Description	Default value
Agree/Disagree status	The agree/disagree functionality can be enabled/disabled, upon request, by the Operator during the contingency session.	Activated

3.7.2 Business and operations monitoring

The Business and operations monitoring integrates information coming from different sources in order to monitor the business and operational status of the contingency component, to detect possible problems in real-time or to proactively recognise a possible deterioration of the service performance and to provide up-to-date information for crisis management scenarios. The Operator is provided with a tool (e.g. Technical Monitoring) for the detection of problems during the provisioning of the General Ledgers.

3.7.3 Archiving management

ECONS II provides each CB with raw data, during End of Day processing executed in contingency, which covers all the activities on the contingency component. Additionally, the raw data are provided to Data Warehouse and sent to Legal Archiving common components after recovery, as described in 3.6.4 Archiving~~Archiving~~.

The Operator is responsible for the retrieval of the archived information upon Central Bank request. The Central Bank can also request the retrieval of archived data on behalf of one of their ECONS II Actors.

The Operator is allowed to retrieve archived Payment Orders, Liquidity Transfers and AS Transaction files data within a period of ten years.

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4 Dialogue between ECONS II and ECONS II Actors

This section aims at describing the interactions between CB ECONS II Actors and ECONS II by means of the A2A channel. Precondition for the processing of A2A traffic routed towards the contingency component is that the ECONS II should have been activated. Any traffic routed to the ECONS II when it is in status 'closed' will be discarded.

In this chapter, the first sub-section describes the general communication process by (i) defining the actions when a message is received by ECONS II and (ii) which ECONS II functions are involved in the processing.

The following sub-sections describe the interactions the CB ECONS II Actors can have with the contingency component. These sub-sections describe the scenarios the user can go through, specifying:

- The involved actors;
- The involved messages;
- The conditions of executions and the possible returned errors.

In such a way, this section aims both to describe the process for the CB ECONS II Actors, guiding them in the use of the involved messages, and to give the necessary details needed for implementing the software on their side.

When a message is referenced, it is linked to the relevant section within chapter Catalogue of messages where detailed information can be found.

Catalogue of messages

~~Catalogue of messages~~

4.1 Message routing

CB ECONS II Actors and ECONS II can exchange A2A messages and files by means of two types of transfer services:

- The real-time message transfer, which requires that all the interested actors are available at the same time;
- The store-and-forward message and file transfer, which enables ECONS II to transmit messages or files even when the receiver is not available.

The following table shows how the main types of ECONS II data exchanges are mapped against the technical features of the different network services for inbound and outbound communication.

Table 16 – Network services

Data Exchange	Incoming transfer services	Outgoing transfer services
Payment Order Transactions	Message-based, store-and-forward	Message-based, store-and-forward
Inbound/Outbound Liquidity transfers	Message-based, store-and-forward	Message-based, store-and-forward
Queries	Message-based, real-time	Message-based, real-time
Ancillary System Transaction files	File-based, store-and-forward	n/a
Raw data and data for General Ledger	n/a	File-based, store-and-forward

The File-based store-and-forward network service is used only to send files on behalf of the Ancillary Systems.

For incoming messages ECONS II checks that the requestor DN is authorised to instruct on or to query the relevant ECONS II account.

Regarding how to route outbound communication, the general behaviour of ECONS II is as follows:

- When ECONS II receives an input message *x* from a CB actor *a*, it checks the DN of the message sender and uses it to send any kind of communication regarding *a* and the transaction represented by *x*.

Based on the transaction types and on the role assumed by the Actors, the following table specifies the type of outbound routing used for the different data exchange scenarios.

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Table 17 – Outbound routing

Data Exchange (via A2A)	Sender DN
Payment Order Transactions	✓
Inbound/Outbound Liquidity transfers receipts	✓
Query answers	✓
Error on input messages	✓

4.2 Inbound/Outbound Liquidity Transfers

ECONS II supports cash credit transfers across CB Contingency Accounts, Payment Bank Contingency Accounts and Contingency Transit Accounts denominated in the same currency.

Liquidity Transfer is used by the Central Bank to fund their participants, since the Contingency Account owned by a Central Bank can hold a negative balance.

Additionally, Liquidity Transfers can be used to get funds available on (or from) an Eurosystem Market infrastructure service, through a Contingency Transit Account, or can be sent by an external Collateral Management System (i.e. ECMS) for the sake of efficiency.

A Liquidity Transfer can be initiated in ECONS II by the CBs only in Application-to-Application mode, using the LiquidityCreditTransfer message, or in User-to-Application mode through a Graphic User Interface (GUI) and it is immediately submitted to settlement.

4.2.1 Inbound Liquidity Transfer

This section describes the processing of an Inbound Liquidity Transfer received in ECONS II via LiquidityCreditTransfer message.

It is worth mentioning that the following section does not cover the external processing for (i) the scenario where a Collateral Management System (e.g. ECMS) requests to transfer the liquidity from a CB Contingency Account to an ECONS II Contingency Account as well as for (ii) Liquidity Transfers involving a Contingency Transit Account, as it is considered out of the scope of ECONS II functional specification.

Examples of Inbound Liquidity Transfer scenarios are described in the following sub-section.

The following Actors are involved in the processing of an Inbound Liquidity Transfer:

- The CB or ECMS application that sends to ECONS II the liquidity transfer order;
- ECONS II that receives and confirms the request to CB or ECMS application.

The following messages are involved in the Inbound Liquidity Transfer process:

- LiquidityCreditTransfer: the message with which the CB (or ECMS application) instructs in ECONS II the transfer of a cash amount from a CB Contingency Account to a PB Contingency Account denominated in the same currency;

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Receipt: the message is sent by ECONS II to the CB (or ECMS application) to confirm/reject the execution of a submitted Liquidity Transfer.

The details on the single steps are described in the following table.

Table 18 – Inbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	CB/CMS application as Sender ECONS II as receiver	ECONS II receives an Inbound Liquidity Transfer request from the CB/CMS application. Technical validation, check of mandatory fields, LT Duplicate check and authentication checks have already been successfully executed.
2		ECONS II	ECONS II executes the following checks: • ECO0003 (Check on consistency in the currency denomination of the Contingency Accounts); • ECO0004 (Check on settlement date coherence); • ECO0005 (Check on digits after decimal currency); • ECO0006 (Amount greater than zero); • ECO0007 (Check if a Contingency Transit Account is involved); • ECO0008 (Check on Modify Liquidity from ECMS); • ECO0009 (Creditor BIC/Account and Debtor BIC/Account cannot be equal); • ECO0010 (Requestor party type not allowed); • ECO0013 (BIC(s) and/or Account(s) inserted in Creditor and/or Debtor filed(s) do not match); • ECO0022 (Correct status of the contingency component); • ECO0023 (Check on sender); • ECO0024 (Privilege check); • ECO0025 (Contingency Accounts or BICs existing and active in the contingency component); • ECO0026 (Debited Contingency Account in the correct data scope); • ECO0052 (Check if the transaction is related to a currency already acknowledged during the closing process). From now on: • the identified debtor Contingency Account is referred to as "Contingency Account to be debited"; • the creditor Contingency Account indicated in the Liquidity Transfer Order is referred to as "Contingency Account to be credited". See 6.1- Business Rules~~Business Rules~~ for details.

Step	Involved messages	Involved actors	Description
2e	Receipt	ECONS II as Sender CB/CMS application as receiver	ECONS II executes one of the checks of step 2. As soon as one check fails the validation process stops and ECONS II generates a rejection message towards the CB/CMS application containing the proper error code. The message is routed in outbound direction by using the DN of the sender of the Inbound Liquidity Transfer. If an error is detected, the status of the Inbound Liquidity Transfer Order is set to "*Failed*".
3		ECONS II	ECONS II settles the full amount of the Inbound Liquidity Transfer Order, debiting the Contingency Account to be debited and crediting the Contingency Account to be credited. The status of the Inbound Liquidity Transfer is set to "*Settled*".
4	Receipt	ECONS II as sender CB/CMS application as receiver	ECONS II notifies the CB/CMS application about the final status of the transaction. The message is routed in outbound direction by using the DN of the sender of the Inbound Liquidity Transfer.

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4.2.1.1 Examples

This sub-section provides an overview of the Inbound Liquidity Transfer process by describing different examples of the following possible scenarios:

- Successful settlement of Inbound Liquidity Transfer (see §0)
- Inbound LT rejection due to a failure in the Liquidity Transfer duplicate check (see §0)
- Inbound LT rejection due Contingency Account not existing in ECONS II (see §0)
- Inbound LT rejection due to currency mismatch in the Contingency Accounts (see §0)
- Successful provision of liquidity via Contingency Transit account (see §0)
- Successful provision of liquidity via External Inbound LT submitted by ECMS (see §0)

Inbound LT settled in ECONS II – Successful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The CB Contingency Account and the Payment Bank Contingency Account are denominated in the same currency;
- The CB Contingency Account balance is equal to 0.00 EUR;
- The Payment Bank Contingency Account balance is equal to 0.00 EUR;
- The requested transferred amount is 100.00 EUR;
- The CB sends a LiquidityCreditTransfer message in order to provide liquidity from his own account (CBECOCOUNT1) to the Payment Bank Contingency Account (ECONSCOUNT1);
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT1) from the Creditor Account;
    - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency;
- ECONS II settles the full amount of the Liquidity Transfer Instruction. The Inbound Liquidity Transfer Order is set to *Settled*.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The CB Contingency Account balance is equal to -100.00 EUR;
    - The Payment Bank Contingency Account balance is equal to 100.00 EUR.
- The Receipt message is sent by ECONS II to the CB ECONS II Actor – same DN of the sender of the LiquidityCreditTransfer message – to confirm the execution of the order.

Inbound LT rejected due to LT duplicate check failed - Unsuccessful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The CB Contingency Account and the Payment Bank Contingency Account are denominated in the same currency;
- The requested transferred amount is 100.00 EUR;
- The CB sends a LiquidityCreditTransfer message in order to move liquidity from his own account (CBECOCOUNT1) to the Payment Bank Contingency Account (ECONSCOUNT1);
- ECONS II receives the message and identifies:
    - The Account to be credited (ECONSCOUNT1) from the Creditor Account;
    - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency;
- ECONS II detects a duplicate submission as another Liquidity Credit Transfer message received from the same CB in the same business day and within the same ECONS II session.
- The Receipt message is sent by ECONS II to the CB – same DN of the sender of the LiquidityCreditTransfer message – to reject the Liquidity Transfer order.

Contingency account to be credited not existing - Unsuccessful scenario:

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Payment Bank Contingency Account exists in CRDM whereas it not present in the ECONS II Local Reference Data Management repository (e.g. due to the validity expiration of the account);
- The CB sends a LiquidityCreditTransfer message in order to move liquidity from his own account (CBECOCOUNT1) to the Payment Bank Contingency Account that exists and it is closed in CRDM whereas it is not propagated to ECONS II (MCANOCOUNT1);
- ECONS II receives the message and identifies:
    - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.

ECONS II detects the contingency account to be credited MCANOCOUNT1 as not existing in the Local Reference Data Management repository. Therefore, the Inbound Liquidity Credit Transfer message is rejected.

- The Receipt message is sent by ECONS II to the CB – same DN of the sender of the LiquidityCreditTransfer message – to reject the Liquidity Transfer order.

Currency mismatch of the Contingency Accounts - Unsuccessful scenario:

In this scenario:

- ECONS II is activated;

- The current business date is 11/12/2021;
- The requested transferred amount is 150.00 EUR;
- The CB Contingency Account and the Payment Bank Contingency Account are not denominated in the same currency;
- The CB sends a LiquidityCreditTransfer message in order to move liquidity from his own account (CBECOCOUNT1, denominated in EUR) to the Payment Bank Contingency Account (ECONSDKKCOUNT1, denominated in DKK).
- ECONS II receives the message and identifies:
    - The Account to be credited (ECONSDKKCOUNT1) from the Creditor Account;
    - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency;

The contingency component detects a mismatch between the currency of the LT and the currency of the credited account. Due to this reason, the Liquidity Credit Transfer message is rejected as long as the currency defined in the Liquidity Credit Transfer message does not match the currency in which the contingency creditor account is denominated in the reference data.

- The Receipt message is sent by ECONS II to the CB – same DN of the sender of the LiquidityCreditTransfer message – to reject the Liquidity Transfer order.

Provision of liquidity via Contingency Transit Account - successful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The Contingency Transit Account for TIPS is involved in the transaction;
- The requested transferred amount is 10,000.00 EUR;
- It is assumed that the initial leg of the liquidity transfer has been successfully settled in TIPS, i.e. by debiting the TIPS account and crediting the TIPS Transit account;
- The Contingency Transit Account and the Payment Bank Contingency Account are denominated in the same currency;
- The Contingency Transit Account balance is equal to 0.00 EUR;
- The Payment Bank Contingency Account balance is equal to 0.00 EUR;
- The ECB, or the relevant CB for any other currency different from Euro, via the Graphical User Interface, submits a Liquidity Transfers in order to move liquidity from the Contingency Transit Account (TIPSTCOUNT1) to the Payment Bank Contingency Account (ECONSCOUNT1).
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT1) from the Creditor Account;
    - The Account to be debited (TIPSTCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency;

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- ECONS II settles the full amount of the Liquidity Transfer Instruction. The Inbound Liquidity Transfer Order is set to *Settled*.
- After the successful settlement the balances of the two involved accounts are respectively:
  - The Contingency Transit Account balance is equal to -10,000.00 EUR;
  - The Payment Bank Contingency Account balance is equal to 10,000.00 EUR.
- Either (i) a Receipt message is sent by ECONS II to the authorised CB Actor – same DN of the sender of the LiquidityCreditTransfer message – or (ii) a notification towards the GUI is produced to confirm the execution of the order.

Provision of liquidity from an external CMS - successful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The CB Contingency Account and the Payment Bank Contingency Account are denominated in the same currency;
- The Payment Bank Contingency Account shall be in the datascope of the selected Central Bank;
- The requested transferred amount is 2,000.00 EUR;
- The CB Contingency Account balance is equal to 0.00 EUR;
- The Payment Bank Contingency Account balance is equal to 0.00 EUR;
- The CMS sends a LiquidityCreditTransfer message in order to move liquidity from the CB Contingency Account (CBECOCOUNT1) to a Payment Bank Contingency Account (ECONSCOUNT1).
- ECONS II receives the request and identifies:
  - The CMS is recognised by ECONS II as entitled to send the Liquidity Transfer and authorised to debit the Debtor Account;
  - The Account to be credited (ECONSCOUNT1) from the Creditor Account;
  - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
  - The amount and the currency from the Transferred Amount/Currency;
- ECONS II settles the full amount of the Liquidity Transfer Instruction. The Inbound Liquidity Transfer Order is set to *Settled*.
- After the successful settlement the balances of the two involved accounts are respectively:
  - The CB Contingency Account balance is equal to -2,000.00 EUR;
  - The Payment Bank Contingency Account balance is equal to 2,000.00 EUR.
- The Receipt message is sent by ECONS II to the CMS – same DN of the sender of the LiquidityCreditTransfer message – to confirm the execution of the order.

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4.2.2 Outbound Liquidity Transfer

This section describes the processing of a Liquidity Transfer order which moves the liquidity from a PB Contingency Account to either a CB Contingency Account or a Contingency Transit Account.

The following ECONS II Actors are involved in the Outbound Liquidity Transfer business processing:

- The Central Bank which instructs the Liquidity Transfer;
- ECONS II that receives and confirms the request from the instructing party;
- The CB application that receives and confirms the request from ECONS II.

The following messages are envisaged in the Outbound Liquidity Transfer business processing:

- Liquidity Credit Transfer: the message which enables the sender to instruct the transfer liquidity from a Contingency Account to either a CB Contingency Account or a Contingency Transit Account;
- Receipt: the message sent by ECONS II to the CB to confirm/reject the execution of an Outbound Liquidity Transfer.

Central Banks shall be able to initiate an Outbound Liquidity Transfer even if the closing date of the Contingency Account is exceeded and regardless of the Contingency Account's blocking status.

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The process described below is triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user has been already successfully performed by ESMIG. The table below describes each single step of the Outbound Liquidity Transfer process.

Table 19 – Outbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	CB application as sender ECONS II as receiver	ECONS II receives an Outbound Liquidity transfer request from the CB Application. Technical validation, check of mandatory fields, LT Duplicate check and authentication checks have already been successfully executed by ESMIG.
2		ECONS II	ECONS II successfully executes the following checks: • ECO0003 (Check on consistency in the currency denomination of the Contingency Accounts); • ECO0004 (Check on settlement date coherence); • ECO0005 (Check on digits after decimal currency); • ECO0006 (Amount greater than zero); • ECO0007 (Check if a Contingency Transit Account is involved); • ECO0009 (Creditor BIC/Account and Debtor BIC/Account cannot be equal); • ECO0010 (Requestor party type not allowed); • ECO0013 (BIC(s) and/or Account(s) inserted in Creditor and/or Debtor filed(s) do not match); • ECO0022 (Correct status of the contingency component); • ECO0023 (Check on sender); • ECO0024 (Privilege check); • ECO0025 (Contingency Accounts or BICs existing and active in the contingency component); • ECO0026 (Debited Contingency Account in the correct data scope); • ECO0027 (Sufficient liquidity in the debited Contingency Account balance); • ECO0052 (Check if the transaction is related to a currency already acknowledged during the closing process). From now on: • the identified Contingency Account is referred to as "Contingency Account to be debited"; • the Creditor Contingency Account indicated in the Liquidity Transfer Order is referred to as "Contingency Account to be credited". See 6.1- Business Rules~~Business Rules~~ for details.

Step	Involved messages	Involved actors	Description
2e	Receipt	ECONS II as sender CB application as receiver	ECONS II executes the checks of step 2. As soon as the first check fails the validation process stops and ECONS II generates a rejection message towards the CB application containing the proper error code. The message is routed in outbound direction by using the DN of the sender of the Outbound Liquidity Transfer. If an error is detected, the status of the Outbound Liquidity Transfer Order is set to "*Failed*".
3		ECONS II	ECONS II settles the full amount of the Liquidity Transfer Order, debiting Contingency Account to be debited and crediting either the CB contingency Account or Contingency Transit Account to be credited. The status of the Inbound Liquidity Transfer is set to "*Settled*".
4	Receipt	ECONS II as sender CB application as receiver	ECONS II notifies the CB application about the final status of the transaction. The message is routed in outbound direction by using the DN of the sender of the Outbound Liquidity Transfer.

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4.2.2.1 Examples

This sub-section presents some examples related to the Outbound Liquidity Transfer process for the following scenarios:

- Repatriation of liquidity via CB Contingency Account (see §0)
- Repatriation of liquidity via Contingency Transit Account (see §0)
- Outbound LT rejection due to insufficient funds in ECONS II (see §0)

Repatriation of liquidity via CB Contingency Account - Successful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The CB Contingency Account and the Payment Bank Contingency Account are denominated in the same currency;
- The Payment Bank Contingency Account balance is equal to 10,350.00 EUR;
- The CB Contingency Account balance is equal to -250,350.00 EUR;
- The CB sends a LiquidityCreditTransfer message in order to move liquidity from a Payment Bank Contingency Account (ECONSCOUNT1) to the CB Contingency Account (CBECOCOUNT1).
- ECONS II receives the request and identifies:
    - The Account to be credited (CBECOCOUNT1) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Liquidity Transfer Instruction. The Outbound Liquidity Transfer Order is set to *Settled*.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account balance is equal to 0.00 EUR;
    - The CB Contingency Account balance is equal to -240,000.00 EUR.
- The Receipt message is sent by ECONS II to the CB System to confirm the execution of the order.

Repatriation of liquidity via Contingency Transit Account - Successful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;

- The Contingency Transit Account and the Payment Bank Contingency Account are denominated in the same currency;
- The Participant Contingency Account balance is equal to 2,999.00 EUR ;
- The Contingency Transit Account balance is equal to -12,999.00 EUR;
- The CB sends a LiquidityCreditTransfer message in order to move liquidity from a Payment Bank Contingency Account (ECONSCOUNT1) to the Contingency Transit Account for TIPS (TIPSTCOUNT1).
- ECONS II receives the request and identifies:
    - The Account to be credited (TIPSTCOUNT1) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Liquidity Transfer Instruction. The Outbound Liquidity Transfer Order is set to *Settled*.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account balance is equal to 0.00 EUR;
    - The Contingency Transit Account balance is equal to -10,000.00 EUR.
- The Receipt message is sent by ECONS II to the CB System – same DN of the sender of the LiquidityCreditTransfer message – to confirm the execution of the order.

Outbound LT rejected for insufficient funds in ECONS II - Unsuccessful scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The Payment Bank Contingency Account balance is equal to 150.00 EUR;
- The CB sends a LiquidityCreditTransfer message in order to move liquidity from the Payment Bank Contingency Account (ECONSCOUNT1) to the CB Contingency Account (CBECOCOUNT1);
- ECONS II receives the request and identifies:
    - The Account to be credited (CBECOCOUNT1) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.
- The contingency component detects that the funds available on the Payment Bank Contingency Account involved in the settlement under process are insufficient.
- The status of the Outbound Liquidity Transfer Order is set to *Failed* and a Receipt message is sent by ECONS II in order to inform the CB.

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4.3 Payment Transactions

This section describes Payment Order Transactions and Ancillary System Transfer Initiation.

Since the delivery of Payment Transactions in A2A mode is only available to Central Banks, the result of any Payment Order transaction submitted by ECONS II Actors different from CBs can be verified only on the GUI screen.

Contingency Technical Accounts cannot be involved in any Payment Order Transactions.

Functionality “agree/disagree” on the processing of each payment is applied only to payments entered by participants different than CBs via U2A.

Any Payment Order transaction submitted by Participant (in U2A only) whose Contingency Account is blocked shall be always explicitly approved (or rejected) by the relevant CB even if the “agree/disagree” functionality is not enabled.

On the other hand, checks on Payment Orders submitted by a Central Bank on behalf of one of their Participants, whose Contingency Account is blocked, are not performed.

The contingency component allows Central Banks to send transaction files for Ancillary Systems on their behalf in A2A mode only. The contingency component shall ensure that the files contain a list of single payment orders (ASTransferInitiation).

The contingency component supports a “quasi”-model A, therefore once an AS Transfer Initiation is successfully validated the ECONS II shall verify that all debits can be settled, then the whole file is processed. First debit balances are booked on Payment Bank Contingency Accounts and therefore liquidity is blocked until last debit position is covered. Afterwards all credit balances are immediately booked. If one of the debit payments cannot be settled the process “debit first” is stopped and debits already booked are reversed via an automatic procedure.

The “agree/disagree” functionality on the processing of each payment is not applied to payments entered via file by CBs on behalf of ASs.

Payments entered via file by the CB, on behalf of the AS, involving as debtor a blocked Payment Bank Contingency Account (in the datascope of the requestor CB), do not trigger the blocking check.

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4.3.1 Payment Order Transactions

This section describes Payment Order Transactions sent by the CBs on behalf of their participants in A2A mode.

The details on the single steps are described in the following table.

Table 20 – Payment Order Transactions steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	CB application as Sender	ECONS II receives an incoming Payment Order Transaction request from the CB application. Technical validation, check of mandatory fields, LT duplicate check and authentication checks have already been successfully executed.
2		ECONS II	ECONS II successfully executes the following checks: • ECO0003 (Check on consistency in the currency denomination of the Contingency Accounts); • ECO0004 (Check on settlement date coherence); • ECO0005 (Check on digits after decimal currency); • ECO0006 (Amount greater than zero); • ECO0007 (Check if a Contingency Transit Account is involved); • ECO0009 (Creditor BIC/Account and Debtor BIC/Account cannot be equal); • ECO0010 (Requestor party type not allowed); • ECO0013 (BIC(s) and/or Account(s) inserted in Creditor and/or Debtor filed(s) do not match); • ECO0022 (Correct status of the contingency component); • ECO0023 (Check on sender); • ECO0024 (Privilege check); • ECO0025 (Contingency Accounts or BICs existing and active in the contingency component); • ECO0026 (Debited Contingency Account in the correct data scope); • ECO0027 (Sufficient liquidity in the debited Contingency Account balance); • ECO0052 (Check if the transaction is related to a currency already acknowledged during the closing process). From now on, the Creditor Contingency account indicated in the Payment Order Transaction is referred to as "Contingency Account to be credited".

Step	Involved messages	Involved actors	Description
			See 6.1- Business Rules~~Business Rules~~ for details.
2e	Receipt	ECONS II as Sender CB application as receiver	ECONS II executes the checks of step 2. As soon as one check fails the validation process stops and it sends a rejection message to the CB application – same DN of the Sender – containing the proper error code. The status of the Inbound Payment Order Transaction is set to "*Failed*".
3		ECONS II	The system selects the debtor Contingency Account to be debited from the Debtor Agent. From now on, the identified debtor Contingency Account is referred to as "Contingency Account to be debited".
4		ECONS II	ECONS II settles the full amount of the Payment Order Transaction, debiting the Contingency Account to be debited and crediting the Contingency Account to be credited. The status of the Payment Order Transaction is set to "*Settled*".
5	Receipt	ECONS II as Sender CB application as receiver	ECONS II notifies the CB application about the final status of the transaction.

4.3.1.1 Examples

This sub-section presents some examples related to the Payment Order processing for the following scenarios:

- Settlement of a Payment Order when debiting a CB Contingency Account (see §0)
- Rejection of a Payment Order when attempting to hold a negative balance (see §0)

- Settlement of a Payment Order between two PB Contingency Accounts (see §0)
- Rejection of a Payment Order between Contingency Accounts due to account not existing) (see §0)
- Rejection of a Payment Order between Contingency Accounts due to currency mismatch (see §0)
- Settlement of a Payment Order between CB Contingency Accounts (see §0)
- PB Contingency Account with agree/disagree function deactivated (see §0)
- PB Contingency Account on debiting side blocked with agree/disagree function activated – Positive scenario (see §0)
- PB Contingency Account on debiting side blocked with agree/disagree function deactivated (see §2.3.1.1.9)
- PB Contingency Account on crediting side blocked with agree/disagree function activated (see §0)
- PB Contingency Account on crediting side blocked with agree/disagree function deactivated (see §0)
- Settlement of a Payment Order between PB Contingency Accounts inserted by CB with agree/disagree activated (see §0)

Payment Order resulting in a debited CB Contingency Account to hold negative balance - Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The CB Contingency Account and the Payment Bank Contingency Account are denominated in the same currency;
- The CB Contingency Account balance is equal to 0.00 EUR;
- The PB Contingency Account balance is equal to 0.00 EUR;
- The CB sends a camt.050 message in order to debit his own account (CBECOCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT1);
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT1) from the Creditor Account;
    - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
    - The amount (2,000.00 EUR) and the currency from the Transferred Amount/Currency;
- ECONS II settles the full amount of the Credit Transfer Instruction. The Inbound Credit Transfer Order is set to *Settled*.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account balance is equal to 2,000.00 EUR;
    - The CB Contingency Account balance is equal to -2,000.00 EUR.
- The Receipt message is sent by ECONS II to the CB System (same DN of the sender of the Payment Order) to confirm the execution of the order.

Payment Order resulting into a debited PB Contingency Account to hold negative balance – Negative scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The debtor Payment Bank Contingency Account balance is equal to 0.00 EUR;
- The debtor Contingency Participant submits a Payment Order via U2A in order to transfer funds from his Payment Bank Contingency Account (ECONSCOUNT1) to another Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is enabled;
- The Payment Order is set to “waiting for CB approval”;
- The relevant CB (on debtor side) agreed to submit the payment to settlement;
- ECONS II processes the incoming request and performs the relevant checks related to the authorisations of the sending party and several business validations.

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- ECONS II receives the request and identifies:
  - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
  - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
  - The amount and the currency from the Transferred Amount/Currency.
- The contingency component detects that the resources available on the debited Payment Bank Contingency Account involved in the settlement process are insufficient. The status of the Credit Transfer Order is set to *Failed* and can be verified only via GUI.

Payment Order between Payment Bank Contingency Accounts – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two Payment Bank Contingency Account are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 150.00 EUR;
- The creditor Payment Bank Contingency Account balance is equal to 500.00 EUR;
- The debtor Contingency Participant submits a Payment Order via U2A in order to debit his own account (ECONSCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is enabled;
- The Payment Order is set to "*waiting for CB approval*";
- The relevant CB (debtor side) agreed to submit the payment to settlement.
- ECONS II receives the request and identifies:
  - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
  - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
  - The amount (100.00 EUR) and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
  - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 50.00 EUR;
  - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 600.00 EUR.

Payment Order between Contingency Accounts inserted by CB – Negative scenario (e.g. either account to be credited or debited not existing)

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Payment Bank Contingency Account (MCANOCOUNT1) does not exist in LRDM;

- The CB submits a Payment Order via U2A in order to transfer funds from an existing Payment Bank Contingency Account (ECONSCOUNT1) under its data scope to a Payment Bank Contingency Account (MCANOCOUNT1) not existing in ECONS II.
- ECONS II receives the request and identifies:
    - The Account to be credited (MCANOCOUNT1) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.
- The contingency component detects the account to be credited does not exist in the Local Reference Data repository and therefore the Credit Transfer message cannot be settled.
- The status of the Credit Transfer Order is set to Failed and can be verified only via GUI.

Payment between Contingency Accounts – Negative scenario (e.g. due to currency mismatch of the accounts)

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two Payment Bank Contingency Accounts are denominated in different currency;
- The debtor Contingency Participant submits a Payment Order via U2A in order to transfer funds from his own account (ECONSCOUNT1) to another Payment Bank Contingency Account (ECONSCOUNT2) which is denominated in a different currency:
- Agree/Disagree functionality is enabled;
- The Payment Order is set to "*waiting for CB approval*";
- The relevant CB (debtor side) agreed to submit the payment to settlement.
- ECONS II receives the message and identifies:
    - The Account to be credited (ECONSCOUNT2) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.
- The contingency component detects a mismatch between the currency of the order and the currency of the account to be credited. Therefore, the Credit Transfer message cannot be settled.
- The status of the Credit Transfer Order is set to Failed and can be verified only via GUI.

Payment Order between CB Contingency Accounts – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two CB Contingency Accounts owners are denominated in the same currency;

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- The CB submits a Payment Order via U2A in order to debit his own CB Contingency Account (CBECOCOUNT1) and to credit a CB Contingency Account (CBECXXOUNT1).
- ECONS II receives the request and identifies:
    - The Account to be credited (CBECXXOUNT1) from the Creditor Account;
    - The Account to be debited (CBECOCOUNT1) from the Debtor Account;
    - The amount and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Credit Transfer message. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.

Payment Order with agree/disagree function deactivated – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two Payment Bank Contingency Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 150.00 EUR;
- The creditor Payment Bank Contingency Account balance is equal to 500.00 EUR;
- The debtor Contingency Participant inserts information via U2A in order to debit his own account (ECONSCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is disabled.
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount (100.00 EUR) and the currency from the Transferred Amount/Currency;
- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 50.00 EUR;
    - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 600.00 EUR.

PB Contingency Account on debiting side blocked with agree/disagree function activated – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two Payment Bank Contingency Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 250.00 EUR;

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- The creditor Payment Bank Contingency Account balance is equal to 900.00 EUR;
- The Payment Bank Contingency Account of the debtor is blocked;
- The Debtor Contingency Participant inserts information via U2A in order to debit his own account (ECONSCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is enabled;
- The Payment Order is set to "*waiting for CB unblock*";
- The relevant CB (debtor side) agreed to submit the payment to settlement.
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount (100.00 EUR) and the currency from the Transferred Amount/Currency;
- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 150.00 EUR;
    - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 1,000.00 EUR.

PB Contingency Account on debiting side blocked with agree/disagree function deactivated – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two Payment Bank Contingency Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 3,250.00 EUR;
- The creditor Payment Bank Contingency Account balance is equal to 1,200.00 EUR;
- The Payment Bank Contingency Account of the debtor is blocked;
- The debtor Contingency Participant inserts information via U2A in order to debit his own account (ECONSCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is disabled;
- The Payment Order is set to "*waiting for CB unblock*";
- The relevant CB (debtor side) has to agree the payment.
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount (100.00 EUR) and the currency from the Transferred Amount/Currency.

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- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 3,150.00 EUR;
    - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 1,300.00 EUR.

PB Contingency Account on crediting side blocked with agree/disagree function activated – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- Two Payment Bank Contingency Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 1,500.00 EUR;
- The creditor Payment Bank Contingency Account balance is equal to 1,200.00 EUR;
- The Payment Bank Contingency Account of the creditor is blocked;
- The Debtor Contingency Participant inserts information via U2A in order to debit his own account (ECONSCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is enabled;
- The Payment Order is set to "*waiting for CB approval*";
- The relevant CB (debtor side) agreed the payment.
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount (1,500.00 EUR) and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 0.00 EUR;
    - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 2,700.00 EUR.

PB Contingency Account on crediting side blocked with agree/disagree function deactivated – Positive scenario

In this scenario:

- ECONS II is activated;

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- The current business date is 11/12/2021;
- Two Payment Bank Contingency Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 100,000.00 EUR;
- The creditor Payment Bank Contingency Account balance is equal to 0.00 EUR;
- The Payment Bank Contingency Account of the creditor is blocked;
- The debtor Contingency Participant inserts information via U2A in order to debit his own account (ECONSCOUNT1) and to credit a Payment Bank Contingency Account (ECONSCOUNT3);
- Agree/Disagree functionality is disabled;
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT3) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT1) from the Debtor Account;
    - The amount (50,000.00 EUR) and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
    - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 50,000.00 EUR;
    - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 50,000.00 EUR.

Payment Order between PB Contingency Accounts inserted by CB with agree/disagree activated – Positive scenario

In this scenario:

- ECONS II is activated;
- The current business date is 11/12/2021;
- The debtor Payment Bank Contingency Account (ECONSCOUNT2) balance is equal to 1,251.00 EUR;
- The creditor Payment Bank Contingency Account balance is equal to 1,250.00 EUR;
- The CB submits a Payment Order via U2A in order to transfer funds from an existing Payment Bank Contingency Account (ECONSCOUNT2) under its data scope to a Payment Bank Contingency Account (ECONSCOUNT4);
- Agree/Disagree functionality is enabled;
- Since the Payment Order is submitted by the CB, it is directly sent to settlement despite the fact that the agree/disagree functionality is enabled or not;
- ECONS II receives the request and identifies:
    - The Account to be credited (ECONSCOUNT4) from the Creditor Account;
    - The Account to be debited (ECONSCOUNT2) from the Debtor Account;

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  - The amount (1,250.00 EUR) and the currency from the Transferred Amount/Currency.
- ECONS II settles the full amount of the Credit Transfer Instruction. The Credit Transfer Order is set to *Settled* and can be verified only via GUI.
- After the successful settlement the balances of the two involved accounts are respectively:
  - The Payment Bank Contingency Account ECONSCOUNT1 balance is equal to 1.00 EUR;
  - The Payment Bank Contingency Account ECONSCOUNT3 balance is equal to 2,500.00 EUR.

4.3.2 AS Transfer Initiation

This section describes Ancillary System Transfer Initiation (pain.998) sent by the CBs on behalf of the Ancillary System in A2A mode.

The details on the single steps are described in the following table.

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Table 21 – AS Transfer Initiation steps

Step	Involved messages	Involved actors	Description
1	AS Transfer Initiation	CB application as Sender	ECONS II receives an incoming AS Transfer Initiation file from the CB application. Technical validation, check of mandatory fields, LT Duplicate check and authentication checks have already been successfully executed.
2		ECONS II	ECONS II successfully executes the following checks: • ECO0003 (Check on consistency in the currency denomination of the Contingency Accounts); • ECO0005 (Check on digits after decimal currency); • ECO0014 (blocked debited Contingency Account in the data scope of sending CB) • ECO0028 (Correct status of the contingency component); • ECO0029 (Check on the sender CB); • ECO0030 (Privilege check) • ECO0031 (Check on duplicate GroupIdentification information); • ECO0032 (Check on ControlSum field); • ECO0033 (Check on NumberOfTransactions field); • ECO0034 (Check on SettlementModel field); • ECO0035 (Check on the correctness of the message); • ECO0036 (Check on the account validity); • ECO0037 (Check on the data scope); • ECO0038 (Check on settlement date coherence); • ECO0039 (Check on validity of Settlement Bank account); • ECO0040 (Check if operation is allowed); • ECO0041 (Check if FirstAgent/FinalAgent is allowed); • ECO0042 (Consistency of FirstAgent/FinalAgent); • ECO0043 (Duplicate detection); • ECO0044 (Duplicate detection on the reference transaction); • ECO0045 (Check on duplicate end-to-end identification); • ECO0046 (Amount greater than zero); • ECO0047 (Consistency between sum of debit and sum of credit); • ECO0048 (Check on FirstAgent/FinalAgent values); • ECO0049 (Sufficient liquidity in the debited Contingency Account balance); • ECO0052 (Check if the transaction is related to a currency already acknowledged during the closing process).

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Step	Involved messages	Involved actors	Description
			From now on, the Creditor Contingency accounts indicated in the AS Transfer Initiation is referred to as "Contingency Accounts to be credited". See 6.1- Business Rules~~Business Rules~~ for details.
2e	None (Status displayed only in the screen)	ECONS II	ECONS II executes the checks of step 2. As soon as one check fails the validation process stops. The status of the AS Transfer Initiation file is set to "*Failed*" with the proper error code to be showed in U2A in case of query.
3		ECONS II	The system selects the debtor Contingency Accounts to be debited from the Debtor Agent. From now on, the identified debtor Contingency Accounts are referred to as "Contingency Accounts to be debited".
4		ECONS II	ECONS II settles the full amount of the Payment Order Transaction, debiting the Contingency Account to be debited and crediting the Contingency Account to be credited. The status of the Payment Order Transaction is set to "*Settled*".
5	None (Status displayed only in the screen)	ECONS II	The final status of the File is showed in U2A in case of query.

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4.3.2.1 Examples

This sub-section presents some examples related to the Payment Order processing for the following scenarios:

- Payment Bank Contingency Account on debiting side blocked with agree/disagree function activated (see §0);
- AS Transfer rejected due to a failure in the settlement of debits (see §0).

Payment Bank Contingency Account on debiting side blocked with agree/disagree function activated – Positive scenario

In this scenario:

- The current business date is 11/12/2021;
- The Ancillary System belongs to the sending CB;
- All the involved Payment Bank Contingency Accounts and the Contingency Technical Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account balance is equal to 15,000.00 EUR;
- The CB sends a file via A2A, on behalf of the Ancillary System (ANCILU2LXXX), in order to transfer funds from the Payment Bank Contingency Account (ECONSCOUNT1) to different Payment Bank Contingency Accounts (ECONSCOUNT3 and ECONSCOUNT4) using the Contingency Technical Account (ECONSCOUTEC);
- The Payment Bank Contingency Account of the debtor is blocked, provided that it belongs to the same country of the sending CB, the status not relevant since the file is sent by CB;
- Agree/Disagree functionality enabled – despite this function is not considered since the file is sent by CB;
- The message router component processes the incoming request and performs the relevant checks related to the authorisations of the sending party and several business validations.
- ECONS II receives the request and identifies:
    - The total number of transactions = 3
    - The sum of the payments is equal to 2,000.00 EUR
    - The Account to be debited (ECONSCOUNT1) from the first agent field when in the final agent field is mentioned a Contingency Technical Account;
    - The Account(s) to be credited (ECONSCOUNT3 and ECONSCOUNT4) from the final agent field when in the first agent field is mentioned a Contingency Technical Account;
    - The Technical Account (ECONSCOUTEC);
    - The Amounts and the currency from the Instructed Amount/Currency;
        - ECONSCOUNT1 → ECONSCOUTEC = 1,000.00 EUR
        - ECONSCOUTEC → ECONSCOUNT3 = 500.00 EUR
        - ECONSCOUTEC → ECONSCOUNT4 = 500.00 EUR

- ECONS II verifies that all the debits can be settled and only then starts to process the whole file.
- ECONS II settles all the payments included in the file and set the status to *Settled* and it can be verified only via GUI.

Debits not settled – Negative scenario

In this scenario:

- The current business date is 11/12/2021;
- The Ancillary System belongs to the sending CB;
- All the involved Payment Bank Contingency Accounts and the Contingency Technical Accounts are denominated in the same currency;
- The debtor Payment Bank Contingency Account (ECONSCOUNT1) balance is equal to 3,000.00 EUR;
- The debtor Payment Bank Contingency Account (ECONSCOUNT3) balance is equal to 100.00 EUR;
- The CB sends via A2A, on behalf of the Ancillary System (ANCILU2LXXX), in order to transfer funds from different Payment Bank Contingency Accounts (ECONSCOUNT1 and ECONSCOUNT3) to different Payment Bank Contingency Accounts (ECONSCOUNT4 and ECONSCOUNT5) using the Contingency Technical Account (ECONSCOUTEC);
- The message router component processes the incoming request and performs the relevant checks related to the authorisations of the sending party and several business validations.
- ECONS II receives the request and identifies:
    - The total number of transactions = 4
    - The sum of the payments is equal to 2,000.00 EUR (sum of debits equal sum of credits);
    - The Accounts to be debited (ECONSCOUNT1 and ECONSCOUNT3) from the first agent field when in the final agent field is mentioned a Contingency Technical Account;
    - The Accounts to be credited (ECONSCOUNT4 and ECONSCOUNT5) from the final agent field when in the first agent field is mentioned a Contingency Technical Account;
    - The Technical Account (ECONSCOUTEC);
    - The Amounts and the currency from the Instructed Amount/Currency;
        - ECONSCOUNT1 → ECONSCOUTEC = 600.00 EUR
        - ECONSCOUNT3 → ECONSCOUTEC = 400.00 EUR
        - ECONSCOUTEC → ECONSCOUNT4 = 500.00 EUR
        - ECONSCOUTEC → ECONSCOUNT5 = 500.00 EUR
- The contingency component starts to verify that all the debits can be settled:
    - ECONSCOUNT1 → ECONSCOUTEC = 600.00 EUR
    - ECONSCOUNT3 → ECONSCOUTEC = 400.00 EUR

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- After the settlement of the first debit transaction, the contingency component detects that the resources available on the Payment Bank Contingency Account (ECONSCOUNT3) involved in the second debit position under process are insufficient therefore the debit payments cannot be settled. The process “debit first” is stopped and debit already booked is reversed automatically.
- The status of the whole file is set to *Failed* and can be verified only via GUI.

4.4 Queries

This section focuses on the processing of a Query Request, with the description of the full scenario and its steps.

The section covers the scenarios in which an ECONS II CB Actor may query the system in order to obtain information regarding the (i) the status of the business day or (ii) the status of an account.

This process is characterised by the following two different types of query:

- GetBusinessDayInformation (camt.018)
- GetAccount (camt.003)

ECONS II shall take into account the access rights while processing queries and only return results if the queried data are part of the ECONS II Actor data scope, as defined in the following table.

Table 22 – Query permissions

Actor	Get Business Day Information	Get Account
Central Bank	Information of the operating day running in the contingency component. [Via U2A or A2A.]	Contingency Accounts in their books. [Via U2A or A2A.]
Payment Bank	Information of the operating day running in the contingency component. [Via U2A only]	The relevant PB Contingency Account. [Via U2A only]
Ancillary System	Information of the operating day running in the contingency component. [Via U2A only]	The relevant Contingency Technical Account. [Via U2A only]
Operator	Information of the operating day running in the contingency component. [Via U2A only]	All the Contingency Accounts in ECONS II. [Via U2A only]

If the queried data do not fall under the ECONS II Actor data scope, an error is returned.

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Table 23 – GetAccount query steps

Step	Involved messages	Involved actors	Description
1	GetAccount	CB as sender ECONS II as receiver	ECONS II receives an incoming query from the CB Actor. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
2		ECONS II	ECONS II successfully executes the checks: • ECO0001 (Validity of the search criteria); • ECO0015 (Check on settlement date coherence); • ECO0016 (Check on the query sender); • ECO0017 (Privilege check); • ECO0018 (Existence of the Contingency Account); • ECO0019 (Check on the data scope); See 6.1- Business Rules~~Business Rules~~ for details.
2e	ReturnAccount	ECONS II as sender CB as receiver	ECONS II unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the CB – same DN of the sender – containing the proper error code.
3		ECONS II	ECONS II retrieves the data corresponding to the submitted query and its input parameters.
4	ReturnAccount	ECONS II as sender CB as receiver	The system sends a message to the CB – same DN of the query sender – containing the query results.

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Table 24 – GetBusinessDayInformation query steps

Step	Involved messages	Involved actors	Description
1	GetBusinessDayInformation	CB as sender ECONS II as receiver	ECONS II receives an incoming query from the CB Actor. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
2		ECONS II	ECONS II successfully executes the following checks: • ECO0002 (Check on the RequestType field); • ECO0020 (Check on the query sender); • ECO0021 (Privilege check); See 6.1- Business Rules~~Business Rules~~ for details.
2e	ReturnBusinessDayInformation	ECONS II as sender CB as receiver	ECONS II unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the CB – same DN of the sender – containing the proper error code.
3		ECONS II	ECONS II retrieves the data corresponding to the submitted query and its input parameters.
4	ReturnBusinessDayInformation	ECONS II as sender CB as receiver	The system sends a message to the CB – same DN of the query sender – containing the query results.

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4.5 Reports

This section describes the report available in ECONS II and the provisioning to the ECONS II Actors.

ECONS II provides the following report type:

- Statement of Accounts.

ECONS II provides ECONS II Actors with reports on their accounts based on the permissions listed in the following table.

Table 25 – Report permissions and data scope

Actor	Statement of Accounts
Central Bank	All the accounts under its responsibility
Payment Bank and Ancillary System	Own accounts

4.5.1 Statement of Accounts

The Statement of Accounts report provides detailed information via screen all the transactions settled[22] for the Contingency Accounts in the data scope of the Recipient actor. ECONS II provides the following details:

- Internal Transfer Identifier
- Payment transaction reference;
- Debit/Credit Indicator
- Payment transaction Amount;
- Sender BIC;
- Participant BIC (debtor/creditor BIC;
- Counterpart BIC;
- Status of the transaction;
- Entry time;
- Finality time
- Error code;
- Error description.

[22] These transactions are payment transactions or liquidity transfers.

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5 Catalogue of messages

This section aims at describing the detailed specifications of the A2A messaging resources used in ECONS II. It is the reference guide to cover the business needs. Together with published XSD schemas, it is the reference guide for developing software components interacting with ECONS II.

All of the messages are registered in ISO 20022 standards or have been submitted to the Registration Authority for starting the registration process.

5.1 Introduction

Following ISO 20022 business domains classification, messages from four different domains are used to cover the different business scenarios:

- Cash Management
- Headers
- Administration
- Payment initiation

5.2 General information

A2A Interactions with ECONS II are based on XML ISO 20022 standards and anyway limited to the Central Banks only.

5.2.1 Message signing

The message signature is handled in the ESMIG component. After successful validation, the ESMIG passes on to ECONS II pieces of information that will be stored within ECONS II repository, including sender's information and signature and technical network parameters, that would be required for Non-Repudiation of Origin (NRO) purposes.

No further processing but storing is performed in ECONS II with such pieces of information.

5.2.2 Technical validation at transport and business level

Technical validation at transport level of incoming messages is performed in two different steps:

1) Schema validation;
2) Additional technical validation.

Both aforementioned steps are performed within the ESMIG common component.

The schema validation at business level is performed by ECONS II using standard parser components. Every message is validated against the published XSD subset for ECONS II. The additional technical validation includes all of the checks which cannot be done in the schema validation with an automated

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parsing process (e.g. cross fields validation). They are performed only for messages which have passed the schema validation at business level.

The type and quantity of the checks performed vary depending on the message type and on ISO message constraints.

Rejection occurring for both schema validation and additional technical validation check is reported in the same way, by using a ReceiptAcknowledgement.

Regarding the use of namespace prefixes, ECONSII does not encourage but accepts and processes valid inbound messages containing those.

However, when sending outbound messages, ECONSII does not re-use nor add namespace prefixes.

5.2.3 Supported Character Set

ECONS II fully supports UTF-8 Character Set.

The character set is restricted for references and identifiers to support the Latin characters which are commonly used in international communication.

The complete list is as follows:

a b c d e f g h i j k l m n o p q r s t u v w x y z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

0 1 2 3 4 5 6 7 8 9

/ - ? : ( ) . , ' +

As additional rules, it is required that references, identifications and identifiers must not start or end with '/' or contain '//'.

5.3 Messages usage

5.3.1 List of messages

In the following table, messages are grouped by ISO 20022 business domain.

Table 26 – List of messages

ISO Message	Message Name	Scenario
Cash Management		
camt.003	GetAccount	Queries
camt.004	ReturnAccount	Queries
camt.018	GetBusinessDayInformation	Queries
camt.019	ReturnBusinessDayInformation	Queries

ISO Message	Message Name	Scenario
camt.025	Receipt	Liquidity Management
camt.050	LiquidityCreditTransfer	Liquidity Management
camt.053	BankToCustomerStatement	General Ledger
Headers		
head.001	Business Application Header	BAH
Admin		
admi.007	ReceiptAcknowledgment	Error response
Payment Initiation		
pain.998	ASTransferInitiation	AS file transaction

5.3.2 Messages description

5.3.2.1 Cash Management (camt)

GetAccount (camt.003)

The GetAccount message is sent by a CB to ECONS II to request balances of one account.

In response to the GetAccount message, a ReturnAccount (camt.004) message containing the requested information is returned.

Detailed information about GetAccountmessage could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/camt.003.001.08_CLM

Business rules applicable to the schema

MESSAGE ITEM	BUSINESS RULES
Get Account Document/GetAcct/AcctQryDef	ECO0015 ECO0016

MESSAGE ITEM	BUSINESS RULES
	ECO0017
Account Identification Document/GetAcct/AcctQryDef/AcctCrit/NewCrit/SchCrit/AcctId/EQ/Othr/Id	ECO0001 ECO0018 ECO0019

The message in business context

Usage case: Available Liquidity Query

In this usage case, the sender requests information regarding the liquidity available on an account within their query criteria.

Specific message requirements

MESSAGE ITEM	UTILISATION
Message Identification Document/GetAcct/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Account Identification Document/GetAcct/AcctQryDef/AcctCrit/NewCrit/SchCrit/AcctId/EQ/Othr/Id	For each GetAccount message, only account number can be used as search criteria.

Usage case example 1: camt.003_CLM_GetAccount_AvailableLiquidityCLMQuery_Example.xml

In this example, a *GetAccount* is instructed. It illustrates the mandatory elements in the message.

ReturnAccount (camt.004)

The ReturnAccount message is sent by ECONS II to the CB sender of a previously sent GetAccount message to provide information on the balances of one account. It returns a positive response or a detailed information in case of an error.

Detailed information about ReturnAccount message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

Within ECONS II, the ReturnAccount message is used in response to the GetAccount (camt.003) message, as:

– *Available Liquidity Query (Data or Error response)*

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:
http://www.swift.com/mystandards/CLM/camt.004.001.10_CLM

Business rules applicable to the schema

Not applicable (outgoing message).

The message in business context

Usage case: Available Liquidity Query (Data response)

In this usage case, the recipient of the message is being informed regarding all liquidity available on the account.

Specific message content

MESSAGE ITEM	UTILISATION
Message Identification Document/RtrAcct/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Original Business Query Document/RtrAcct/MsgHdr/OrgnlBizQry/MsgId	BizMsgIdr of the GetAccount (camt.003) copied from the BAH
Account Identification Document/RtrAcct/RptOrErr/AcctRpt/AcctId/Othr/Id	Unique and unambiguous identification for the account
Currency Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ccy	Specifies the currency of the cash account being reported
Account Owner Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ownr/Id/OrgId/AnyBIC	BIC of the Account Holder owning the account which is being queried
Multilateral Balance Amount Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/Amt	Amount of money of the cash balance
Multilateral Balance Credit Debit Indicator Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/CdtDbtInd	Indicates whether the balance is a credit or a debit balance. A zero balance is considered to be a credit balance. In the case of BalanceTypeCode NOTE it defines whether it is an earmarked payment for debits or credits
Multilateral Balance Type Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/Tp/Cd	Specifies the nature of a balance which is being reported. OPNG (Opening balance) BLCK (Requirement for minimum reserve) ADJT (Adjustment balance for minimum reserve) PRAV (Running average for minimum reserve) CLSG (Closing balance) if the account is not active, but a balance greater than zero is still present, CLSG is used AVLB (Available liquidity (only MCA balance)) (If reservation for seizure of funds is set up, then available liquidity is already reduced by the seizured amount.) CRRT (Current balance (also used in spillover notification)) DLOD (Daylight overdraft) credit line if granted only on default MCA NOTE (Timed payments (earmarked)) XPCD projected liquidity (only PDNG status is possible)

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MESSAGE ITEM	UTILISATION
	LTSF (Liquidity transfer) (After final execution of all cash transfers and credit line changes with intermediate status this balance type reports the reached available liquidity) CRDT (sum of credits) DBIT (sum of debits)
Multilateral Balance Type Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/Tp/Prtry	Not used in ECONSII
Value Date Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/ValDt/Dt	Business day
Processing Date Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/PrcgDt/Dt	Calendar date

Usage case example 1: camt.004_CLM_ReturnAccount_AvailableLiquidityQuery _Example.xml

In this example, a ReturnAccount is sent to CB to provide information about the available balance information on the account ACC001.

Usage case: Available Liquidity Query (Error response)

In this usage case, the recipient of the message is being informed of an operational error which occurred while attempting to fulfil a previously sent GetAccount (camt.003).

Specific message content

MESSAGE ITEM	UTILISATION
Message Identification Document/RtrAcct/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Original Business Query Document/RtrAcct/MsgHdr/OrgnlBizQry/MsgId	BizMsgIdr of the GetAccount (camt.003) copied from the BAH
Error Code Document/RtrAcct/RptOrErr/OprlErr/Err/Prtry	Specification of the error, in proprietary code
Error Description Document/RtrAcct/RptOrErr/OprlErr/Desc	Specification of the error, in free format

Usage case example 2: camt.004_CLM_ReturnAccount_AccountBalanceQueryError _Example.xml

In this example, a ReturnAccount is sent to CB to provide information about an operational error which has occurred.

GetBusinessDayInformation (camt.018)

The GetBusinessDayInformation message is sent by a CB to ECONS II to request the system time and the status of the system.

In response to the GetBusinessDayInformation message, a __ReturnBusinessDayInformation ~~ReturnBusinessDayInformation~~ (camt.019) message containing the requested information is returned.

Detailed information about GetBusinessDayInformation message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/camt.018.001.05_CLM

Business rules applicable to the schema

MESSAGE ITEM	BUSINESS RULES
Get Business Day Information Document/GetBizDayInf/MsgHdr	ECO0020 ECO0021
Request Type Document/GetBizDayInf/MsgHdr/ReqTp	ECO0002

The message in business context

Usage case: Business Date and Status Query

In this usage case, the sender requests information regarding the system time and the status of the system.

Specific message requirements

MESSAGE ITEM	UTILISATION
Message Identification Document/GetBizDayInf/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH

Usage case example 1: camt.018_CLM_GetBusinessDayInformation_SystemTimeQuery _Example.xml

In this example, a GetBusinessDayInformation is instructed. It illustrates the mandatory elements in the message.

ReturnBusinessDayInformation (camt.019)

The ReturnBusinessDayInformation ~~ReturnBusinessDayInformation~~ message is sent by ECONS II to the CB sender of a previously sent GetBusinessDayInformation message and returns a positive response or a detailed information in case of an error.

Detailed information about ReturnBusinessDayInformation ~~ReturnBusinessDayInformation~~ message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

Within ECONS II, the ReturnBusinessDayInformation ~~ReturnBusinessDayInformation~~ message is used in response to the GetBusinessDayInformation (camt.018) message, as:

– *Business Date and Status Query (Data or Error response)*

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/camt.019.001.07_CLM

Business rules applicable to the schema

Not applicable (outgoing message).

The message in business context

Usage case: Business Date and Status Query (Data response)

In this usage case, the recipient of the message is being informed regarding the details of the system time and status of the system.

Specific message content

MESSAGE ITEM	UTILISATION
Message Identification /Document/RtrBizDayInf/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Message Identification Document/RtrBizDayInf/MsgHdr/OrgnlBizQry/MsgId	BizMsgIdr of the GetBusinessDayInformation (camt.018) copied from the BAH
System ID Document/RtrBizDayInf/RptOrErr/BizRpt/SysId/MktInfrstrctrId/Cd	CLM
Business Date Document/RtrBizDayInf/RptOrErr/BizRpt/BizDayOrErr/BizDayInf/SysDt/Dt	Current business date.In case of closure of ECONSII, 9999-12-31 is returned
Currency /Document/RtrBizDayInf/RptOrErr/BizRpt/BizDayOrErr/BizDayInf/SysInfPerCcy/SysCcy	Currency
Status Identification Document/RtrBizDayInf/RptOrErr/BizRpt/BizDayOrErr/BizDayInf/SysInfPerCcy/Evt/Tp/Prtry/Id	Status of the system, in proprietary code CLSD - Close ACTV - Open SUSP – Lock CLSG – Closing MAWI – Maintenance Window

MESSAGE ITEM	UTILISATION
Scheduled Time Document/RtrBizDayInf/RptOrErr/BizRpt/BizDayOrErr/BizDayInf/SysInfPerCcy/Evt/SchdldTm	Date and time of the change of the status

Usage case example 1: camt.019_CLM_ReturnBusinessDayInformation_SystemTimeQuery _Example.xml

In this example, a _ReturnBusinessDayInformation ~~_ReturnBusinessDayInformation~~ is sent to CB to provide information about the system time and the status of the system.

Usage case: Business Date and Status Query (Error response)

In this usage case, the recipient of the message is being informed of an operational error which occurred while attempting to fulfil a previously sent GetBusinessDayInformation (camt.018).

Specific message content

MESSAGE ITEM	UTILISATION
Message Identification Document/RtrBizDayInf/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Message Identification Document/RtrBizDayInf/MsgHdr/OrgnlBizQry/MsgId	BizMsgIdr of the GetBusinessDayInformation (camt.018) copied from the BAH
Proprietary Document/RtrBizDayInf/RptOrErr/OprlErr/Err/Prtry	Proprietary code for the problem being informed
Description Document/RtrBizDayInf/RptOrErr/OprlErr/Desc	Description of the problem being informed

Usage case example 2: camt.019_CLM_ReturnBusinessDayInformation_SystemTimeQueryError _Example.xml

In this example, a _ReturnBusinessDayInformation ~~_ReturnBusinessDayInformation~~ is sent to CB to provide information about an operational error which has occurred.

Receipt (camt.025)

The *Receipt* message is sent by ECONS II to the business sender of a previously sent inbound message, which returns a positive response or provides detailed information in case of an error.

Detailed information about *Receipt* message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

Within ECONS II, the *Receipt* message is used in response to the LiquidityCreditTransfer (camt.050) message, as:

- liquidity transfer order rejection notification;
- liquidity transfer order fail notification;
- liquidity transfer order settlement notification.

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/camt.025.001.09~~7~~ CLM **{T2 CR0147}**

Business rules applicable to the schema

Not applicable (outgoing message).

The message in business context

Usage case: Settlement Status

In this usage case, the Receipt message is used as answer to a LiquidityCreditTransfer (camt.050) message to report the status.

Specific message content

MESSAGE ITEM	UTILISATION
Message Id Document/Rct/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Request Type Document/Rct/MsgHdr/ReqTp/Prtry/Id	“VSTS” – validation status “SSTS” – settlement status
Original message Identification Document/Rct/RctDtls/OrgnlMsgId/MsgId	Copy of the BizMsgIdr used in the BAH of the inbound message sent to ECONS II.
Status Code Document/Rct/RctDtls/ReqHdlg/StsCd	If ReqTp = VSTS, then Error code. If ReqTp = SSTS, then SSET (Settled).
Description Document/Rct/RctDtls/ReqHdlg/Desc	If StsCd = Error code, then Error description.

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Usage case example: camt.025_CLM_Receipt_SSTS

In this example, ECONS II sends a camt.025 to the business sender of camt.050 with Original MessageID “Inb-camt050MsgId”, Validation Status Type (SSTS) and Status Code (SSET), informing that the camt.050 is settled.

LiquidityCreditTransfer (camt.050)

The LiquidityCreditTransfer message is sent by a CB to ECONS II as business receiver used to request a transfer of funds between two cash accounts.

In response to the LiquidityCreditTransfer message, a Receipt (camt.025) message containing the status of the liquidity transfer is returned to the business sender.

Detailed information about LiquidityCreditTransfer message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/camt.050.001.07_CLM

Business rules applicable to the schema

MESSAGE ITEM	BUSINESS RULES
Liquidity Credit Transfer Document/LqdtyCdtTrf/LqdtyCdtTrf	ECO0022 ECO0023 ECO0024 ECO0052
Amount Document/LqdtyCdtTrf/LqdtyCdtTrf/TrfdAmt/AmtWthCcy	ECO0003 ECO0005 ECO0006 ECO0027
Settlement date Document/LqdtyCdtTrf/LqdtyCdtTrf/SttlmDt	ECO0004
Creditor Account Identification Document/LqdtyCdtTrf/LqdtyCdtTrf/CdtrAcct/Id/Othr/ID	ECO0007 ECO0008 ECO0009 ECO0013 ECO0025
Creditor Document/LqdtyCdtTrf/LqdtyCdtTrf/Cdtr/FinInstnId/BICFI	ECO0007 ECO0008 ECO0009 ECO0013 ECO0025
Debtor Account Identification Document/LqdtyCdtTrf/LqdtyCdtTrf/DbtrAcct/ID/Othr/ID	ECO0007 ECO0009 ECO0013 ECO0025 ECO0026
Debtor	ECO0007

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MESSAGE ITEM	BUSINESS RULES
Document/LqdtyCdtTrf/LqdtyCdtTrf/Dbtr/FinInstnId/BICFI	ECO0009 ECO0013 ECO0025 ECO0026

The message in business context

Usage case: Liquidity Transfer Order

In this usage case, the sender requests a transfer of liquidity between two accounts.

Specific message requirements

MESSAGE ITEM	UTILISATION
Message Identification Document/LqdtyCdtTrf/MsgHdr/MsgId	Value "NONREF" as the message ID is already part of the BAH
Instruction Identification Document/LqdtyCdtTrf/LqdtyCdtTrf/LqdtyTrfId/InstrId	If provided, then only the value “NOT PROVIDED” are allowed.
End to End Identification Document/LqdtyCdtTrf/LqdtyCdtTrf/LqdtyTrfId/EndToEndId	Unique identification assigned by the initiating party to unambiguously identify the transaction.
Creditor Document/LqdtyCdtTrf/LqdtyCdtTrf/Cdtr/FinInstnId/BICFI	If provided must be a BIC. It should be filled in case of “NONREF” for Creditor and Debtor Account Identifications.
Creditor Account Identification Document/LqdtyCdtTrf/LqdtyCdtTrf/CdtrAcct/Id/Othr/ID	Creditor Account Identification. If “NONREF“, then Creditor and Debtor BICs should be used.
Transferred Amount Document/LqdtyCdtTrf/LqdtyCdtTrf/TrfdAmt/AmtWthCcy	Amount to be transferred
Debtor Document/LqdtyCdtTrf/LqdtyCdtTrf/Dbtr/FinInstnId/BICFI	If provided must be a BIC. It should be filled in case of “NONREF” for Creditor and Debtor Account Identifications.
Debtor Account Identification Document/LqdtyCdtTrf/LqdtyCdtTrf/DbtrAcct/ID/Othr/ID	Debtor Account Identification. If “NONREF“, then Creditor and Debtor BICs should be used.
Settlement Date Document/LqdtyCdtTrf/LqdtyCdtTrf/SttlmDt	If used must be the current business date.

Usage case example: camt.050_CLM_LiquidityCreditTransfer_MCA_MCA

In this usage case, the business sender is instructing a movement of EUR 100,000.00 from a Contingency Account into another Contingency Account.

Usage case example: camt.050_ECONSII_payment

In this usage case, the business sender is instructing a payment EUR 10,000.00 from a Contingency Account into another Contingency Account using Debtor/Creditor BICs instead of Account Numbers.

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BankToCustomerStatement (camt.053)

The BankToCustomerStatement message is sent by ECONS II as general ledger message to the CBs, immediately after its creation.

Detailed information about *BankToCustomerStatement (camt.053)* message can be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/camt.053.001.1~~42~~_CLM_GeneralLedger **{T2 CR0170}**

Business rules applicable to the schema

Not applicable (outgoing message).

The message in business context

Usage case: General Ledger File

In this usage case, ECONS II delivers a general ledger file to the CBs. The CBs are informed of opening and closing balances, total debits and credits on general ledger accounts in their data scope.

Specific message content

MESSAGE ITEM	UTILISATION
Document/BkToCstmrStmt/GrpHdr/MsgId	Value “NONREF” as the message ID is already part of the BAH
Document/BkToCstmrStmt/GrpHdr/CreDtTm	Date and time at which the message was created
Statement Identification Document/BkToCstmrStmt/Stmt/ID	Identification of the settlement service for which the general ledger is produced. - Value “ECONS” is used.
Account Identification Document/BkToCstmrStmt/Stmt/Acct/ID/Othr/ID	Account number
Account Owner Document/BkToCstmrStmt/Stmt/Acct/Ownr/Id/OrgId/AnyBIC	Party BIC owning the account
Balance type Document/BkToCstmrStmt/Stmt/Bal/Tp/CdOrPrty/Cd	Type of balance OPBD CLBD
Balance amount Document/BkToCstmrStmt/Stmt/Bal/Amt/	Amount of balance
Balance credit/debit Document/BkToCstmrStmt/Stmt/Bal/Amt	Credit or debit indicator for the balance amount CRDT

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MESSAGE ITEM	UTILISATION
	DBIT
Balance date Document/BkToCstmrStmt/Stmt/Bal/Dt/Dt	Date of the balance
Sum of all credit entries Document/BkToCstmrStmt/Stmt/TxsSummry/TtlCdtNtries/Sum	Total sum of all of credit entries on statement
Sum of all debit entries Document/BkToCstmrStmt/Stmt/TxsSummry/TtlDbtNtries/Sum	Total sum of all of debit entries on statement
Entry ID Document/BkToCstmrStmt/Stmt/Ntry/NtryRef	Not returned by ECONS II
Amount Document/BkToCstmrStmt/Stmt/Ntry/Amt	Not returned by ECONS II
Credit debit ind Document/BkToCstmrStmt/Stmt/Ntry/CrdDbtInd	Not returned by ECONS II
Status Document/BkToCstmrStmt/Stmt/Ntry/Sts/Cd	Not returned by ECONS II
Booking datetime Document/BkToCstmrStmt/Stmt/Ntry/BookgDt/DtTm	Not returned by ECONS II
Value date Document/BkToCstmrStmt/Stmt/Ntry/ValDt/Dt	Not returned by ECONS II
Bank transaction code Document/BkToCstmrStmt/Stmt/Ntry/BkTxCd/Prtry/Cd	Not returned by ECONS II
Instruction ID Document/BkToCstmrStmt/Stmt/Ntry/NtryDtls/TxDtls/Refs/InstrId	Not returned by ECONS II
Accitional Entry Information Document/BkToCstmrStmt/Stmt/Ntry/AddtlNtryInf	Not returned by ECONS II

Usage case example: camt.053_ECONSII_BankToCustomerStatement_CB_GeneralLedger_Example.xml

In this usage case, ECONSII delivers a general ledger file to the CB.

5.3.2.2 Headers (head)

BusinessApplicationHeader (head.001)

The BusinessApplicationHeader message (BAH) facilitates the message processing as it stores the information necessary for the processing at one central place.

An ISO 20022 Message together with its Business Application Header forms a Business Message.

The ReceiptAcknowledgement is in general sent without BAH.

Detailed information about BusinessApplicationHeader message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification~~CLM – User Detailed Functional Specification~~].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/head.001.001.04_CLM

Business rules applicable to the schema

MESSAGE ITEM	BUSINESS RULES
Business Application Header Document/AppHdr	ECO0012 ICSA005 IIMP097 IIMP098 IIMS002
From BIC Document/AppHdr/Fr/FIId/FinInstnId/BICFI	ECO0009 ECO0050
MemberIdentification Document/AppHdr/Fr/FIId/FinInstnId/ClrSysMmbId/MmbId	ICSA002 ICSA012 ICSA013
MessageDefinitionIdentifier Document/AppHdr/MsgDefIdr	ECO0011 IIMP089
Message Identifier Document/AppHdr/BizMsgIdr	ECO0050
Signature Document/AppHdr/Sgntr/	ICSA011

The message in business context

Usage case: Business Application Header

The BAH contains information to correctly process the business message. Every message exchanged between ECONS II and a connected party includes such information. The relationship between the BAH and the business payload is one to one.

Specific message requirements

MESSAGE ITEM	UTILISATION
Financial Institution Identification Document/AppHdr/Fr/FIId/FinInstnId/BICFI	BIC of the business sender
Clearing System Member Identification Document/AppHdr/Fr/FIId/FinInstnId/ClrSysMmbId/MmbId	Clearing System Identification is used to indicate system user reference. In an outbound message it will not filled by ECONS II.
Financial Institution Identification Document/AppHdr/To/FIId/FinInstnId/BICFI	BIC of the business receiver
Business Message Identifier Document/AppHdr/BizMsgIdr	Outbound message: Contains the unique message id from ECONS II. Inbound message: Unique message id from the sender which ECONS II

MESSAGE ITEM	UTILISATION
	will use in place of any message id value provided within the business message payload.
Message Definition Identifier Document/AppHdr/MsgDefIdr	Message Identifier is checked by ECONS II for incoming BAH (the message type has to be supported by ECONS II). In case of outgoing BAH the published ISO Message Identifier corresponding to the message payload which follows is used.
Creation Date Document/AppHdr/CreDt	Date and time the business message was created. Only Zulu-Time is used.
Copy Duplicate Document/AppHdr/CpyDplct	In case a business sender is sending a copy, a duplicate or a copy of a duplicate. The value is ignored by ECONS II and not forwarded to the business receiver.
Possible Duplicate Document/AppHdr/PssblDplct	If a business sender is sending the message when doubt the receiving of the message, this possible duplicate of message will be flagged with “true” – means it could be that this message meanwhile has received. If there are no doubts the business sender can flag message with “false”. Not used for ECONS II.
Priority Document/AppHdr/Prty	Not used for ECONS II.
Signature Document/AppHdr/Sgntr	Certificate which identifies the business sending user for single messages. Either the Digital signature is part of the File (in case of multi messages) or it is part of the BAH in case of single messages.
Related Document/AppHdr/Rltd	Not used in ECONS II.

Usage case example 1: Inbound_head.001_CLM_BAH(PB-to-CLM)_bs010.xml

1.1.1.1. Administration (admin)

1.1.1.1.1 ReceiptAcknowledgement (admi.007)

The *ReceiptAcknowledgement* message is sent by ECONS II to the sender of a previous inbound message. It is used to inform the sender that their previously sent message has been rejected and is not be processed further.

Detailed information about *ReceiptAcknowledgement (admi.007)* message could be found in the related section of the CLM UDFS [CLM – User Detailed Functional Specification~~CLM – User Detailed Functional Specification~~].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/CLM/admi.007.001.01_CLM

Business rules applicable to the schema

Not applicable (outgoing message).

The message in business context

Usage case: Reject

In this usage case, ECONS II is advising the business sender (CB) of a previous message has been rejected by ECONS II for a failed validation.

Specific message content

MESSAGE ITEM	UTILISATION
Message Identification Document/RctAck/MsgId/MsgId	Value "NONREF". In the case where admi.007 is sent with a BAH the Message Id is within the BAH BizMsgIdr field.
Related Reference Document/RctAck/Rpt/RltdRef/Ref	If message / file is not readable, i.e. technical validation, this field will contain "NONREF". In the case of a business validation error this field will contain the BAH BizMsgIdr for a single message submission.
Status Code	Specifies the status of the request, for example the result of the

MESSAGE ITEM	UTILISATION
Document/RctAck/Rpt/ReqHdlg/StsCd	schema validation or a business processing result/error.
Description Document/RctAck/Rpt/ReqHdlg/Desc	Description of the status, in free format text.

Usage case example: admi.007_CLM_ReceiptAcknowledgement_Error_bs008.xml

1.1.1.2. Payment initiation (pain)

AS Transfer Initiation (pain.998)

The ASTransferInitiation message is sent from a CB to ECONS II to instruct payment orders to be executed on ECONS II.

The ASTransferInitiation message may contain several PaymentInformation blocks. Each PaymentInformation block may only contain one payment.

Detailed information about ASTransferInitiation procedure A message could be found in the related section of the RTGS UDFS.[RTGS – User Detailed Functional Specification].

References/links

The schema and documentation in XSD/EXCEL/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/RTGS/pain.998

Business rules applicable to the schema

MESSAGE ITEM	BUSINESS RULES
T2 Proprietary Data Document/pain.998.001.01/PrtryData/T2PrtryData	ECO0028 ECO0029 ECO0030 ECO0052
Group Identification Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/GrpId	ECO0031
Control Sum Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/CtrlSum	ECO0032
Number of Transactions Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/NbOfTxs	ECO0033
Settlement Model Type Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/SttlmMdlTp	ECO0034
Initiating Party BIC Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/InitgPty/FI/BIC	ECO0035 ECO0036 ECO0037
Requested Execution Date Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/ReqdExctnDt	ECO0038
First Agent BIC Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/FrstAgt/BIC	ECO0014 ECO0039 ECO0040 ECO0041 ECO0042 ECO0047 ECO0048
Instruction Identification Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/PmtId/InstrId	ECO0043 ECO0044
End to End Identification Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/PmtId/EndToEndId	ECO0045
Amount Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/Amt/InstAmt	ECO0003 ECO0005 ECO0046 ECO0049
Final Agent BIC Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/FnlAgt/BIC	ECO0039 ECO0040 ECO0041 ECO0042 ECO0047 ECO0048

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The message in business context

Specific message content

Message item	Utilisation
Proprietary Data Type Document/pain.998.001.01/PrtryData/Tp	Always “ASTransferInitiation”
Group Identification Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/GrpId	Reference assigned by business sender of the origin AS transfer order, to identify group of single transfers orders.
Control Sum Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/CtrlSum	Total of all the individual liquidity transfer order amounts (i.e. sum of all occurrences of field <PmtInf/PmtTx/Amt>)
Number of Transactions Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/NbOfTxs	Number of individual liquidity transfer orders contained in the message (i.e. count of the number of occurrences of block <PmtInf>)
Settlement Model Type Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/SttlmMdlTp	“A” = procedure based on “prefunding of technical account”
Initiating Party BIC Document/pain.998.001.01/PrtryData/T2PrtryData/GrpHdr/InitgPty/FI/BIC	The optional sequence containing this BIC field may only be used when a CB or the operator is sending the message on behalf of an ancillary system. If used, this field contains the BI C assigned to the ancillary system.
Requested Execution Date Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/ReqdExctnDt	Date on which the initiating party requests that the payment order be processed (=settlement date) Must be the current business day
First Agent BIC Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/FrstAgt/BIC	First Agent field must report:an active Settlement Bank, under AS data scope, if in Final Agent field an active Contingency Technical Account, under AS data scope, has been inserted; Viceversa First Agent field must report a Contingency Technical Account, under AS data scope, if in Final Agent a Settlement Bank, under AS data scope, has been inserted
Instruction Identification	Unique and unambiguous identifier for a payment order assigned by the initiating party

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Message item	Utilisation
Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/PmtId/InstrId	
End to End Identification Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/PmtId/EndToEndId	Unique and unambiguous identification of a payment order, as assigned by any of the parties on the initiating side, that is passed on throughout the entire end-to-end chain.
Amount Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/Amt/InstAmt	Currency and amount to be transferred from the FirstAgent to the FinalAgent
Final Agent BIC Document/pain.998.001.01/PrtryData/T2PrtryData/PmtInf/PmtTx/FnlAgt/BIC	First Agent field must report:an active Settlement Bank, under AS data scope, if in Final Agent field an active Contingency Technical Account, under AS data scope, has been inserted; Viceversa First Agent field must report a Contingency Technical Account, under AS data scope, if in Final Agent a Settlement Bank, under AS data scope, has been inserted

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6 Appendices

6.1 Business Rules and Error Codes

Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0001	For Available Liquidity Query, the following search criterion is allowed: - Account Identification	camt.003	camt.004	E001	Search criteria not allowed
ECO0002	Request Type field must not be specified	camt.018	camt.019	E002	Request Type not allowed
ECO0003	Currency must denominate the same currency as Contingency Accounts indicated for posting.	camt.050 pain.998	camt.025	E003	Currency does not denominate the same currency as accounts indicated for posting.
ECO0004	The Settlement Date must be the current business date.	camt.050	camt.025	E004	The Settlement Date must be the current business date.

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0005	The digits after the decimal point must not be more than foreseen for the given currency.	camt.050 pain.998	camt.025	E005	More digits after the decimal point than maximally foreseen for the currency
ECO0006	The amount must be greater than zero.	camt.050	camt.025	E006	The amount is lower than or equal to zero
ECO0007	Creditor and/or Debtor BIC and/or Contingency Account inserted in the relevant field(s) must refer to allowed Contingency Account Type (e.g. Contingency Technical Account not allowed)	camt.050	camt.025	E007	Operation not allowed
ECO0008	In case of External Inbound LT (i.e. generated by ECMS), the credited account shall be in the datascope of the debited CB.	camt.050	camt.025	E008	The credited Contingency Account shall be in the data scope of the requestor CB
ECO0009	Creditor BIC/Account and Debtor BIC/Account cannot be equal	camt.050	camt.025	E009	Operation not allowed
ECO0010	Requestor party type not allowed	camt.050	camt.025	E010	Requestor not allowed

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0011	The message type must be known to the service	head.001	admi.007	E011	The message type is unknown to the service
ECO0012	The syntax of the BAH must comply with the schema.	head.001	admi.007	E012	The syntax of the BAH does not comply with the schema.
ECO0013	BIC(s) and/or Account(s) inserted in Creditor and/or Debtor filed(s) do not match	camt.050	camt.025	E013	Operation not allowed
ECO0014	The blocked debited Payment Bank inserted in pain.998 shall belong to the same country of the sending CB	pain.998	n.a. (only via U2A)	E014	Blocked Payment Bank not in the CB data scope
ECO0015	ECONS II must be in status ‘Open’, ‘Lock’ or ‘Closing’.)	camt.003	camt.004	E015	Operation not allowed
ECO0016	Requestor shall be an active CB	camt.003	camt.004	E016	Requestor unknown
ECO0017	Requestor CB shall be granted with the right Privileges	camt.003	camt.004	E017	Requestor not allowed
ECO0018	The Contingency Account Number shall be active in ECONS II	camt.003	camt.004	X050	Data not found

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0019	If the Contingency Account Number field is a valid active Account, requestor can be a CB : in this case the Contingency Account inserted must be under its own data scope (e.g. the Contingency Account requested belongs to a different Central Bank).	camt.003	camt.004	E019	Operation not allowed
ECO0020	Requestor shall be an active CB	camt.018	camt.019	E020	Requestor unknown
ECO0021	Requestor CB shall be granted with the right Privileges	camt.018	camt.019	E021	Requestor not allowed
ECO0022	ECONS II shall be in status 'Open'	camt.050	camt.025	E022	Operation not allowed
ECO0023	Requestor shall be an active CB or CMS application	camt.050	camt.025	E023	Requestor unknown
ECO0024	Requestor CB or CMS application shall be granted with the right Privileges	camt.050	camt.025	E024	Requestor not allowed

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0025	In case the mandatory fields <CdtrAcct> and <DbtrAcct> are populated with creditor and debtor Contingency Accounts, then these accounts must be active in ECONS II. In case they are populated with codeword “NONREF”, then BICs, active in ECONS II, must be present in optional fields <Cdtr> and <Dbtr>.	camt.050	camt.025	X050	Data not found
ECO0026	Debtor must be under the data scope of the sender CB	camt.050	camt.025	E026	Sender not allowed to debit the specified Contingency Account
ECO0027	The inserted amount must be lower or equal than the balance of the debited Contingency Account	camt.050	camt.025	E027	Insufficient liquidity
ECO0028	ECONS II shall be in status ‘Open’	pain.998	n.a. (only via U2A)	E028	Operation not allowed
ECO0029	Requestor/Sender shall be an active CB (on behalf of AS)	pain.998	n.a. (only via U2A)	E029	Requestor unknown
ECO0030	Requestor CB shall be granted with the right Privileges	pain.998	n.a. (only via U2A)	E030	Requestor not allowed

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0031	ECONS II checks GroupIdentification together with the sender BIC: this couple of tags has to be unique over a period of one day	pain.998	n.a. (only via U2A)	E031	Duplicated GroupIdentification
ECO0032	If Control Sum is filled, ECONS II calculates the sum of the individual amounts in Payment Transaction and checks if it is equal to the ControlSum	pain.998	n.a. (only via U2A)	E032	Invalid ControlSum
ECO0033	If NumberOfTransactions is filled, ECONS II checks that this number is equal to the number of occurrences of PaymentTransaction in the message	pain.998	n.a. (only via U2A)	E033	Invalid NumberOfTransactions
ECO0034	Settlement model field must be of type model 'A'.	pain.998	n.a. (only via U2A)	E034	Invalid SettlementModelType
ECO0035	Optional sequence InitgPty is mandatory if the sender is a CB acting on behalf.	pain.998	n.a. (only via U2A)	E035	Requested field missing in input
ECO0036	Optional sequence InitgPty is mandatory if the sender is a CB acting on behalf. Mandatory BIC inserted in field InitgPty must be an active AS	pain.998	n.a. (only via U2A)	E036	Invalid Account

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0037	Optional sequence InitgPty is mandatory if the sender it is a CB acting on behalf. Mandatory BIC inserted in field InitgPty reports an active AS, in case of sender CB it has to be under its own data scope	pain.998	n.a. (only via U2A)	E037	Operation not allowed
ECO0038	In field RequestedExecutionDate only current ECONS II business date allowed	pain.998	n.a. (only via U2A)	E038	Invalid date
ECO0039	First Agent and Final Agent fields must be:filled in with an active Settlement Bank Contingency Account or an active Contingency Technical Account	pain.998	n.a. (only via U2A)	E039	Invalid Account
ECO0040	Active Settlement Bank Contingency Account or active Contingency Technical Account inserted in pain.998 must be under AS, mentioned in field InitgPty, data scope	pain.998	n.a. (only via U2A)	E040	Operation not allowed

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0041	First Agent field must report:an active Settlement Bank, under AS data scope, if in Final Agent field an active Contingency Technical Account, under AS data scope, has been inserted; Viceversa First Agent field must report a Contingency Technical Account, under AS data scope, if in Final Agent a Settlement Bank, under AS data scope, has been inserted	pain.998	n.a. (only via U2A)	E041	First/Final Agent not allowed
ECO0042	At least one between FirstAgent and FinalAgent must report a Technical Contingency Account	pain.998	n.a. (only via U2A)	E042	Inconsistency between FirstAgent and FinalAgent
ECO0043	InstructionIdentification must be unique between all InstructionIdentification in the message.	pain.998	n.a. (only via U2A)	E043	Duplicate Instruction Identification

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0044	InstructionIdentification must be unique between all InstructionIdentification in the message. Additionally, the reference of transaction, composed of BIC of the AS which initiates the transaction (if the sender is the CB which sends on behalf of the AS) must be unique over a period of one business day	pain.998	n.a. (only via U2A)	E044	Duplicate transaction reference
ECO0045	EndToEndIdentification must be unique and unambiguous identification of a payment transaction, as assigned by any of the parties on the initiating side, that will be passed on throughout the entire end-to-end chain. This identification must comply with the set of characters and must not contain slashes.	pain.998	n.a. (only via U2A)	E045	Duplicate End-To-End Identification
ECO0046	InstructedAmount must be greater than zero	pain.998	n.a. (only via U2A)	E046	Amount not allowed
ECO0047	The total amount of debited payments to the Contingency Technical Account must be equal to the total amount of credited payments to the Contingency Technical Account	pain.998	n.a. (only via U2A)	E047	Sum of debits is not equal to sum of credits

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ECO0048	FirstAgent and FinalAgent be different	pain.998	n.a. (only via U2A)	E048	FirstAgent and FinalAgent must be different
ECO0049	The inserted amount must be lower or equal than the balance of the debited Contingency Account	pain.998	n.a. (only via U2A)	E049	Insufficient liquidity
ECO0050	A message with the same BizMsgIdr and the same Business sender "From" at the same day will be detected as duplicate.	head.001	admi.007	E050	The message was detected as duplicate as the BizMsgIdr exists.
ECO0051	Transaction rolled back due to failures on other transaction(s)	pain.998	n.a. (only via U2A)	E051	Transaction rolled back due to failures on other transaction(s)
ECO0052	Operation linked to currency already acknowledged during the closing process	camt.050 pain.998	camt.025 n.a. (only via U2A)	E052	Operation not allowed
ICSA005	The Technical Sending User (Party Technical Address) of the inbound A2A communication has to be known for the used Network Service.	head.001	admi.007	I019	The Technical Sending User is not known for the used Network Service.

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
IIMP097	In order to ensure correct processing, it is only possible to send instructing requests (e.g. Static Data updates or settlement instructions) via a store and forward network service.	head.001	respective outbound business message for received inbound message except for the messages which are explicitly listed	I066	The instructing request has to be sent via store and forward network service.
IIMP098	In order to ensure correct processing, it is only possible to send query requests via a real-time network service.	head.001	respective outbound business message for received inbound message except for the messages which are explicitly listed	I067	The query request has to be sent via real-time network service.
IIMS002	A message structure is valid according to the schema defined for a message.	any message	admi.007	I006	The message is not valid. //Dynamic error including element name.//
ICSA002	The System User sending the inbound A2A communication has to be known in CRDM.	head.001	admi.007	I008	The System User is not known in CRDM.
ICSA012	Technical Sending User is allowed to send for the Business Sending Party.	head.001	admi.007	I073	Technical Sending User is not allowed to send for the Business Sending Party.

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Rule Id	Description	Inbound message	Outbound message	Reason Code	Error Text
ICSA013	Business Sending User is allowed to send for the system user reference.	head.001	admi.007	I075	Business Sending User is not allowed to send for the system user reference.
IIMP089	A message definition identifier of the BAH is equal to the message type in namespace.	head.001	respective outbound business message for linked received inbound message except for the messages which are explicitly listed based on namespace definition	I049	The message definition identifier of the BAH is not equal to the message type in namespace.
ICSA011	The Business Sending User has to be known in CRDM.	head.001	admi.007	I072	The Business Sending User is not known in CRDM.

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6.4 List of acronyms

Item	Description
A2A	Application-to-Application
AAU	Authorised Account User
AS	Ancillary System
BAH	Business Application Header
BIC	Business Identifier Code
CAMT	Cash Management
CB	Central Bank
CET	Central European Time
CLM	Central Liquidity Management
CMS	Collateral Management System
CRDM	Common Reference Data Management
DN	Distinguished Name
DWH	Data Warehouse
ECB	European Central Bank
ECMS	Eurosystem Collateral Management System
ECONS	Enhanced Contingency Solution
EoD	End-of-Day
ESMIG	Eurosystem Single Market Infrastructure Gateway
GL	General Ledger
GUI	Graphical User Interface (see U2A)
IAM	Identity and Access Management
ISO	International Organization for Standardisation
LeA	Legal Archiving
LRDM	Local Reference Data Management
LT	Liquidity Transfer
MCA	Main Cash Account
NRO	Non-Repudiation of Origin
NSP	Network Service Provider
PB	Payment Bank
RTGS	Real Time Gross Settlement
SBAG	Settlement Bank Account Group
SoD	Start-of-Day
T2S	TARGET2-Securities
TIPS	TARGET Instant Payment Settlement

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Item	Description
U2A	User-to-Application
UDFS	User Detailed Functional Specifications
UHB	User Handbook
URD	User Requirements Document
XML	Extensible Mark-up Language

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6.5 List of referenced documents

	Title	Source
[1]	ESMIG - User Detailed Functional Specifications	4CB
[2]	CRDM - User Detailed Functional Specifications	4CB
[3]	ECONS II – User Handbook	4CB
[4]	User Requirement Document for Shared Services (SHRD) – Annex for Central Banks only – An excerpt on Contingency Services	ECB
[5]	CLM – User Detailed Functional Specification	4CB
[6]	RTGS – User Detailed Functional Specification	4CB

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