T2-T2S Consolidation

RTGS

07-10-2021

DeNederlandscheBank

EUROSYSTEEM

RTGS

T2-T2S Consolidation Training Session

RTGS

1. Parties and Accounts in RTGS

2. Cash transfer orders and cash transfers

3. Ancillary system settlement

4. Contingency upload of messages and backup payments

5. Liquidity management features

6. Business day

Annex A – Detailed Ancillary system settlement

Annex B – Liquidity reservations - examples

RTGS

Parties and Accounts in RTGS

RTGS
Overview

- RTGS is used for the **settlement of individual payments** and/or **ancillary system settlement**
  - Settlement on RTGS DCA (Dedicated Cash Accounts)
  - Settlement of Ancillary system (AS) settlement (AS procedure C) on RTGS sub-accounts

- **Participation in RTGS is optional**
  - Necessary only, if payment bank wants to settle individual payments and/or wants to participate in the ancillary system settlement

Parties and Accounts in RTGS
Parties

- ## Definition of party
  - Legal entity or organisation interacting with RTGS

- ## Hierarchical three-level structure

Level	Party
1st	Operator
2nd	CBs
3rd	Payment banks*, ancillary systems

*Note: In case a CB offers settlement in multiple currencies and a payment bank wants to settle in those currencies the payment bank has to open a party per currency (each identified with a valid and unique BIC11)

- ## Set-up of parties (in CRDM)
  - CBs are set-up by the Operator
  - Payment banks/ancillary systems are set-up by the CB

Parties and Accounts in RTGS
Parties

- **Party service link**
    - Definition: party service link is used to link a party to the service/component

- **Service party type**
    - Definition: service party type defines the business functions of a party

Party type	Possible service party type
CB	RTGS CB account holder
	RTGS transit account holder
Payment bank	RTGS account holder
Ancillary system	Ancillary systems
	RTGS account holder

<u>Note:</u> Service party type for RTGS can be combined with service party type for other services/components

<u>Note:</u> Multiple service party types can be combined within RTGS

Parties and Accounts in RTGS
Overview

Accounts used in RTGS

CLM
Main Cash Accounts
CLM CB Accounts
Overnight Deposit Accounts
Marginal Lending Accounts
CLM Dedicated Transit Accounts
CB ECB Accounts
ECB Mirror Accounts

RTGS
RTGS Dedicated Cash Accounts
RTGS Sub-Accounts
RTGS Central Bank Accounts
RTGS Dedicated Transit Account
AS Guarantee Funds Accounts
AS Technical Accounts

Note: The accounts used in RTGS are opened in CRDM

Parties and Accounts in RTGS Accounts

- ## RTGS Dedicated Cash Account (RTGS DCA)
  - Settlement of **individual payments** and **AS settlement**
  - Only **payment banks and AS** can hold RTGS DCAs
  - **A zero balance or positive balance only** – liquidity resulting from a credit line has to be transferred from the MCA
  - Identification through **BIC11** (unique in RTGS per currency) and **account number** (unique across all services/components)
  - Holding of **more than one** RTGS DCA possible – definition of a default RTGS DCA
  - A **payment bank**, that holds an RTGS DCA **has to hold an MCA** with the same central bank
  - One RTGS DCA can be used for **one or more ancillary systems**
  - If a party holds at least **one MCA and at least one RTGS DCA, a 1:1 link** has to be defined (pre-condition for automated liquidity transfers)
  - For **rule-based liquidity transfers** ((1) floor/ceiling or (2) queued high/urgent payments and AS transfers) **different MCAs can be linked**

Parties and Accounts in RTGS
Accounts

- ## RTGS Sub-Accounts

  - Sub-Account **linked with exactly one RTGS DCA for AS settlement (AS procedure C)**

  - **A zero balance or positive balance only**

  - **Payment banks and central banks** can hold RTGS Sub-Accounts

  - **Identification** through **account number** (unique across all services/components) – no BIC

- ## RTGS CB Accounts

  - **Cash account owned by a CB** (identified by a BIC11)

  - CBs have the possibility to **open more than one RTGS CB Account**, each one being identified by a unique BIC11 per currency within RTGS

  - In case one CB has more than one RTGS CB Account, one account has to be marked as **default account**. The default RTGS CB Account is **used in case of automated internal processing for debiting and crediting**

  - Allowed to have **negative balance**

  - Only a party with **party type "CB"** can have an "RTGS CB Account". Moreover, the service party type **"RTGS CB Account holder" must be linked to the party**

target services

Parties and Accounts in RTGS
Accounts

- ## RTGS Dedicated Transit Account

  - **Technical account** involved in **inter-service liquidity transfer process**

  - **One** dedicated transit account **per settlement currency**

  - Only a party with **party type "CB"** can have an "RTGS Dedicated Transit Account"

    - RTGS Dedicated Transit Account for euro belongs to the ECB
    - The service party type **"RTGS Transit Account Holder"** must be **linked to the party**

target services

Parties and Accounts in RTGS
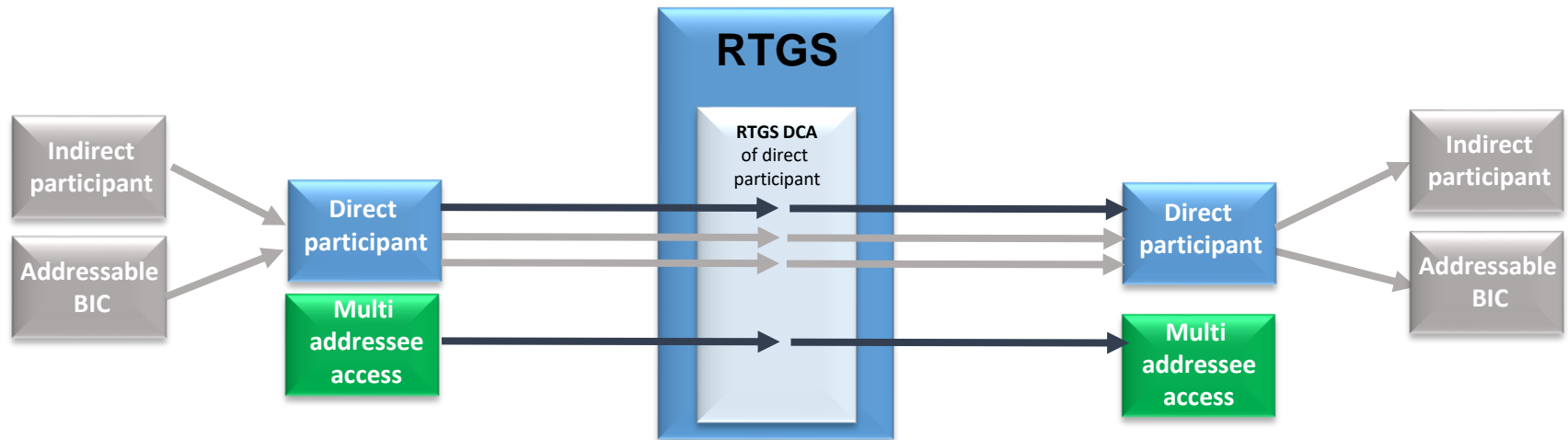## Accounts

- ## AS Guarantee Funds Account
  - Account for the AS settlement, in case one/several settlement banks fail (only AS procedure A and B)
  - **A zero balance or positive balance only**
  - **Payment banks, central banks and AS** can hold AS Guarantee Funds Accounts

- ## AS Technical Account
  - **Technical account** for collecting the credits and debits resulting from AS settlement
    - Mandatory for AS procedure A, B, C and D and optional for E
  - **Payment orders** from/to RTGS DCAs are possible
  - **ASs and central banks** can hold AS Technical Accounts
  - AS Technical Account shall either have a **zero balance or a positive balance**

Parties and Accounts in RTGS
Participation types

Direct participation
- Direct access to RTGS (account holder of at least one RTGS DCA)
- A published BIC11 is necessary (published in the SWIFT BIC directory)

Indirect participation
Addressable BIC
- Indirectly addressable; published BIC11 necessary (published in the SWIFT BIC directory)
- Submitting/receiving payments via the direct participant
- Those institutions are directly linked to one RTGS DCA only (that can be located also in another country)
- Settlement on the RTGS DCA of a direct participant

Multi addressee access
- Branches of the RTGS account holder or institutions of the same group
- Submitting/receiving payments directly to/from RTGS (without involvement of the direct participant)
- Settlement on RTGS DCA of the direct participant

RTGS

Cash transfer orders and cash transfers

RTGS

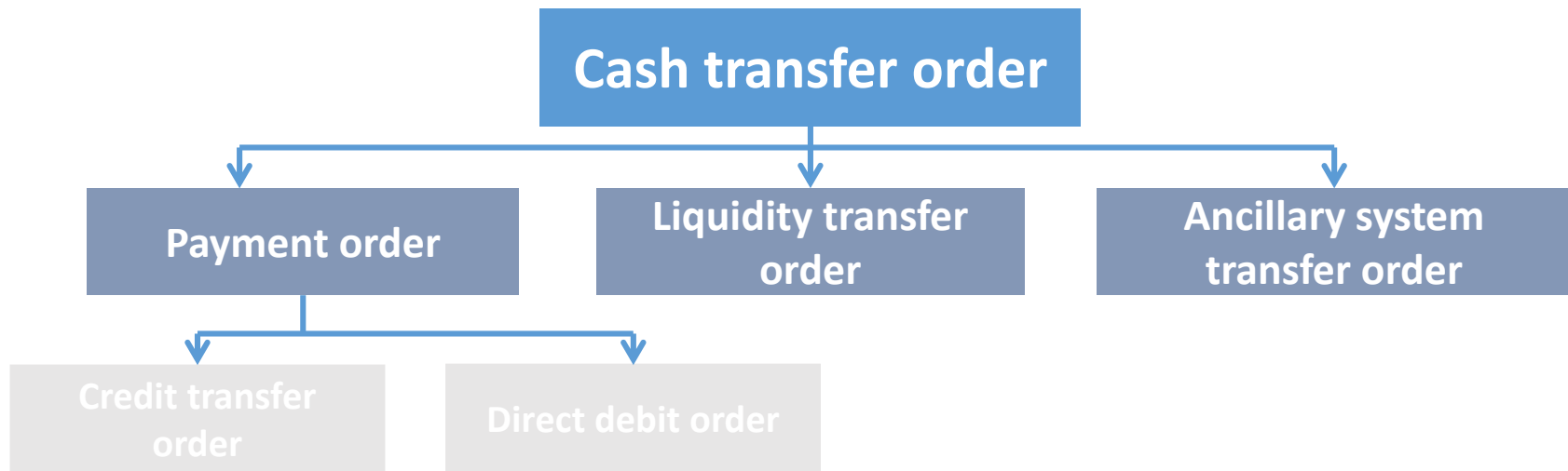**Cash transfer orders and cash transfers**

- Overview
- Processing
- Management of cash transfer flow
  - Priorities
  - Execution time
  - Warehoused payments
  - Modification
  - Revocation/recall
- Liquidity transfer and liquidity transfer orders

target services

Cash transfers and cash transfer orders in RTGS Overview

(the actual movement and the required instruction)

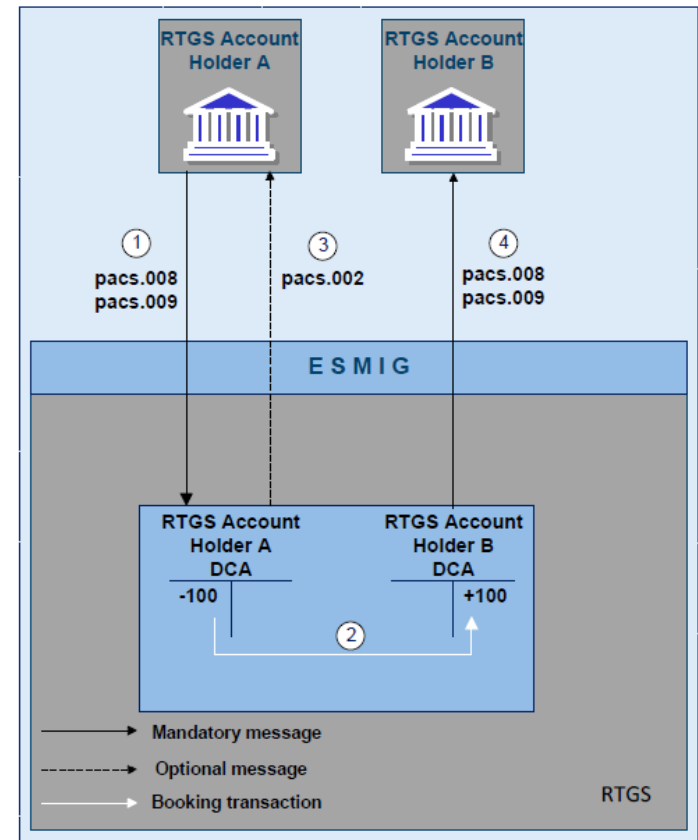# Cash transfers and cash transfer orders in RTGS Processing

Example for the processing of a payment

Use case: Credit transfer from one RTGS DCA to another one

1 RTGS Account Holder A* sends a FinancialInstitutionCreditTransfer (pacs.009) or CustomerCreditTransfer (pacs.008) via ESMIG to RTGS

2 RTGS settles the payment order on the RTGS DCAs of RTGS Account Holders A and B* - after sucessful validation

3 RTGS sends a settlement notification (PaymentStatusReport (pacs.002)) via ESMIG to the initiating RTGS Account Holder (A)* (optional)

4 RTGS creates and forwards the payment (FinancialInstitutionCreditTransfer (pacs.009) or CustomerCreditTransfer (pacs.008)) via ESMIG to RTGS Account Holder (B)*

* or RTGS CB Account Holder respectively

Cash transfers and cash transfer orders in RTGS Processing

Example for the processing of a payment

Use case: Credit transfer from a multi-addressee to an RTGS Account Holder

1. The RTGS multi-addressee sends a payment order FinancialInstitutionCreditTransfer (pacs.009) or CustomerCreditTransfer (pacs.008) via ESMIG to RTGS (BIC of multi-addressee included in BAH)

2. RTGS settles the payment order on the RTGS DCAs of Account Holders A and B* - after successful validation

3. RTGS sends a settlement notification for the payment (PaymentStatusReport (pacs.002)) via ESMIG to the multi-addressee (optional)

4. RTGS creates and forwards the payment (FinancialInstitutionCreditTransfer (pacs.009) or CustomerCreditTransfer (pacs.008)) via ESMIG to RTGS Account Holder B*

* or RTGS CB Account Holder respectively

CustomerCreditTransfer (pacs.008)

FinancialInstitutionCreditTransfer (pacs.009)

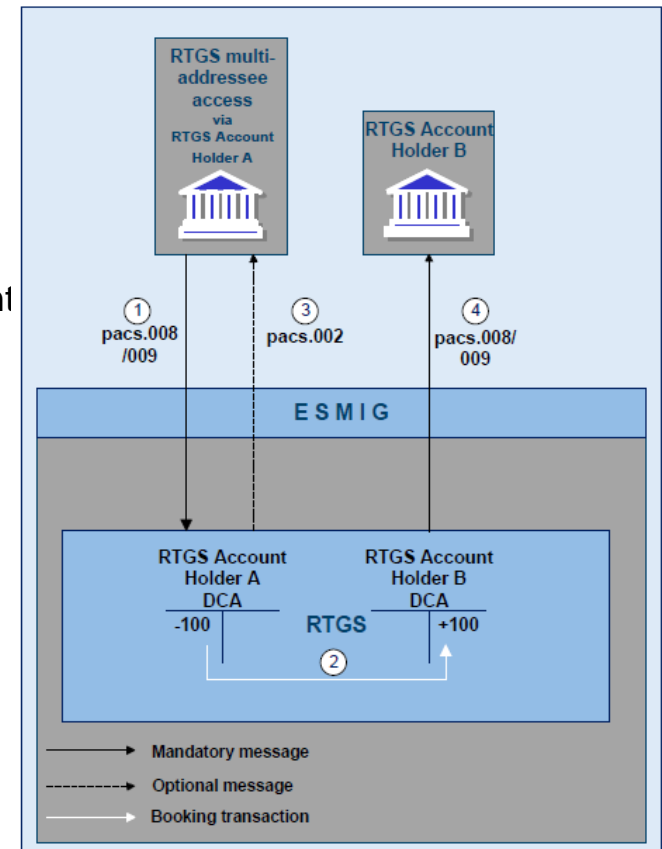# Cash transfers and cash transfer orders in RTGS Processing

**Example for the processing of a payment**

Use case: Direct debit

1 RTGS Account Holder A* sends a FinancialInstitutionDirectDebit (pacs.010) via ESMIG to RTGS

2 RTGS settles the payment order on the RTGS DCAs after successful validation

Before settling the direct debit order RTGS checks if a direct debit mandate is available in CRDM

3 RTGS sends a settlement notification (PaymentStatusReport (pacs.002)) via ESMIG to RTGS Account Holder A* (optional)

4 RTGS creates and forwards a FinancialInstitutionDirectDebit (pas.010) via ESMIG to RTGS Account Holder B*

* or RTGS CB Account Holder respectively

FinancialInstitutionDirectDebit (pacs.010)
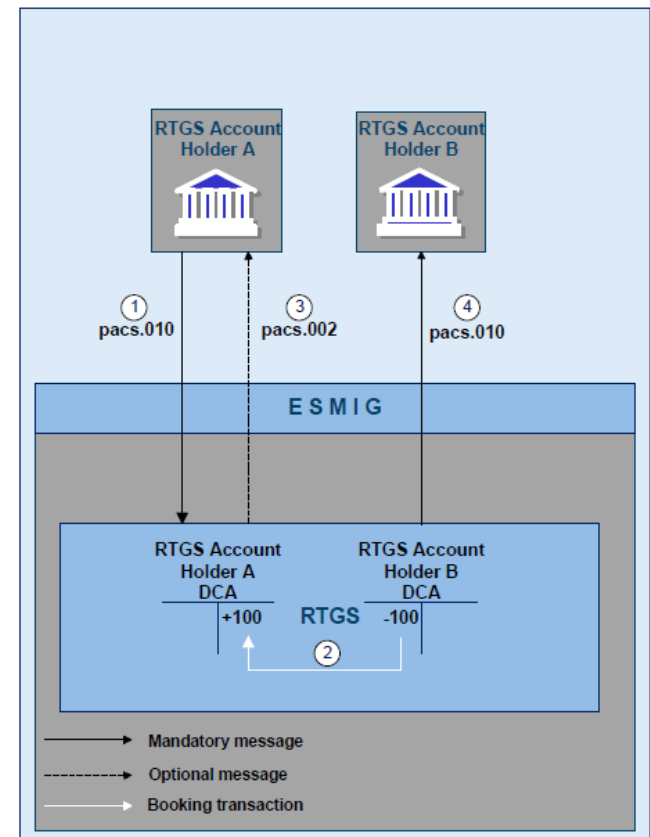
RTGS

Cash transfer orders and cash transfers

- Overview
- Processing
- Management of cash transfer flow
  - Priorities
  - Execution time
  - Warehoused payments
  - Modification
  - Revocation/recall
- Liquidity transfer and liquidity transfer orders

24/09/2021

target services

Cash transfers and cash transfer orders in RTGS
Priorities

- **Each payment order** can be submitted **with a priority**

- The priority **can be chosen when submitting** the order, depending on the possibilities
    - **payment order type** (pacs.008/pacs.009/pacs.010) and
    - **submitting party**

- The priority can be **changed** by the RTGS Account Holder or the mandated Central Bank taking into account specific rules (pre-condition is that the order does **not have a final status – i.e. settled**)

target services

Cash transfers and cash transfer orders in RTGS
Priorities

Urgent	• **Immediate execution** of the cash transfer order, if no other urgent cash transfer order is queued • **FIFO principle** applies for urgent cash transfer orders in RTGS • **BUT: automated liquidity transfers (inter-service)** will **always** be settled first
High	• **Immediate execution of the cash transfer order,** if no other urgent and high classified cash transfer order is queued • **FIFO principle** applies for as high classified cash transfer orders in RTGS, if no urgent cash transfer order is queued
Normal	• Processing of the payment according to the **„FIFO-bypassing"** principle – this means the queue is not decisely, rather the account balance, opposing cash transfer orders, reservations and limits are influencing factors • „Normal" is used if no priority has been chosen **(default)**

Remark - AS transfer orders and liquidity transfer orders are treated with priority "urgent"
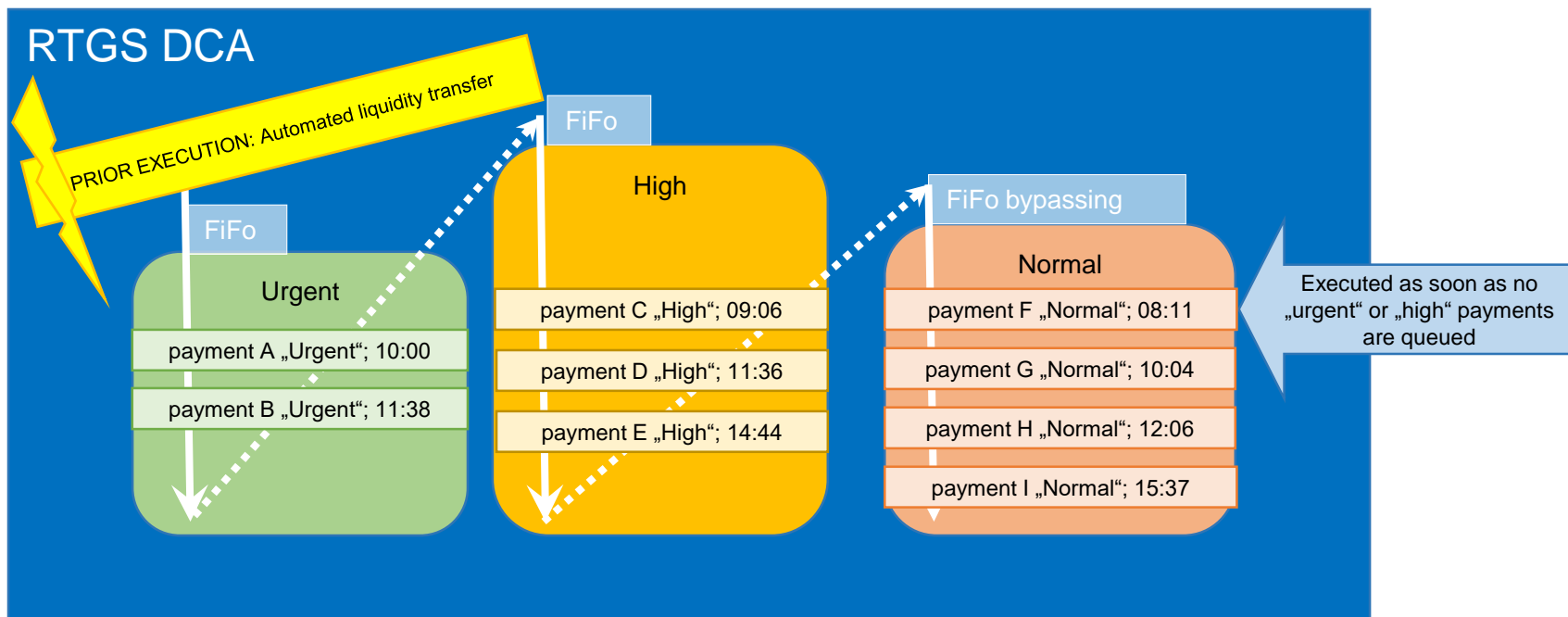
Cash transfers and cash transfer orders in RTGS
Priorities

Priorisation of cash transfer orders – Who is allowed to do what?		
Urgent	FinancialInstitutionCreditTransfer (pacs.009)	Central Bank
	FinancialInstitutionDirectDebit (pacs.010)	
	FinancialInstitutionCreditTransfer (pacs.009) Codeword „SBTI" (AS Settlement)	RTGS Account Holder or Authorised RTGS Actor
High	CustomerCreditTransfer (pacs.008)	RTGS Account Holder or Central Bank
	FinancialInstitutionCreditTransfer (pacs.009)	
	FinancialInstitutionDirectDebit (pacs.010)	
Normal	CustomerCreditTransfer (pacs.008)	RTGS Account Holder or Central Bank
	PaymentReturn (pacs.004)	
	FinancialInstitutionCreditTransfer (pacs.009)	
	FinancialInstitutionDirectDebit (pacs.010)	

Remark – pacs.009 with codeword "SBTI" and priority "urgent" is used only for Liquidity transfers with credit on AS technical account for AS settlement procedure D

Cash transfers and cash transfer orders in RTGS
Priorities

RTGS DCA

PRIOR EXECUTION: Automated liquidity transfer

FiFo

Urgent

payment A „Urgent"; 10:00

payment B „Urgent"; 11:38

FiFo

High

payment C „High"; 09:06

payment D „High"; 11:36

payment E „High"; 14:44

FiFo bypassing

Normal

payment F „Normal"; 08:11

payment G „Normal"; 10:04

payment H „Normal"; 12:06

payment I „Normal"; 15:37

Executed as soon as no „urgent" or „high" payments are queued

target services

Cash transfers and cash transfer orders in RTGS
Execution time

A payment order is executed during the business day. RTGS Account Holder may define the following execution times.

„Earliest debit time indicator"	„Latest debit time indicator"
• Payments are stored until the execution time (*FromTime*) is reached and are then delivered to the entry disposition. • If RTGS cannot immediately settle the payment order at the execution time the payment order is queued. • If the payment order cannot be settled by the respective cut-off-time or possibly by reaching the RejectTime it is rejected.	• Option A: The payment has to be executed by a pre-defined time (*RejectTime*). Otherwise the payment order is rejected. • Option B: The payment is ought to settle by a pre-defined time (*TillTime*). Otherwise the payment order is queued and – if it cannot be settled before – is rejected when reaching the respective cut-off. • If a payment (option A + option B) is not settled 15 minutes before reaching the pre-defined time, RTGS informs the Account Holder via U2A (broadcast) and via A2A (admi.004), if subscribed.

Cash transfers and cash transfer orders in RTGS
Warehoused payments

- Payment orders can be submitted up to **10 calendar days before the intended settlement day**.

- **Submission, change and revocation** are done by the **RTGS Account Holder**.

- Warehoused payments **are stored in RTGS until the intended settlement day starts**. By then these will be **validated** against the business validation rules **at the start of the business day**.

- **On the intended settlement day** the payment order is executed with the **start of the execution window for customer and interbank payments**
  - In general, the payment is executed **before all incoming payments with the same priority** (provided that sufficient liquidity is available)

target services

Cash transfers and cash transfer orders in RTGS
Modification

Modifications of **certain parameters** by an authorised RTGS actor are possible, …

- as long as a payment is **not settled**

- during the **whole business day** (excl maintenance window)

- in **A2A** and **U2A** mode

What can be modified?

- **Priority** of a payment – by the RTGS Account Holder or the CB (on behalf)

- **Execution time** – by RTGS Account Holder or the CB (on behalf)

- **Sequence in the queue** – by RTGS Account Holder or the CB (on behalf)

Cash transfers and cash transfer orders in RTGS
Revocation/recall

Revocation in case of queued payment orders	Recall in case of already settled payments

On request of the RTGS Account Holder
FIToFIPaymentCancellationRequest (camt.056)

CustomerCreditTransfer (pacs.008)

FinancialInstitutionCreditTransfer (pacs.009)

PaymentReturn (pacs.004)

FinancialInstitutionDirectDebit (pacs.010)

Only if the payment order is queued, the revocation becomes immediately effective.

The receiver of the payment decides after receiving the recall request if he agrees or rejects. In accordance with his decision the request is executed or not.
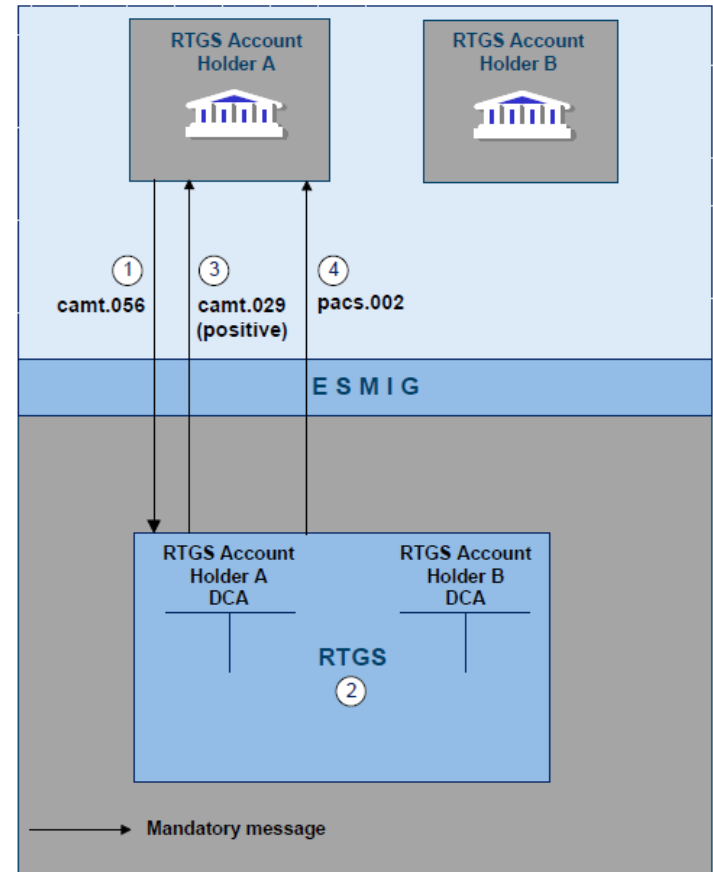
target services

Cash transfers and cash transfer orders in RTGS
Revocation/recall

Successful revocation

1. RTGS Account Holder sends FIToFIPaymentCancellationRequest (camt.056) to RTGS

2. RTGS checks the request and checks the status of the message (not settled)

3. RTGS sends a notification on the successful revocation to the RTGS Account Holder A (ResolutionOfInvestigation (camt.029))

4. RTGS sends a notification (Payment StatusReport (pacs.002)) to the RTGS Account Holder A

If a revocation is not possible the RTGS Account Holder receives a camt.029 with negative status.

Cash transfers and cash transfer orders in RTGS Revocation/recall

Successful recall

1. RTGS Account Holder A sends a FIToFIPaymentCancellationRequest (camt.056) via ESMIG to RTGS

2. RTGS forwards the message to RTGS Account Holder B

3. RTGS notifies RTGS Account Holder A about the forwarding with a ResolutionOfInvestigation (camt.029)

4. RTGS Account Holder B checks the request

5. RTGS Account Holder B sends a PaymentReturn (pacs.004) to RTGS

6. RTGS executes the payment order after successful validation

7. RTGS sends a positive notification (Payment StatusReport (pacs.002)) to B (if subscribed)

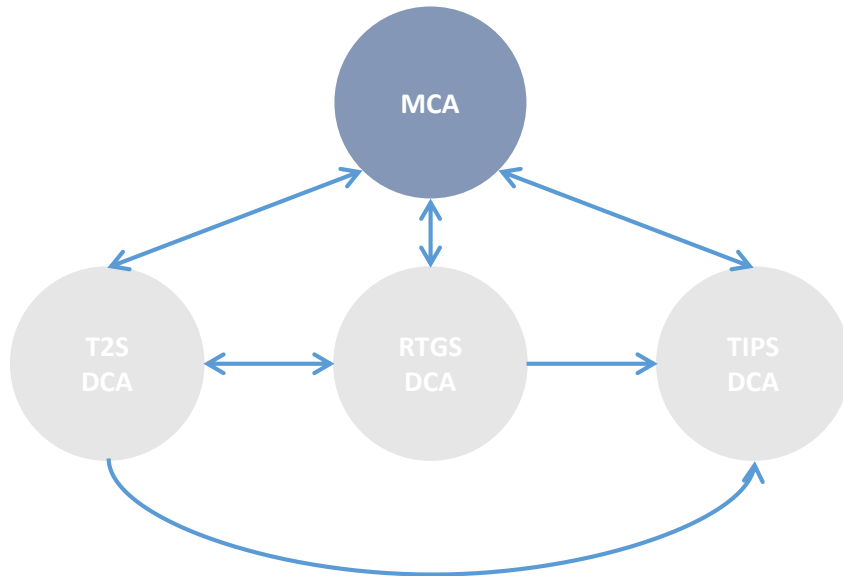8. The PaymentReturn (pacs.004) will be forwarded to RTGS Account Holder A

If B rejects the recall he sends a camt.029 with the rejection code which will be forwarded to A
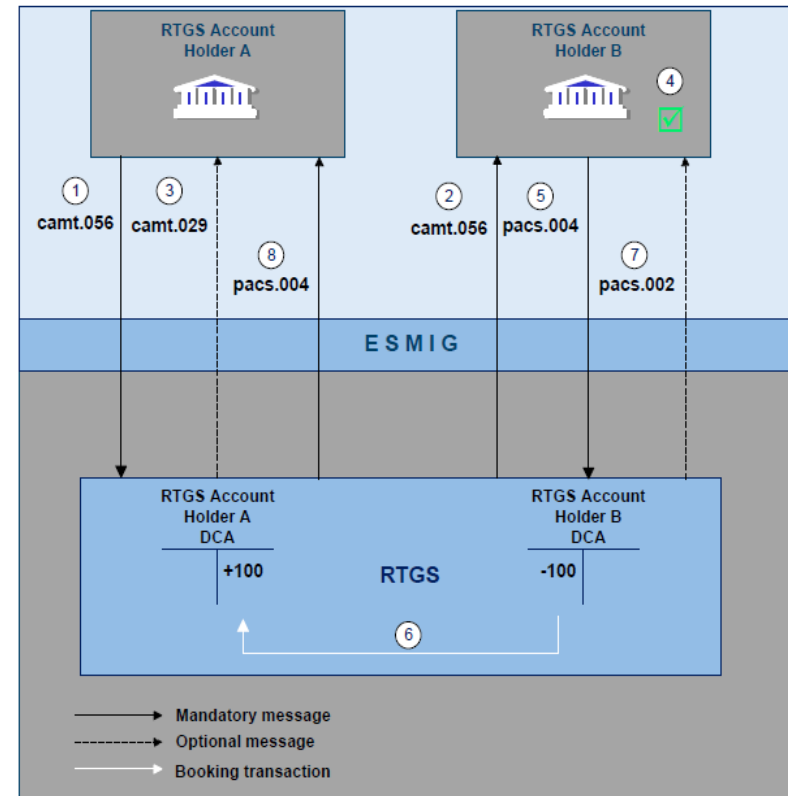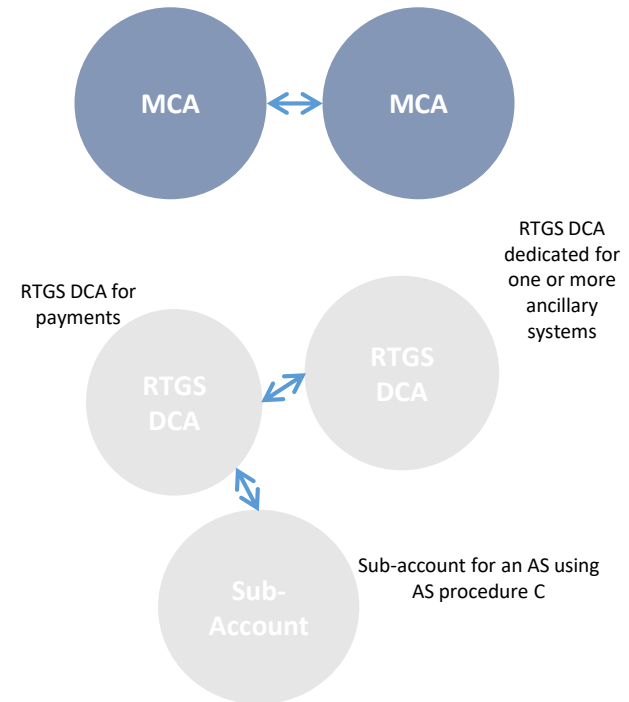
Liquidity transfers
Overview

Inter-service liquidity transfer

MCA

T2S DCA · RTGS DCA · TIPS DCA

Liquidity transfer **between** CLM **and** RTGS, T2S or TIPS

Intra-service liquidity transfer

MCA · MCA

RTGS DCA for payments

RTGS DCA dedicated for one or more ancillary systems

RTGS DCA · RTGS DCA

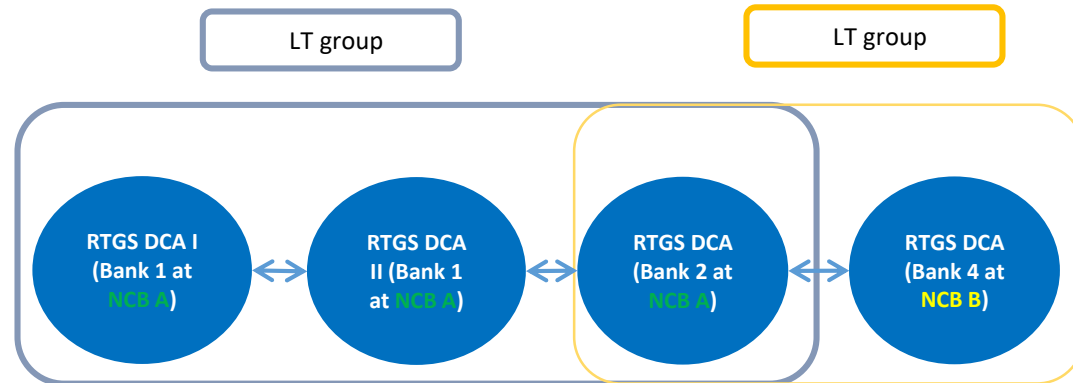Sub-account for an AS using AS procedure C

Sub-Account

Liquidity transfer **within** a settlement service/component

target services

Liquidity transfers
Liquidity Transfer Group

Pre-condition for intra-service liquidity transfers is the creation of a liquidity transfer group (LT group).

- An RTGS DCA can be part of **one or more** LT groups.

- Within a LT group RTGS DCAs **of different parties can be grouped** (also cross-border).

- **Intra-service liquidity transfers** are only possible between **accounts part of the same LT group** (except of transfers with a central bank)

- The responsible central bank(s) administrate the group based on the participant's order.

LT group

LT group

RTGS DCA I (Bank 1 at NCB A)

RTGS DCA II (Bank 1 at NCB A)

RTGS DCA (Bank 2 at NCB A)

RTGS DCA (Bank 4 at NCB B)

Liquidity transfers
Use cases and messages

| Initiator	Use cases	Message
RTGS account holder or authorised RTGS actor	• Between two RTGS DCAs (intra, LT group) • RTGS DCA -> CB account in RTGS or other service/component • RTGS DCA<-> Sub-Account (intra, AS procedure C) • MCA, Overnight Deposit Account, T2S DCA, TIPS DCA <-> Sub-Account (inter, AS procedure C) • RTGS DCA -> Overnight Deposit Account (inter) • RTGS DCA <-> T2S DCA (inter) • RTGS DCA -> TIPS DCA (inter) • RTGS DCA <-> MCA (inter)	LiquidityCredit Transfer (camt.050)
RTGS CB account holder	• CB account RTGS -> RTGS DCA and Sub-Account (intra) • CB account RTGS -> CB account CLM, T2S and RTGS (inter) • CB account RTGS -> MCA (inter) • CB account RTGS -> Overnight Deposit Account (inter)	
RTGS account holder or authorised RTGS actor	• RTGS DCA -> AS Technical Account (intra, AS procedure D)	FinancialInstitutionCredit Transfer (pacs.009/Code SBTI)
Ancillary system	• RTGS DCA -> Sub-Account (intra, AS procedure C) • RTGS DCA -> AS Technical Account (intra, AS procedure D)	ASTransferInitiation (pain.998)

target services

Liquidity transfers
Message flow

Example for the message flow

Use case: DCA -> DCA (initiated by the RTGS Account Holder)

1. RTGS Account Holder A sends a LiquidityCreditTransfer (camt.050) via ESMIG to RTGS

2. Processing in RTGS

3. RTGS sends a notification (receipt (camt.025)) via ESMIG to the RTGS Account Holder A.

4. RTGS sends a BankToCustomerDebitCreditNotification (camt.054) via ESMIG to RTGS Account Holder B (optional).
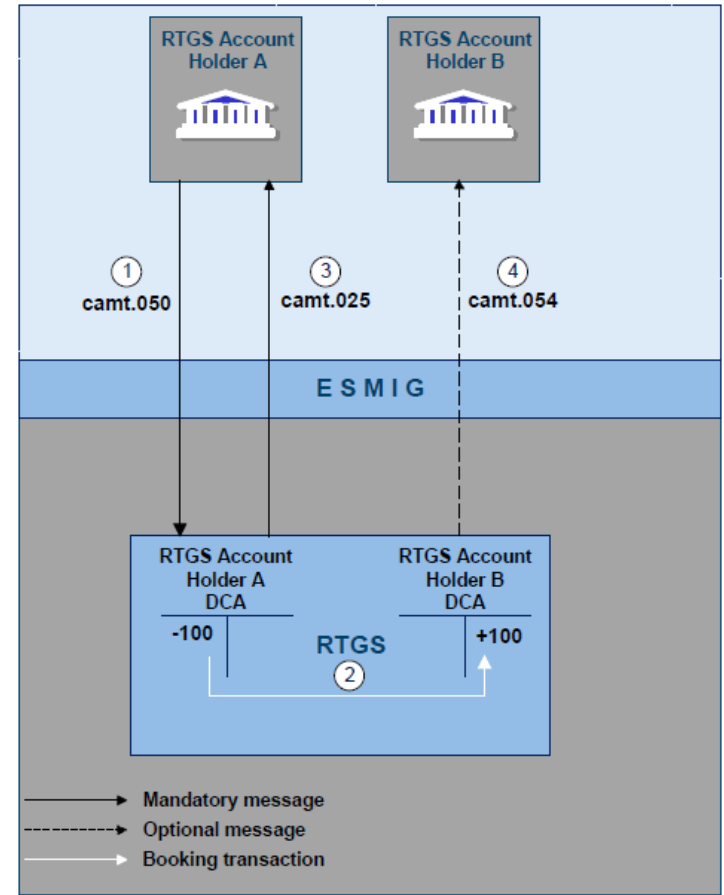
Liquidity transfers
Types

Liquidity transfer can either be

- **push** liquidity to another cash account or

- **pull** liquidity from another cash account

Liquidity transfer type	Descriptions
Immediate liquidity transfer order	Immediate transfer of liquidity initiated by the RTGS Account Holder or another authorised RTGS Actor in A2A or U2A
Rule-based liquidity transfer order	Transfers of liquidity initiated by RTGS due to a • Floor and/or ceiling rule (configuration in CRDM) • Pending urgent payment order, AS transfer order or high priority payment order rule (configuration in CRDM)
Standing order liquidity transfer order	Recurring transfer of liquidity initiated by RTGS every business day at configured certain business day events (for standing order liquidity transfer orders not related to ancillary systems) or at the start of procedure (for standing order liquidity transfer orders related to ancillary systems) (configuration in CRDM)

Liquidity transfers
Processing rules

- **FIFO principle** for the processing of liquidity transfers

- **MCA transactions** have a **higher priority** than transactions on the RTGS DCA

- **Liquidity transfers** are generally **not queued** but

  - executed **immediately** (full/partially) or

  - **rejected**.

  - exception: automated liquidity transfers on the RTGS DCA

  - **Partial settlement** only for rule-based liquidity transfer orders, standing orders and liquidity transfer orders initiated by ancillary systems (AS procedure C and D)

- Execution of **intra-service liquidity transfer orders** only if

  - all DCAs in RTGS belong to the same liquidity transfer group (in accordance with CLM)

  - a CB account is involved (in accordance with CLM)

  - it is a transfer between an RTGS DCA and a sub-account (AS procedure C) or

  - it is a transfer between an RTGS DCA and an AS Technical Account (AS procedure D)

Liquidity transfers
Processing rules

The **sequence** (priority; 1 = high …) of the **tapping of liquidity** in RTGS is **pre-defined.**

Example liquidity transfer

1. Non-reserved amount of the RTGS DCA (liquidity for normal payments)

2. Reserved amount for cash transfers with high priority

3. Reserved amount for cash transfers with urgent priority

Business case	Tapping of liquidity reservations				
RTGS	RTGS DCA			CLM MCA	
	Urgent (U)	High (H)	Available liquidity for normal payments	CBOs	Non-reserved
Liquidity transfer	3	2	1		
U payment/ancillary system transfer	1	3	2		4
H payment		1	2		3
N payment			1		

target services

Liquidity transfers
Processing of standing orders

- In case of **insufficient liquidity** on the RTGS DCA

  - The order will be **executed partially** (0.00€ possible)

  - **Standing orders** defined for the same event will be executed **„pro rata"**

  - This also applies to **standing orders by AS settlement banks** with the beginning of the mandatory procedure

  - **Standing orders for the optional procedure of AS settlement** will be **rejected** (no partial execution)

  - **Standing orders** will **never be queued** (no further settlement attempt).

Liquidity transfers
Processing of automated liquidity transfers

- In case of insufficient funds on the MCA for the execution of

    - Central bank operations (CBO) or Seizure of funds

  an **automated liquidity transfer pulling liquidity from the RTGS DCA** will be executed.

- The respective order will be **treated with the highest priority and before all other pending transactions** in RTGS

    - In case of **insufficient funds** on the RTGS DCA the automated liquidity transfer will be **queued**

    - **Any incoming liquidity** on the RTGS DCA is **transferred stepwise to the MCA** in CLM until the initial amount of the automated liquidity transfer is fully executed. **Until then the RTGS DCA will not be used for any settlement.**

- In case of incoming **liquidity on the MCA**,

    - A **new automated liquidity transfer** with the new amount will be sent to RTGS. The previous order will be rejected by RTGS.

    - The **automated liquidity transfer will be deleted,** if the incoming liquidity on the MCA is sufficient for the execution of the pending CBOs or seizure of funds.

RTGS

Ancillary system settlement

target services

Ancillary system settlement
Overview

Ancillary systems are:

- Retail payment systems
- Large value payment systems
- Foreign exchange systems
- Money market systems
- Clearing houses (central counterparts)
- Securities settlement systems

- For these market actors dedicated payment settlement procedures were established
    - **Resolution of the ECB-Council**

- RTGS offers 5 standardized AS* settlement procedures for the settlement of AS transfer orders, further named as procedures A, B, C, D and E

*AS=Ancillary System

Ancillary system settlement
AS settlement procedures

AS Settlement Procedure	Description
A Debits First	An ancillary system sends to RTGS both debit and credit AS transfer orders for settlement. RTGS settles all debits before settling the credits.
B All-or-Nothing	An ancillary system sends to RTGS both debit and credit AS transfer orders for settlement. RTGS settles all debit and credit AS transfer orders simultaneously if possible. No settlement takes place when simultaneous settlement of all debit and credit AS transfer orders is not possible.
C Transfer Orders on Sub-Accounts	This AS settlement procedure allows an AS settlement bank to dedicate liquidity for the settlement of AS transfer orders from a specific ancillary system. They achieve this by allocating the needed liquidity to a specific sub-account. AS settlement procedure C uses a mandatory procedure and allows ancillary systems to execute optional procedure(s).
D Transfer Orders on a Technical Account	This AS settlement procedure allows an AS settlement bank to dedicate liquidity for the settlement of a specific ancillary system. The AS settlement bank achieves this by allocating the needed liquidity to the respective AS technical account. AS settlement procedure D uses the mandatory procedure. This procedure is meant for the AS which are responsible for real time settlement (i.e. instant payments).
E Bilateral Settlement	Ancillary systems can benefit of the bilateral settlement of simultaneously sent debits and credits that shall be processed independently from each other.

RTGS

Contingency upload of messages and backup payments

Contingency upload
Functionality

- Possibility for **central banks to forward messages** (but no queries) or files to RTGS in case …

    – their **participants connection** to the NSP is **interrupted** or

    – the **provider** has **problems** to process messages/files.

- Upload can be done by the CB on **behalf of a participant or for its own use** by a **dedicated GUI screen**
    – Technical requirement: uncompressed UTF-8 txt file with maximum size 32 MB
    – Four-eyes principle and checksum of both files/messages must be the same
- **Validations** in RTGS the **same as in standard A2A** channel delivery
- The message/file to be uploaded does **not need to be signed** (in case of signature, no check)
- **Communication between participant and CB** is under **responsibility** of the **CB** and subject to a **bilateral agreement**

Backup payments
Overview

U2A only

- Use of backup payments in the event of a **major incident at the RTGS Account Holder,** which makes it impossible to reach RTGS in A2A mode.

  – Only U2A mode is available

- Backup payments shall reduce negative business impact – especially regarding the liquidity on the RTGS DCAs (e.g. prevention of liquidity shortage).
- Backup payments serve **the redistribution of liquidity** (backup liquidity redistribution payments) to other RTGS DCAs.

- The backup functionality will be activated by the Central Bank via the graphical user interface (GUI) **on request of the RTGS Account Holder**.
- RTGS Account Holder as well as Central Banks can use the backup functionality.

- If subscribed to, the RTGS Account Holder will receive a Settlement Notification (camt.054) for the backup payments submitted as soon as the A2A connection is available again.

Backup payments
Backup liquidity redistribution payments

U2A only

- **Characteristics of the payment order:**
  - Payments exclusively to RTGS DCAs
  - Priority: High
  - Entry through GUI
  - Message type: FinancialInstitutionCreditTransfer (pacs.009)
  - Sender of the message: RTGS
  - Receiver of the message: RTGS Account Holder (creditor)
  - Codeword (only outbound*): BACP

*outbound:
Message to the account holder (debited): camt.054
Message to the account holder (credited): pacs.009

target services

Backup payments
Subsequent submission of payment orders

U2A only

Subsequent submission of payment order after resuming normal operations

- Backup payments do not have to be resend or confirmed again. RTGS does not perform a duplicate check.

- If the RTGS Account Holder **resumes normal operations on the same day** before the cut-off, the RTGS Account Holder can **send payment orders** to RTGS as usual.

- If the RTGS Account Holder **resumes** normal operations only on the **following day or later**, RTGS provides two possibilities to process payment orders:
  - submission of payment orders with the current (new) settlement date in the message element "interbank settlement date";
  - submission of payment orders with the past (original) settlement date in the message element "interbank settlement date" (after temporary lifting of the settlement date validation by the CB).

RTGS

Liquidity management features

RTGS

Liquidity management features

- Floor/ceiling
- Reservation
- Rule-based liquidity transfers
- Limits

target services

Liquidity management features
Floor/ceiling

- **Optional** function
  - defining a **floor** and/or **ceiling**
  - for **each RTGS DCA or RTGS CB Account** possible
  - administrated by the **RTGS Account Holder** (or a third party)
  - in **CRDM**

Breach

Defined ceiling

Available liquidity

Defined floor
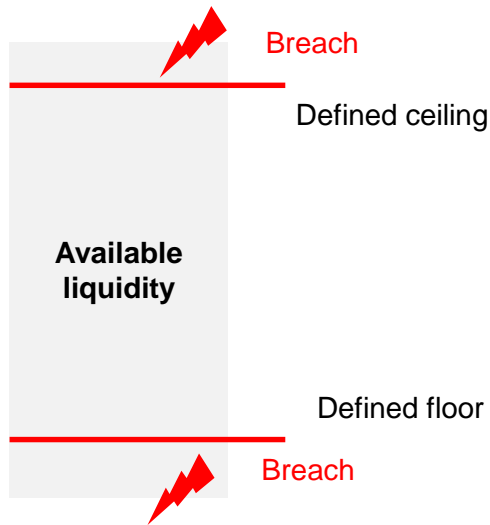
Breach

Possible reactions (options)
- can be combined
- are defined by the account holder

Option 1: RTGS **informs** the account holder about the breach. The account holder decides on the next steps.

Option 2: RTGS processed a **rule-based liquidity transfer** with the linked MCA or CLM CB Account. Different accounts can be defined for the debit/credit.

Liquidity management features
Floor/ceiling

Option 1 – Notification in case of a breach

- RTGS sends a notification in U2A and A2A* mode with the information, that a floor or ceiling amount has been breached.

- The account holder is informed of any breach.

- If the available liquidity further decreases after the breach of the floor or further increases after the breach of the ceiling no further notification will be provided.
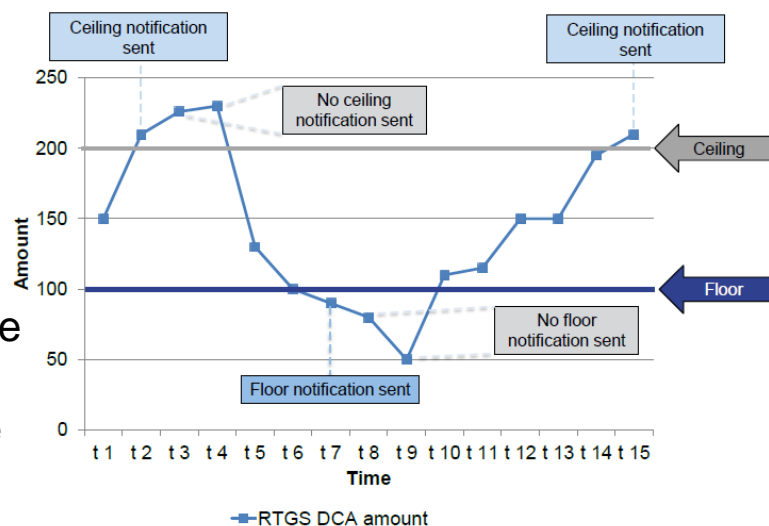
* ReturnAccount (camt.004)

Liquidity management features
Floor/ceiling

Option 2 – rule-based liquidity transfer in case of a breach

- RTGS initiates a rule-based liquidity transfer.

- Case 1: Breach of the floor
  - RTGS pulls liquidity from the defined MCA or CLM CB Account to reach a pre-defined amount (that can be different from the floor amount)
  - In case of insufficient liquidity on the defined account the liquidity transfer is partially settled. No further settlement attempt takes place.

- Case 2: Breach of the ceiling
  - Liquidity transfer to the defined MCA or CLM CB Account
  - The amount to be transferred is the difference between the currently available liquidity on the RTGS DCA or RTGS CB Account and the predefined target amount.
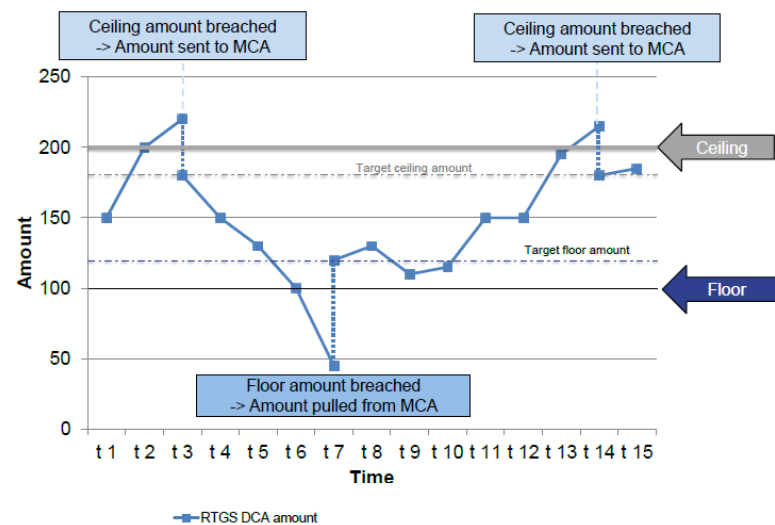
Liquidity management features
Reservation

- **Optional** function …

  - to reserve liquidity on the RTGS DCA,

  - by the RTGS Account Holder (or an authorised RTGS Actor, in contingency situations also the CB),

  - for the execution of <u>certain</u> cash transfer orders

  ❖ Typ 1: „urgent"   -> for the execution of urgent cash transfers
  ❖ Typ 2: „high"   -> for the execution of urgent and high cash transfers

- **Use cases:**

  - **current** reservation with **immediate effect**

  - **standing order** reservation

Liquidity management features
Reservation

- Reservation is only possible on **RTGS DCAs** (not on RTGS sub-accounts).

- The reservation can be entered during the business day (excl maintenance window and EoD processing) in **A2A or U2A** mode.

- If the available liquidity is not sufficient for the defined reservation ...

    - the reservation is **settled partially**.

    - the **missing** amount is **queued**.

    - the reservation is **increased** with **every credit** until the target amount is reached.

    - Pending reservations for **urgent** cash transfer orders are executed **first**.

Liquidity management features
Reservation

Standing Order Reservation

- The maintenance is done in **CRDM**.

- The **creation** is done in **U2A** mode. **Modifications can be done in U2A and/or A2A.**

- The defined amount to be reserved is valid from the **SoD** of each business day.

- The **creation, modification and deletion** (setting the amount to „0") is **valid** as of the **next business day**.

- Standing order reservations can be created in **parallel for „urgent" and „high"** cash transfer orders.

target services

Liquidity management features
Reservation

Current reservation

- The maintenance is done in **RTGS**.

- The reservation is **immediately and only** valid for the current business day.

- **During the business day** modifications of the amount (incl setting the amount to „0") are possible.

- Reservations are deleted,
  - after reaching the event „Cut-off for RTGS RTS II",
  - if the reservation is recalled or
  - a new current order is submitted to RTGS.

<div style="background:#0057a0; color:white; text-align:center; font-weight:bold;">

Rule-based liquidity transfers
due to queued payment orders and AS transfer orders

</div>

- **Optional** function

  – For the definition of a rule-based **liquidity transfer** (inter-service) from the linked MCA

  – By the **RTGS Account Holder** in CRDM

- If an **automated liquidity transfer from CLM** (due to pending CBOs) is **queued no rule-based liquidity transfer order** is initiated.

target services

**Rule-based liquidity transfers
due to queued payments orders and AS transfer orders**

- Pull liquidity from the defined MCA with the following **amount**:

  - **Case 1**: <u>an urgent payment order or AS transfer order gets queued</u>

  Difference between the RTGS DCA balance and the sum of all currently queued urgent payment orders and AS transfer

  - **Case 2**: <u>a high payment order gets queued</u>

  Difference between the account balance and the sum of all currently queued urgent payment orders and AS transfer orders and high priority payment orders

- In case of **insufficient liquidity** on the MCA the order is partially executed. For the missing amount **no further settlement attempt** is performed.

- **After the liquidity transfer**, an event-based process for the **dissolution of the queue** is triggered.

Liquidity management features
Limits

- **Optional** function
  - to define a maximum amount for the **liquidity outflow** (limit)
  - for payments with the **priority „normal"**
  - defined by the **RTGS Account Holder** or **authorised RTGS Actor** (CB in case of contingency only)
  - with the aim of ensuring an early settlement of payments with the **full control over the liquidity** and the possibility to **synchronise payments** (debits and credits).

- **Types**
  - *Bilateral limit:*
    maximum net amount towards **another** RTGS DCA
  - *Multilateral limit:*
    maximum net amount to **all other** RTGS DCAs towards which no bilateral limit has been defined

target services

Liquidity management features
Limits

- **General rules:**
  - **Minimum amount** of € 1 million
  - Bilateral limits **towards Central Banks** are **not possible**. It is not possible to define limits towards CB accounts.
  - Bilateral and multilateral limits with an amount of **„0" are „not defined"**.
  - A **multilateral limit** can only be defined if **at least one bilateral limit** is defined.
- The definition of the limit (**standing order limit**) is done in CRDM.
- At the SoD the limit is set.
- **Intraday** limit modifications are possible **in RTGS** (increase, decrease or reducing to „0"). A limit, that is set to „0", cannot be increased during the day.
- The modification and deletion of a limit is done in **CRDM and is valid as of the next business day.**

Liquidity management features
Limits

- During the business day the limit is regularly **updated**

  - considering (1) incoming liquidity from urgent/high/normal payments and (2) outgoing liquidity from normal payments

  - Creation of a „**bilateral / multilateral position**":

  > Bilateral position =
  > Sum of **all** credits („urgent", „high", „normal") on the DCA from the DCA towards which a bilateral limit is defined
  > ./. sum of the debits (only „normal" payments) from DCA to DCA towards a bilateral limit is defined

  > Multilateral position =
  > Sum of **all** credits („urgent", „high", „normal") on the DCA from the DCA towards which no bilateral limit is defined
  > ./. Sum of the debits (only „normal" payments) from DCA to all DCAs towards which no bilateral limit is defined

  - Creation of the „**free limit position**":

  > „free limit position" =   defined limit
  >   +/- bilateral or multilateral position

  - A „normal" payment is executed only, if the „free limit position" is positive

target services

Liquidity management features
Limits

Value of limits in the settlement of normal payments

Example: Bilateral limit of RTGS DCA A (€ 3 million) towards RTGS DCA B

	Bilateral limit	Submitted payments	Effect
DCA A -> DCA B	€ 3 million	€ 10 million	Up to the limit of € 3 million payment orders are settled from DCA A to DCA B. DCA A -> DCA B € 3 million € 7 million „queued"
Afterwards			

DCA B -> DCA A	not relevant	€ 6 million	free limit position from A after the execution:
			    € 3 million limit + € 6 million credit ./. € 3 million debit
			    = € 6 million free limit position
			
			➢ Max € 6 million can be executed from A to B but currently € 7 million „queued".
			➢ Payments up to € 1 million stay in the queue until
			    • further credits are processed from B
			    • A increases the bilateral limit to € 4 million or deletes the limit by setting it to "0"
			
			If the payments are not executed by the end of the day, they are rejected.

target services

RTGS

Business day

target services

The RTGS business day is structured in five periods:

- start-of-day (SoD);

- RTGS real-time settlement I (RTGS RTS I);

- maintenance window (for TARGET Services) if activated;

- RTGS real-time settlement II (RTGS RTS II);

- end-of-day (EoD).

Planned times of these periods dependent from business day schedule.

There are two types:

- business day with non-optional maintenance window;

- business day with optional maintenance window.

RTGS business day
Phases of the business day

Business Day with optional maintenance window

RTGS periods	SoD	RTGS RTS I	RTGS RTS II	Optional maintenance window	RTGS RTS II	EoD

18:45 19:30 02:30 03:00 05:00 18:00

Settlement window for AS Transfer Orders	Settlement window for AS Transfer Orders		Settlement window for AS Transfer Orders	
Settlement window for LTOs	Settlement window for LTOs		Settlement window for LTOs	
	Settlement window for interbank payments		Settlement window for interbank payments	
	Settlement window for customer payments		Settlement window for customer payments	

17:00

target services

RTGS business day
Phases of the business day

Business day Monday with non-optional maintenance window:

RTGS periods

SoD	RTGS RTS I	Non-optional maintenance window	RTGS RTS II	EoD

18:45   19:30   02:30 (Sat)   02:30 (Mon)   18:00

| Settlement window for AS Transfer Orders |
| Settlement window for LTOs |

| Settlement window for AS Transfer Orders |
| Settlement window for LTOs |
| Settlement window for interbank payments |
| Settlement window for customer payments |

17:00
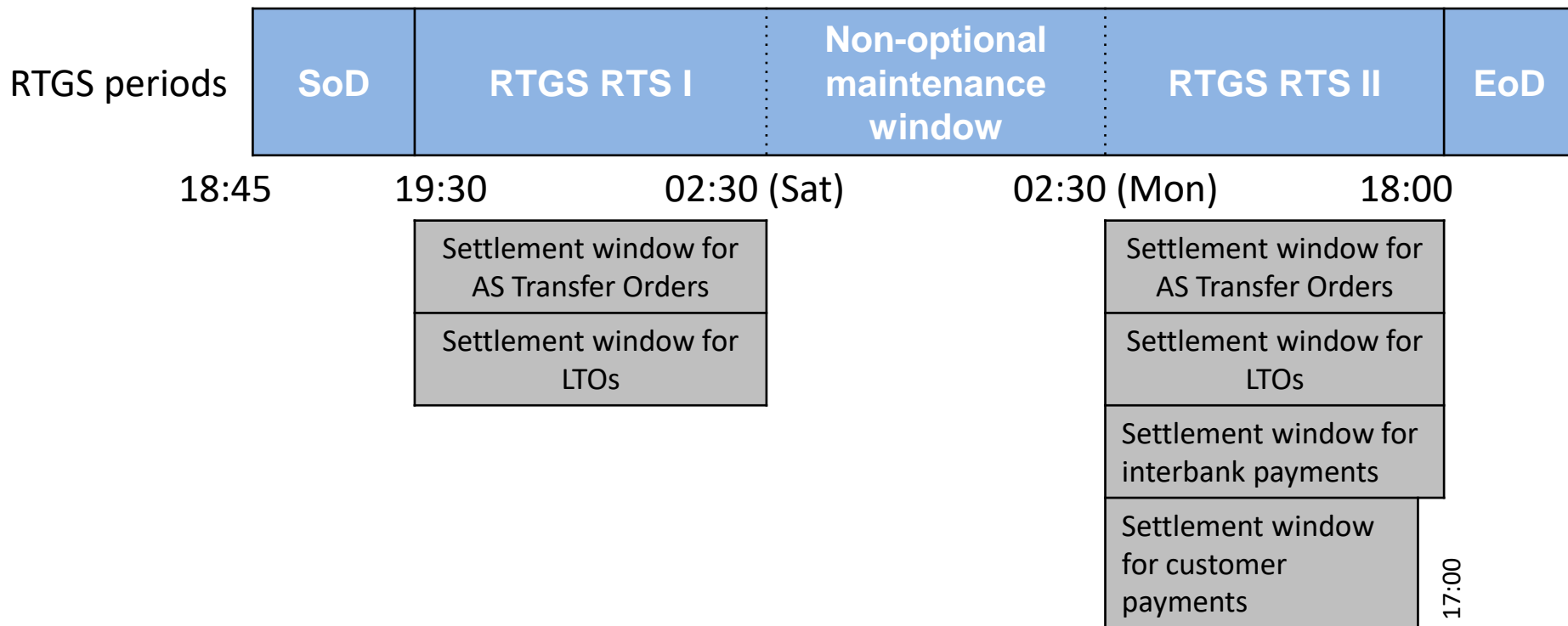
- **Business day Monday starts on calendar day Friday.**
- **RTGS is in maintenance window from Saturday 02:30 till Monday 02:30**

RTGS business day
Start-of-day period (18:45 - 19:30 CET)

Start-of-Day:

- **preparation of new business day**

- **starts with event RSOD *Change of business day***

RTGS processes	Details
change of business day	- changes the business day according to T2 calendar - new business day schedule is created
processing of standing order reservations and standing order limits in RTGS	- Execution of standing order reservations and standing order limits
revalidation of warehoused payments	- revalidation of warehoused payments against the new reference data

RTGS business day
RTGS RTS I period (19:30 - 02:30 CET)

RTGS RTS I:

- **starts with event RRTI** *Start of RTGS RTS I*

RTGS period   RTGS timeline

Events*: Start of RTGS RTS I (RRTI)*
and *Execution of standing orders in RTGS (RESO)*

19:30

CLM RTS

Settlement window for AS transfer orders

Settlement window for LTOs

02:30

Event*: Start of maintenance window"* (RSMW) (in case the non-optional maintenance window is scheduled**) or** *Start of RTGS RTS II* (RRII)
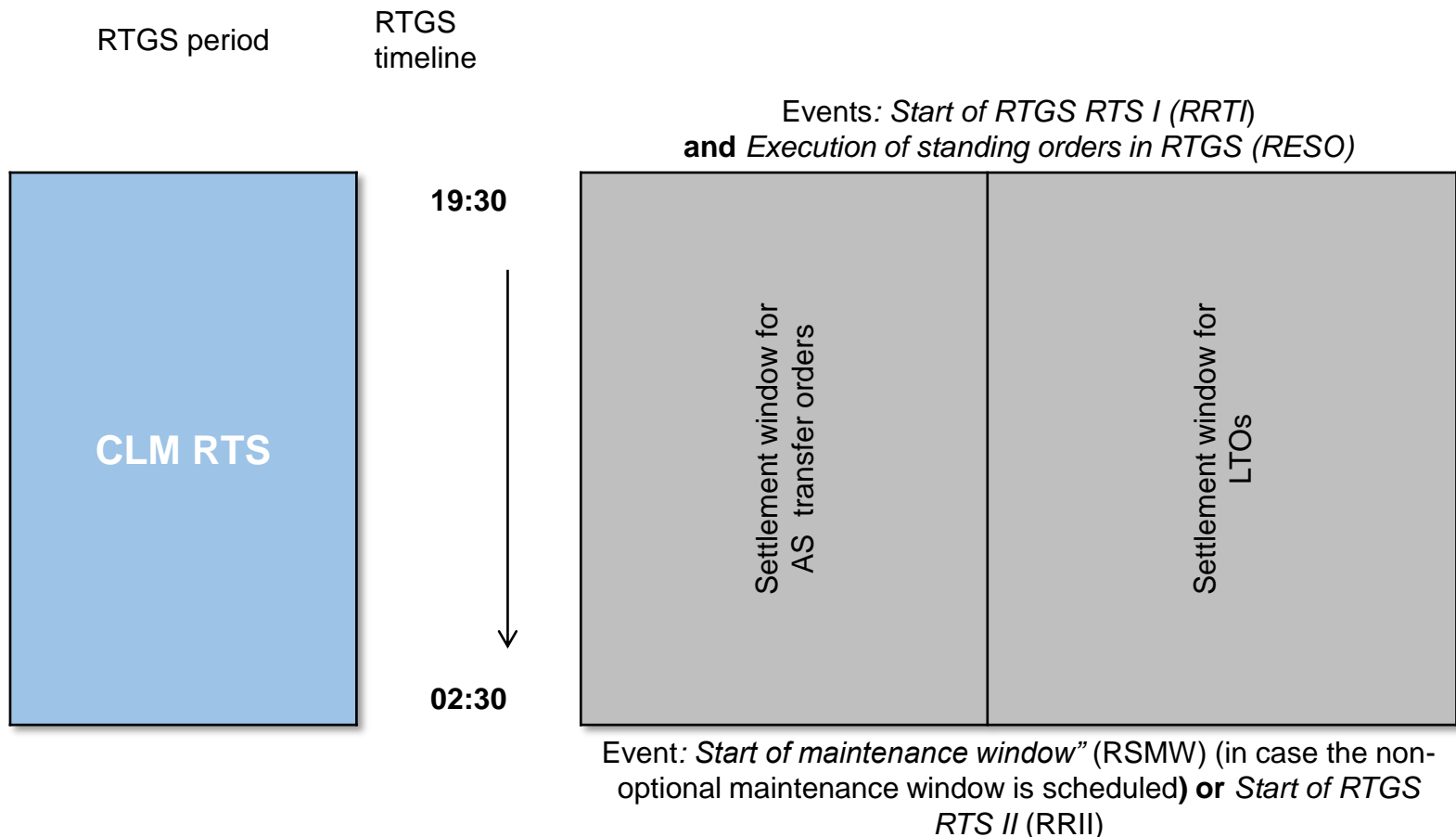
RTGS business day
RTGS RTS I period (19:30 - 02:30 CET)

Settlement window for AS transfer orders	Settlement window for liquidity transfer orders
Event RRTI Start of RTGS RTS I	
Opening of settlement window for AS settlement procedure A, B and E	Processing of automated liquidity transfers in RTGS and standing order liquidity transfer orders in CLM
Event RESO Execution of standing orders in RTGS	
Opening of settlement window for AS settlement procedure C and D RTGS opens the mandatory procedure for AS settlement procedure C and D.	Execution of standing order liquidity transfers defined for RESO Processing of rule-based liquidity transfers Processing of immediate and parked liquidity transfers

RTGS business day
RTGS RTS II period (02:30 - 18:00 CET)
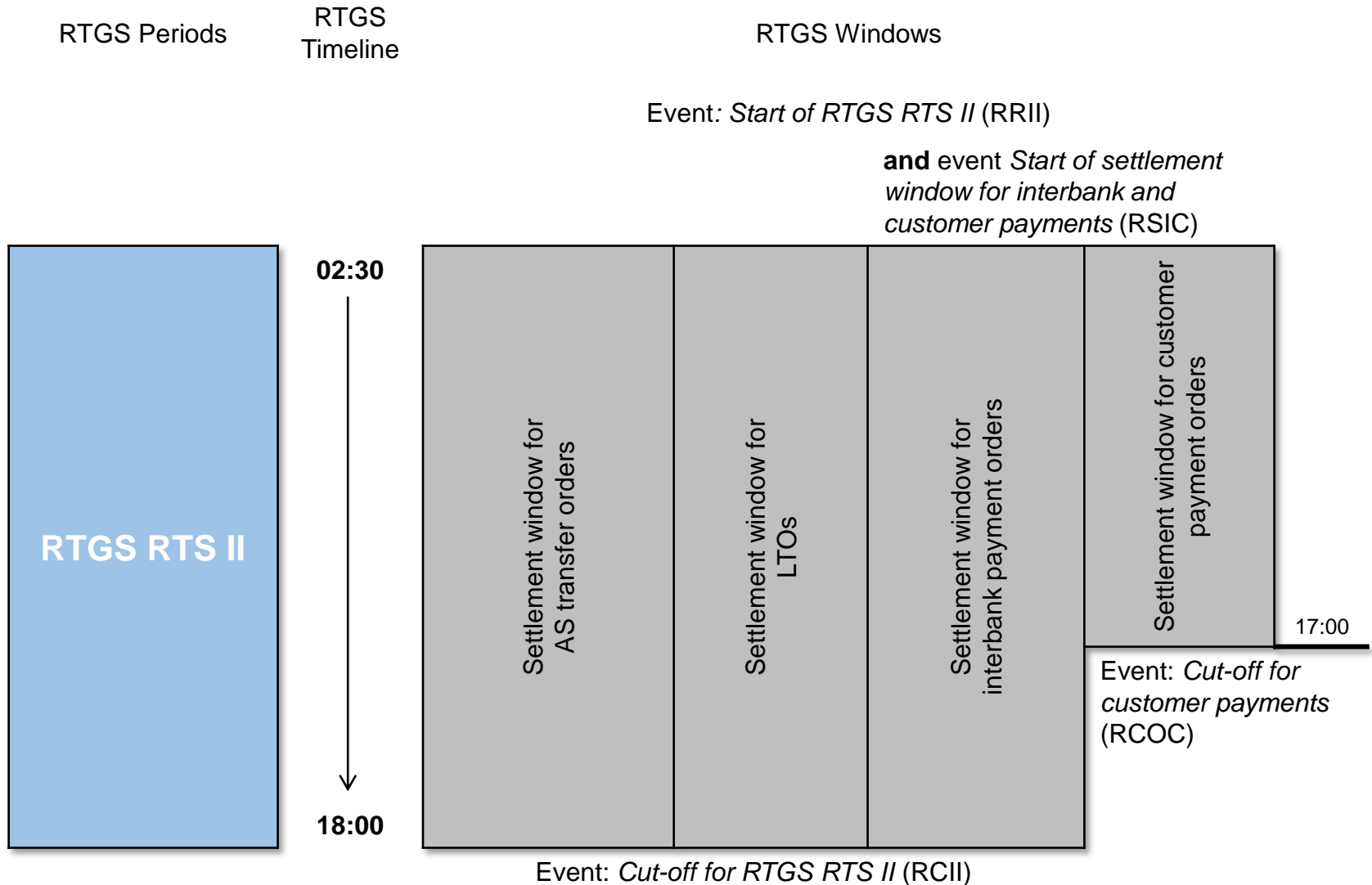
RTGS Periods

RTGS Timeline

RTGS Windows

Event: *Start of RTGS RTS II* (RRII)

and event *Start of settlement window for interbank and customer payments* (RSIC)

RTGS RTS II

02:30

Settlement window for AS transfer orders

Settlement window for LTOs

Settlement window for interbank payment orders

Settlement window for customer payment orders

17:00

Event: *Cut-off for customer payments* (RCOC)

18:00

Event: *Cut-off for RTGS RTS II* (RCII)

RTGS business day
RTGS RTS II period (02:30 – 18:00 CET)

Settlement window for AS transfer orders	Settlement window for liquidity transfer orders
Event RRII Start of RTGS RTS II	
Resuming of settlement window for AS transfer orders	Resuming of settlement window Execution of standing order liquidity transfers defined for RRII
Event RSIC Start of settlement window for interbank and customer payments	
	Execution of standing order liquidity transfers defined for RSIC

RTGS business day
RTGS RTS II period (02:30 – 18:00 CET)

Settlement window for customer payment orders	**Settlement window for interbank payment orders**

Event RRII Start of RTGS RTS II

Event RSIC Start of settlement window for interbank and customer payments

Opening of settlement window for customer payment orders	Opening of settlement window for interbank payment orders
Processing of warehoused customer payment orders on indicated settlement date	Processing of warehoused interbank payment orders on indicated settlement date

RTGS business day
Non-optional maintenance window (Saturday 02:30 – Monday 02:30)

All RTGS settlement windows

Event RSMW Start of non-optional maintenance window

Non-optional maintenance window
System maintenance processes

Event REMW End of non-optional maintenance window

Resuming of settlement windows

The non-optional maintenance window is used for system mainteance processes on weekends and during closing days for all currencies.

RTGS business day
Optional maintenance window (03:00 – 05:00 CET)

All RTGS settlement windows

optional

Event RSOM Start of optional maintenance window

**Optional maintenance window
System maintenance processes**

Event REOM End of optional maintenance window

Resuming of settlement windows

When no non-optional maintenance window is scheduled the optional maintenance window can be activated by the operator in case of need. The non-optional maintenance window interrupts RTGS RTS II.

RTGS business day
RTGS RTS II period (02:30 – 18:00 CET)

Settlement window for customer payment orders	**All other settlement windows**
Customer payment orders arriving after planned or revised time of RCOC are rejected.	
Event RCOC Cut-off for customer payments 17:00 CET	
Last settlement attempt for customer payments Rejection of not finally processed customer payment orders and related task queue orders.	No impact

RTGS business day
RTGS RTS II period (02:30 – 18:00 CET)

All open settlement windows

Payment orders and limit and reservation modifications arriving after planned or revised time of RCII are rejected.

Event RCII Cut-off for RTGS RTS II

Last settlement attempt for payment orders.

Rejection of not finally processed payment orders, not finally processed limit and reservation modifications and related task queue orders

AS transfer finalisation processing.

Event RLSO Execution of standing orders after last settlement attempt in RTGS

Execution of standing order liquidity transfer order defined for event RLSO after last settlement attempt

Emptying sub-accounts

target services

RTGS business day
End-of-Day period (18:00- 18:45 CET)

RTGS event RCOS *EoD – close of service* marks the completion of EoD processes.

Afterwards RTGS

- fills DWH tables

- starts with the reference data activation for the new business day

- performs housekeeping activities

Annex A – Detailed Ancillary system settlement

target services

Ancillary system settlement
Overview

Ancillary systems are:

- Retail payment systems
- Large value payment systems
- Foreign exchange systems
- Money market systems
- Clearing houses (central counterparts)
- Securities settlement systems

- For these market actors dedicated payment settlement procedures were established
  - **Resolution of the ECB-Council**

- RTGS offers 5 standardized AS* settlement procedures for the settlement of AS transfer orders, further named as procedures A, B, C, D and E

*AS=Ancillary System

Ancillary system settlement
AS settlement procedures

AS Settlement Procedure	Description
A Debits First	An ancillary system sends to RTGS both debit and credit AS transfer orders for settlement. RTGS settles all debits before settling the credits.
B All-or-Nothing	An ancillary system sends to RTGS both debit and credit AS transfer orders for settlement. RTGS settles all debit and credit AS transfer orders simultaneously if possible. No settlement takes place when simultaneous settlement of all debit and credit AS transfer orders is not possible.
C Transfer Orders on Sub-Accounts	This AS settlement procedure allows an AS settlement bank to dedicate liquidity for the settlement of AS transfer orders from a specific ancillary system. They achieve this by allocating the needed liquidity to a specific sub-account. AS settlement procedure C uses a mandatory procedure and allows ancillary systems to execute optional procedure(s).
D Transfer Orders on a Technical Account	This AS settlement procedure allows an AS settlement bank to dedicate liquidity for the settlement of a specific ancillary system. The AS settlement bank achieves this by allocating the needed liquidity to the respective AS technical account. AS settlement procedure D uses the mandatory procedure. This procedure is meant for the AS which are responsible for real time settlement (i.e. instant payments).
E Bilateral Settlement	Ancillary systems can benefit of the bilateral settlement of simultaneously sent debits and credits that shall be processed independently from each other.

Ancillary system settlement
Procedure A

Procedure A

TARGET2 AS Procedure 4
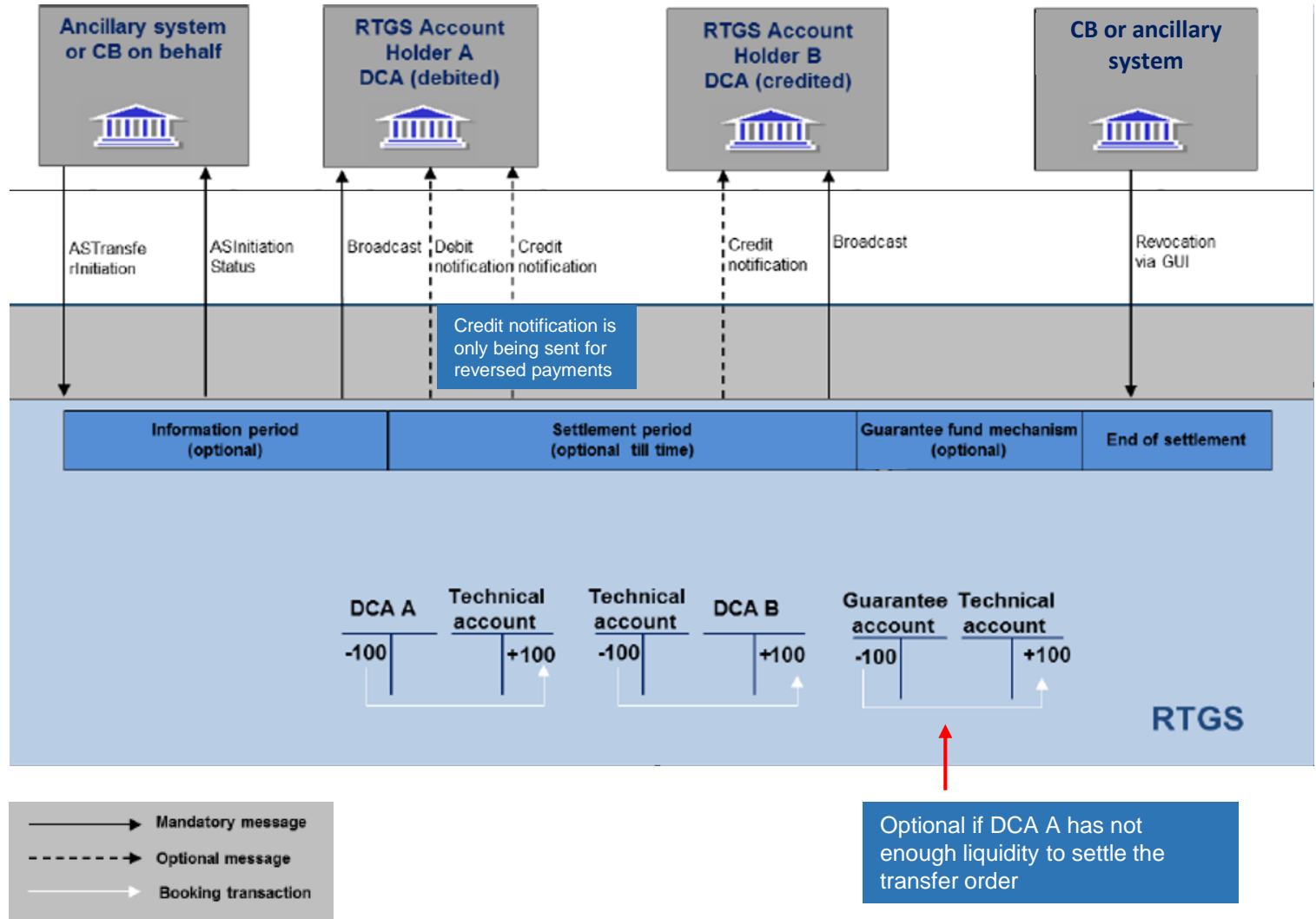
Ancillary system settlement Procedure B

Procedure B

TARGET2 AS procedure 5

Optional if DCA A has not enough liquidity to settle the transfer order and takes a loan
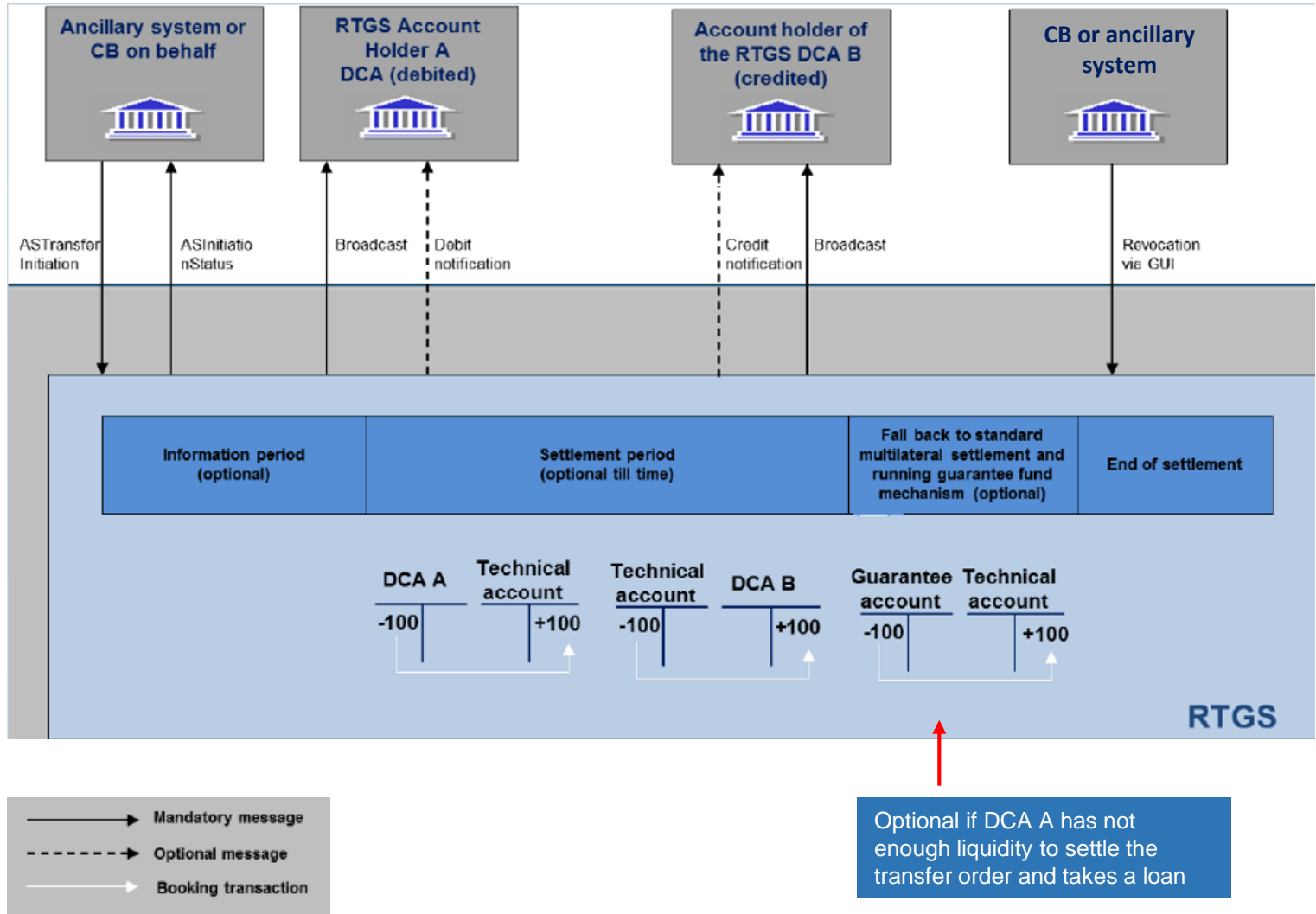
Ancillary system settlement
Procedure C

Procedure C

TARGET2 AS procedure 6 interfaced

Settlement on dedicated liquidity operates in procedures identified by specific Start of Procedure and End of Procedure messages.

Start of procedure → *Liquidity adjustment → Cycles → Liquidity adjustment → Cycles → **End of procedure**

__Credits__ on the sub accounts are also possible during the cycles

Cycle

Start of Cycle → Blocking of funds → Booking → End of Cycle → Release of funds

Ancillary system settlement
Procedure C

Procedure C

TARGET2 AS procedure 6 real-time
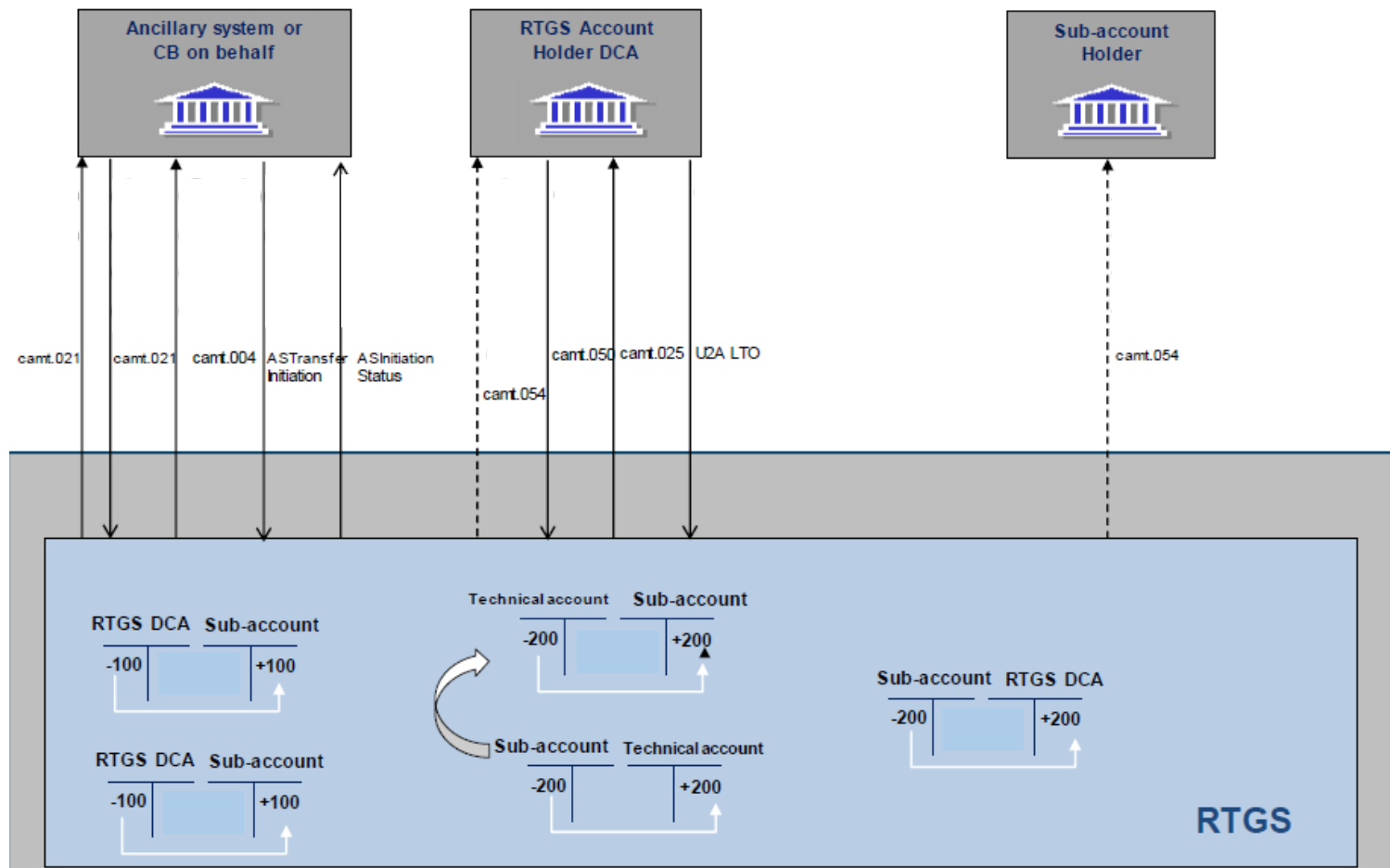
Ancillary system settlement
Procedure C

- Booking on a sub-account
    - Used for **AS procedure C**
    - **One** sub-account for each payment bank **required** – **More than one** sub-account for each payment bank **possible**
    - **Linked** to an RTGS DCA
    - Reachable via **account number** (e.g. RTGSDCPBAWPLD0XXXEUR0A07)

- Providing liquidity via
    - **Standing order liquidity transfer order** defined in CRDM (RTGS Account Holder)
    - **Immediate liquidity transfer order** by the RTGS Account Holder (A2A – camt.050 – or U2A) (RTGS Account Holder)
    - **Immediate liquidity transfer order** by the AS (A2A – ASTransferInitation – pain.998)

- Standing orders will be executed at the beginning of the settlement procedure (mandatory and optional)

- Immediate liquidity transfer orders will be
    - **Executed immediately** on the sub-account in case of a **liquidity increase**
    - **Stored** on the sub-account until the settlement cycle has been closed in case of a **liquidity decrease**

- Additionally to the **mandatory procedure**, the AS can decide to start the **optional procedures**
One settlement procedure can consist of multiple **settlement cycles**
    - The liquidity on the sub-account is blocked during a cycle
    - At the end of the mandatory or optional procedure, the liquidity will automatically be transferred back from the sub-account to the linked RTGS DCA

Ancillary system settlement
Procedure E

Procedure E

TARGET2 AS procedure 2 & 3
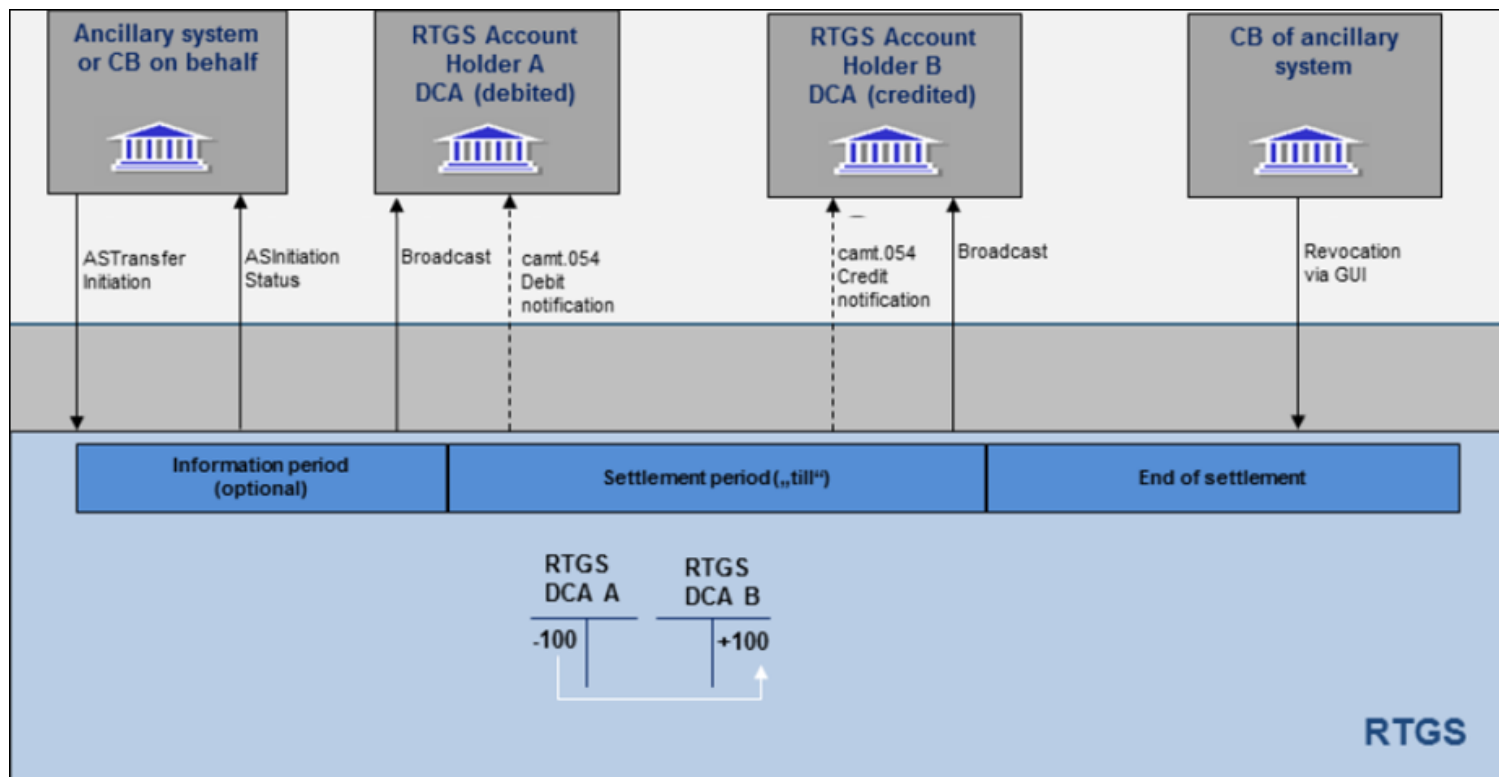
Ancillary system settlement Accounts

AS Procedure	Description
A	„Debits first"
B	„All or nothing"
C	Transfer orders on sub-accounts (per AS); Balance at EoD: €0.00
D	Liquidity for real time AS on technical account
E	„Bilateral Settlement"; „AS Batch Message" with one or multiple payments

Account	Account owner	Use case for AS
RTGS DCA / RTGS CB Account	AS Settlement Bank	Can be used for all procedures **except C.** For C it is mandatory to debit a Sub-Account
Sub-Account	AS Settlement Bank	Exclusively for **procedure C**
Guarantee Funds Account	Guarantor (Central Bank, AS or Payment Bank)	For **procedures A and B**
AS Technical Account	AS or Central Bank	For **all AS procedures** → A dedicated AS Technical Account must be opened for each AS settlement procedure, except for procedure E (for which the usage is optional)

Ancillary system settlement GUI screens

Ancillary system settlement GUI screens

Ancillary system settlement GUI screens

Annex B – Liquidity reservations - examples

Reservations are taken into account in the settlement process as follows:

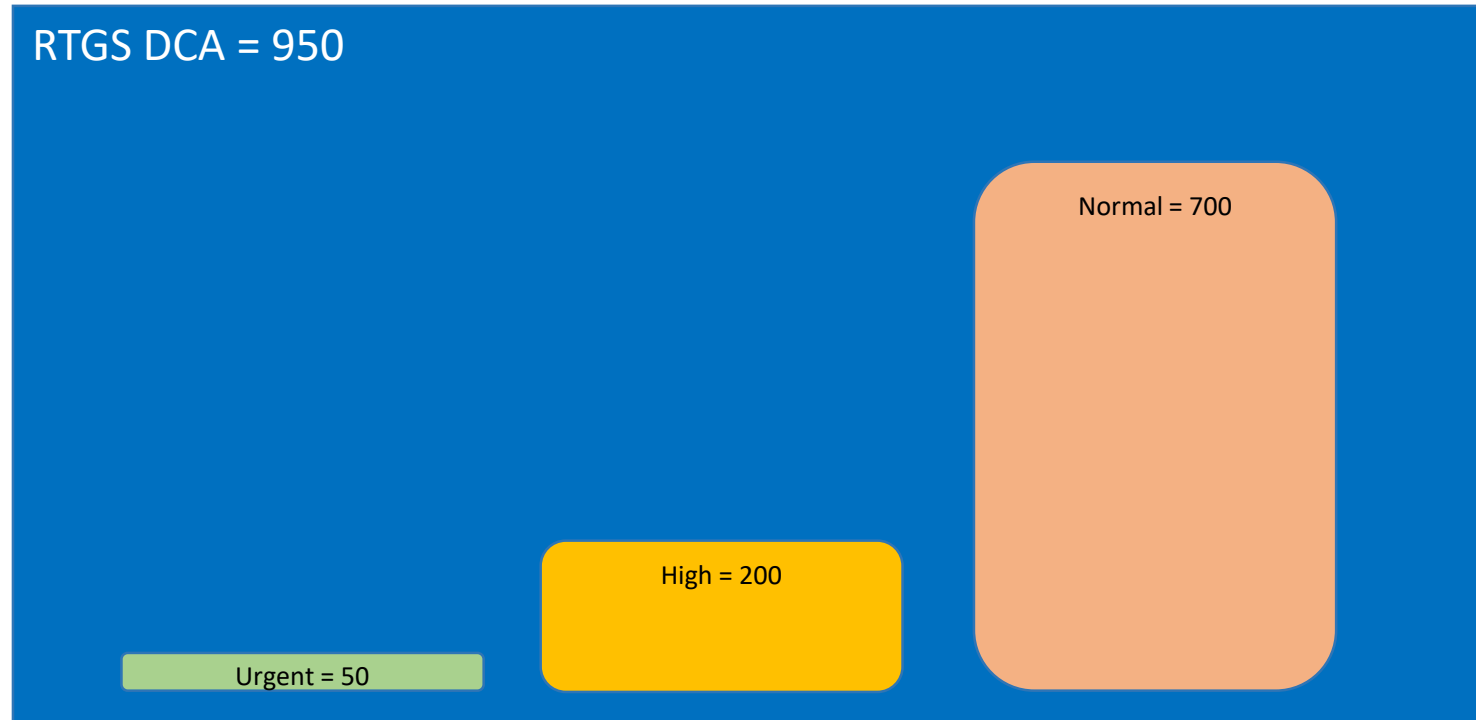| Effect	Urgent cash transfer	High cash transfer	Normal cash transfer
Available liquidity for settlement of cash transfers	Balance on RTGS DCA	Balance on RTGS DCA minus urgent reserve	Balance on RTGS DCA minus urgent reserve minus high reserve
Effect of outgoing cash transfers	I Reduction of balance on RTGS DCA I Reduction of urgent reserve I If the urgent reserve is not sufficient, the liquidity will be used as follows: – available liquidity for normal cash transfers; – reduction of the high reserve.	I Reduction of balance on RTGS DCA I Reduction of high reserve I If the high reserve is not sufficient, the available liquidity for normal cash transfers will be used.	I Reduction of balance on RTGS DCA
Effect of incoming (i.e. credited) cash transfers	Increase of balance on RTGS DCA	Increase of balance on RTGS DCA	Increase of balance on RTGS DCA

Liquidity management features
Principles in the liquidity management – task 1
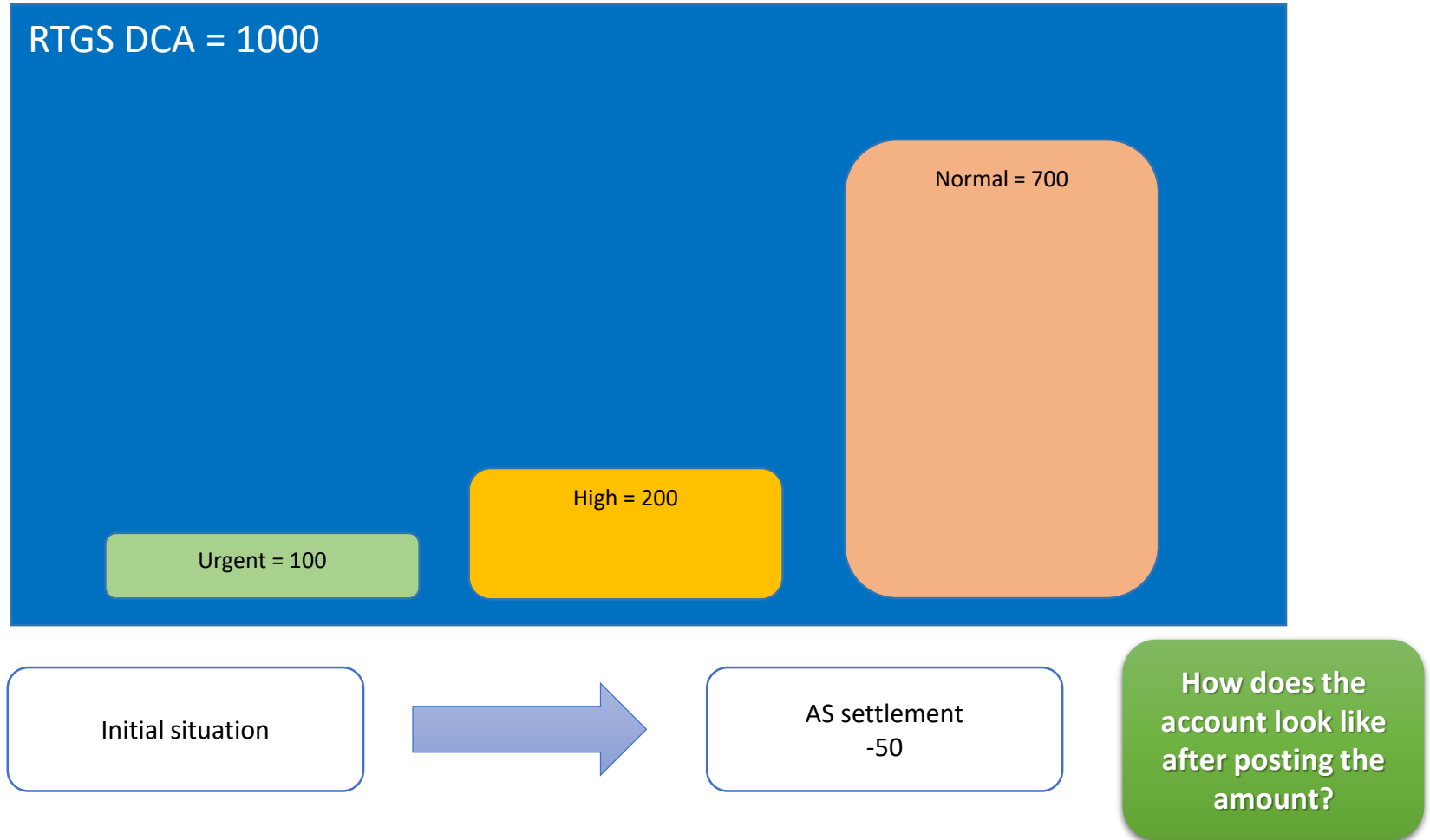
RTGS DCA = 1000

Normal = 700
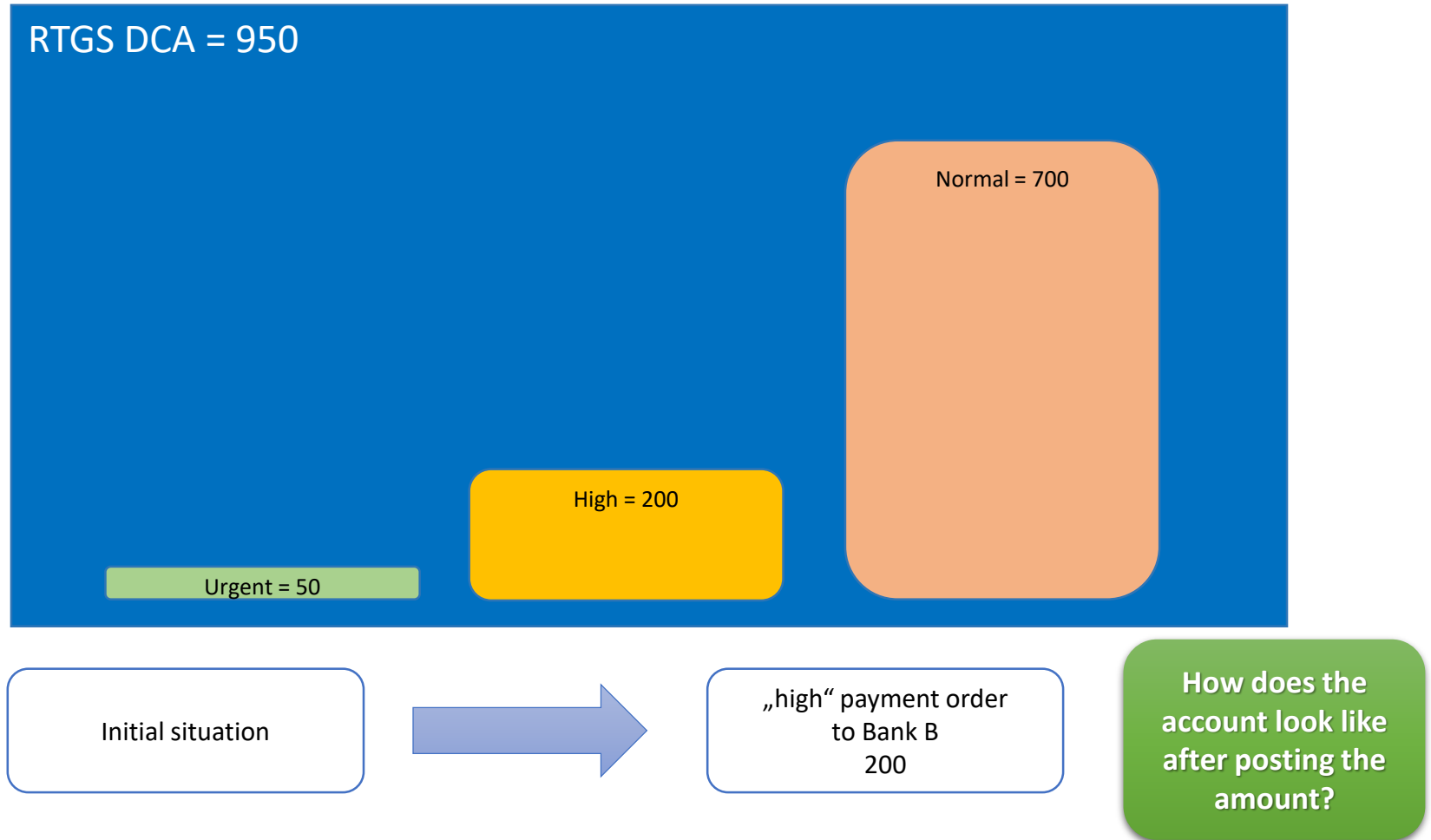
High = 200

Urgent = 100

Initial situation →

AS settlement
-50

How does the account look like after posting the amount?

target services

Liquidity management features
Principles in the liquidity management – solution for task 1

RTGS DCA = 950

Normal = 700

High = 200

Urgent = 50
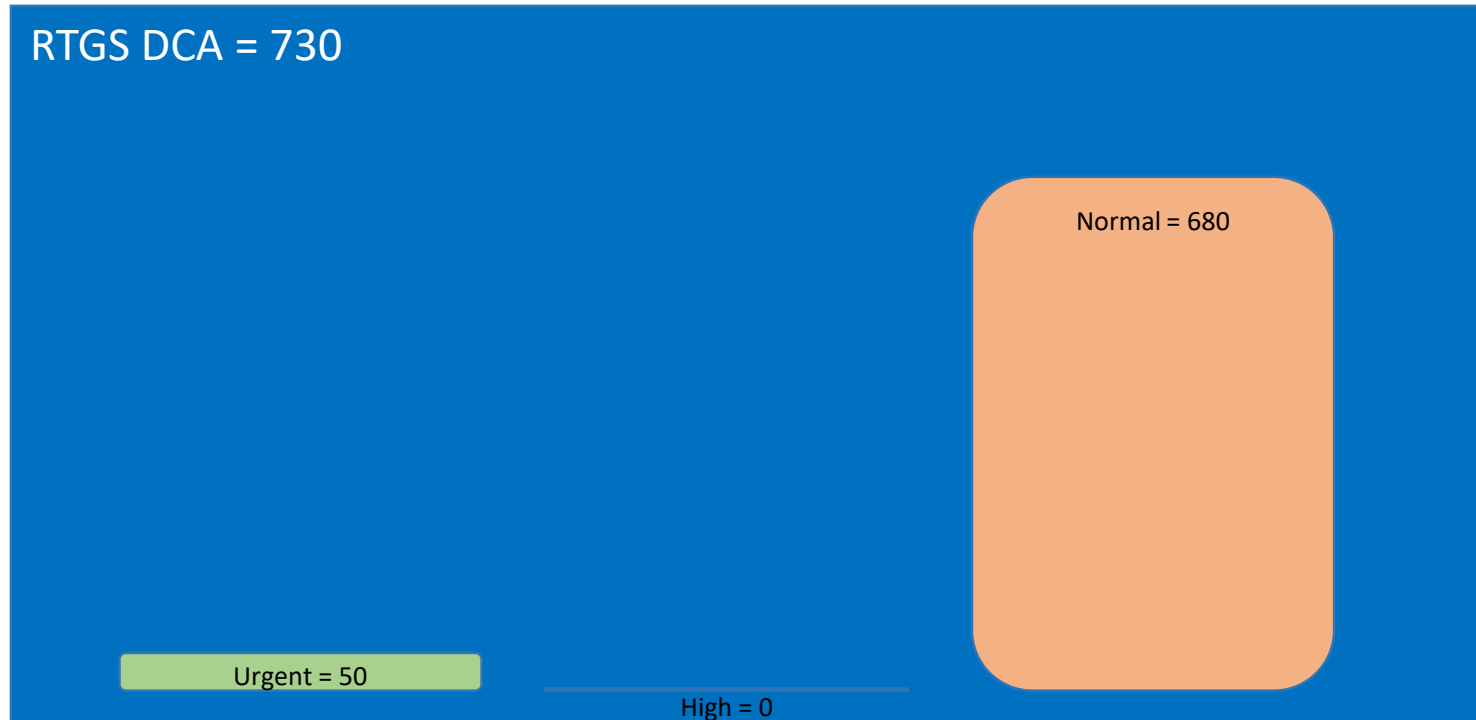
Liquidity management features
Principles in the liquidity management – task 2

RTGS DCA = 950

Normal = 700

High = 200

Urgent = 50

Initial situation

→

„high" payment order
to Bank B
200

How does the account look like after posting the amount?
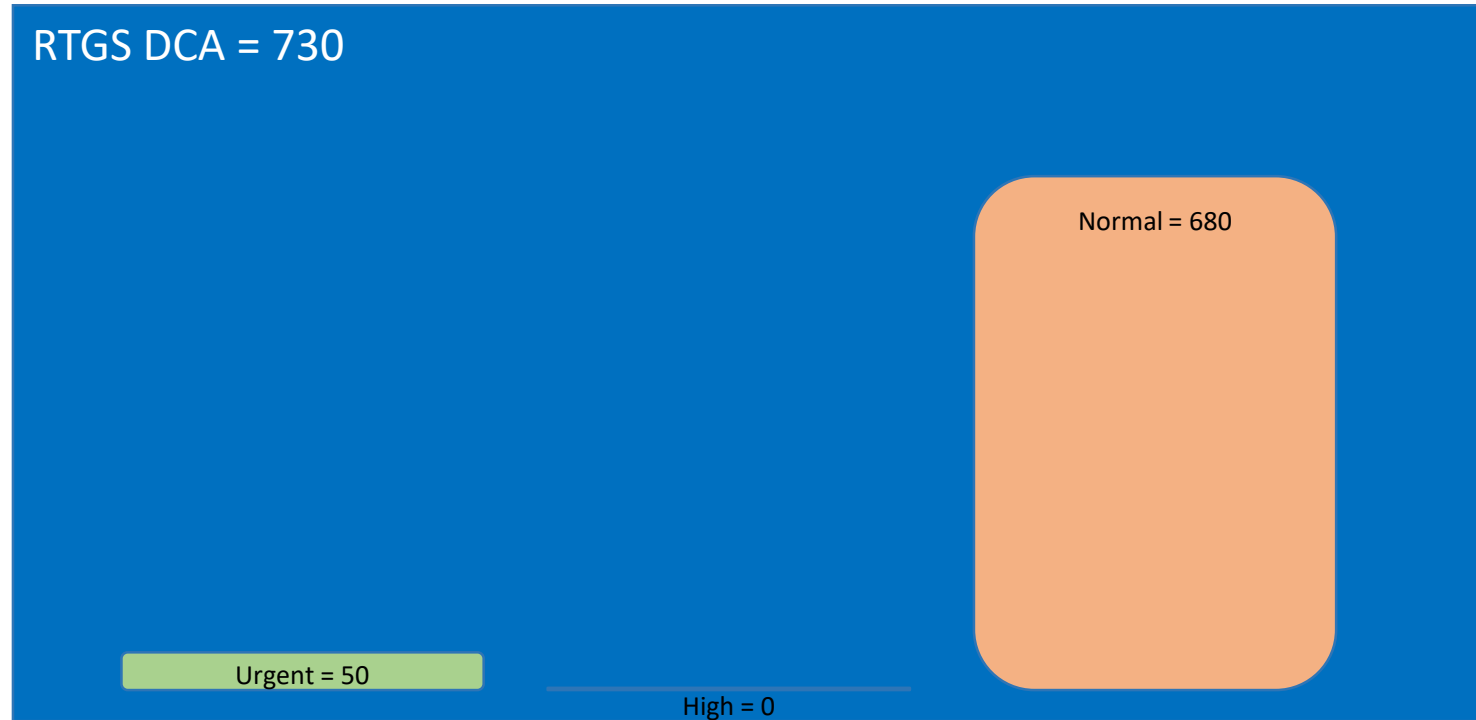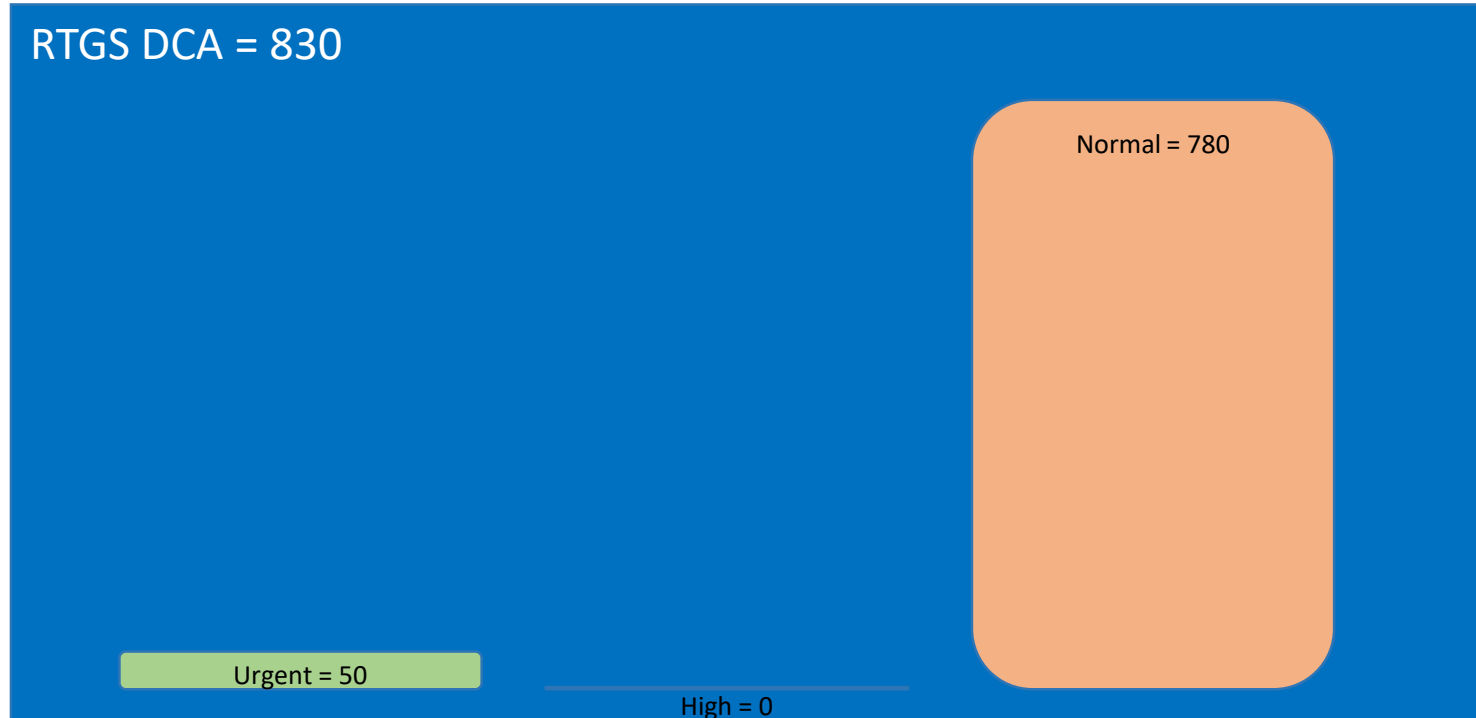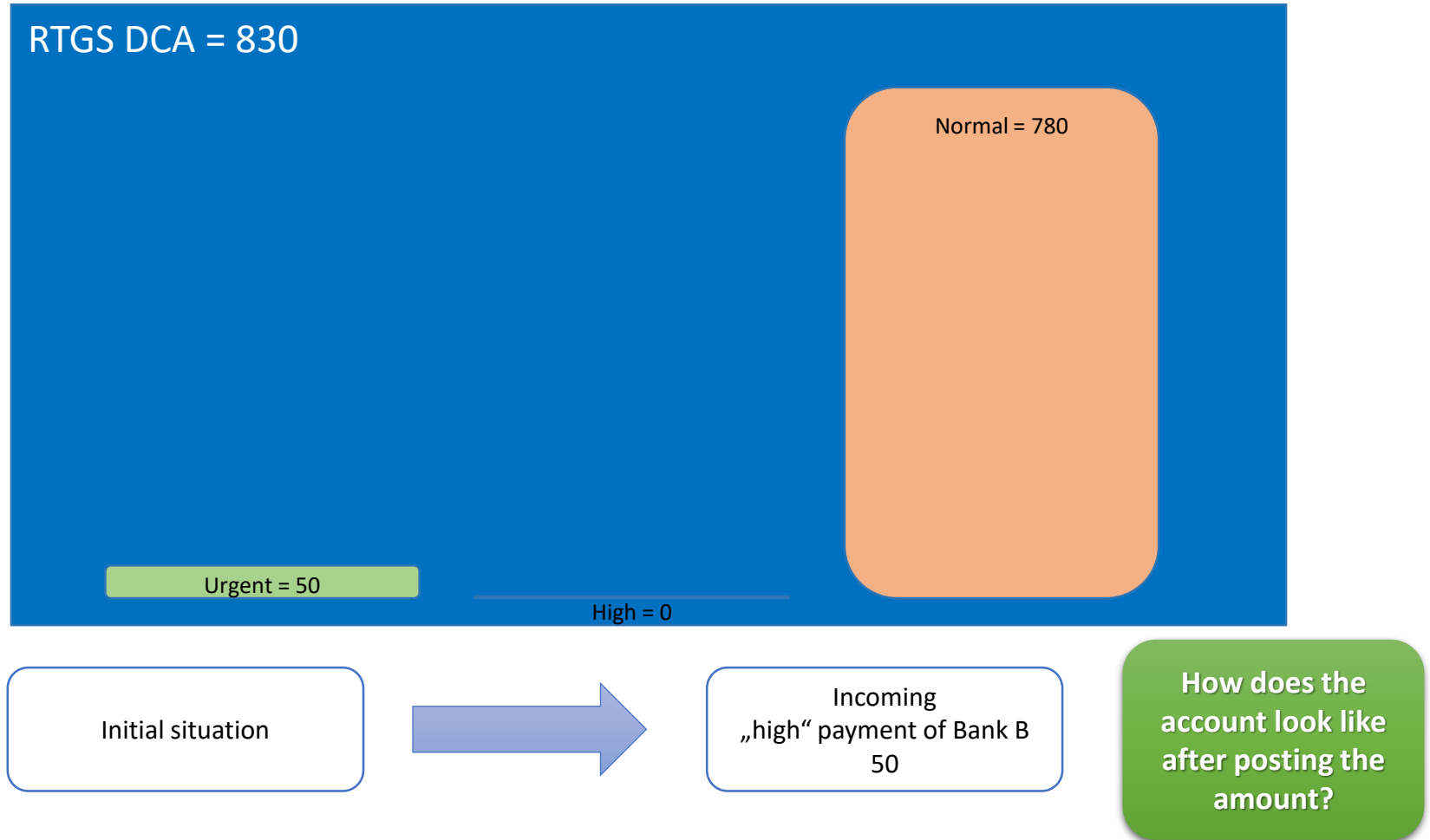
Liquidity management features
Principles in the liquidity management – solution for task 2

Liquidity management features
Principles in the liquidity management – task 3

RTGS DCA = 750

Normal = 700

Urgent = 50

High = 0
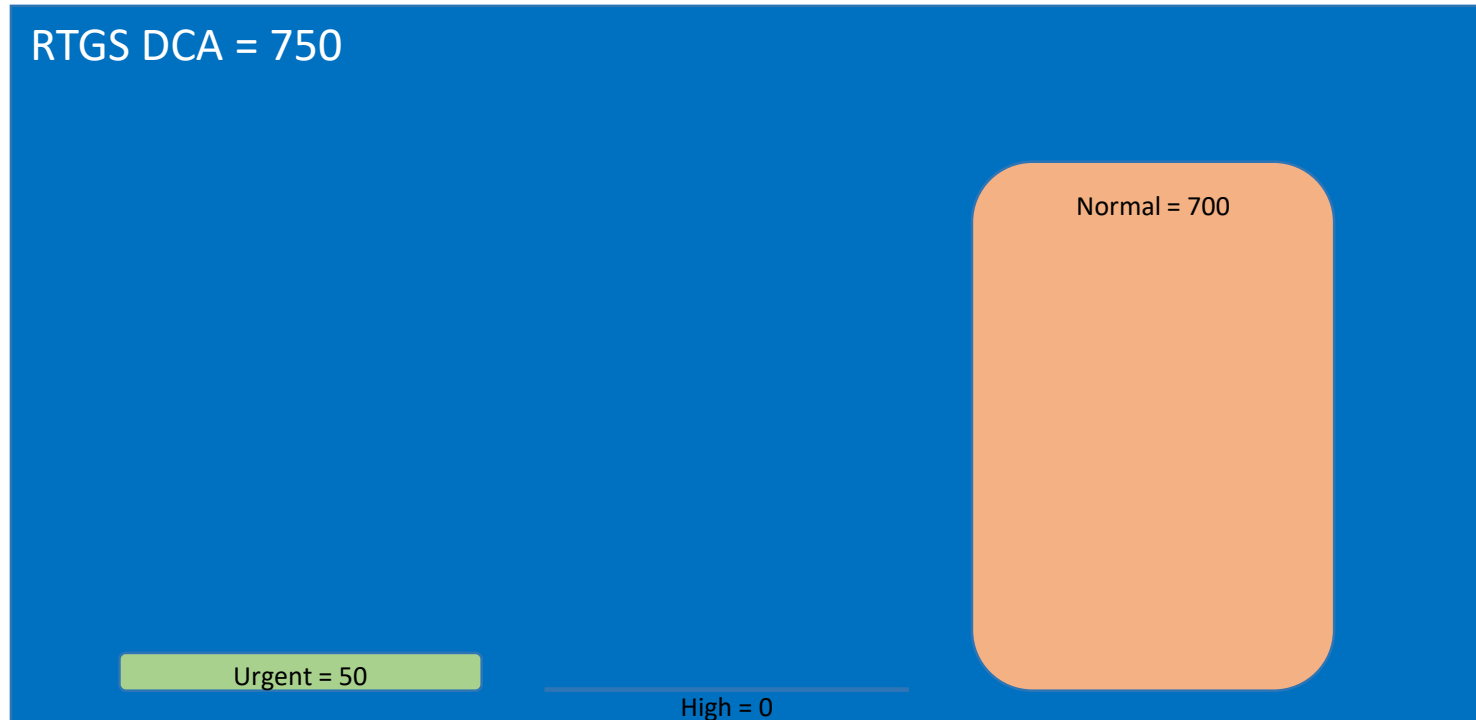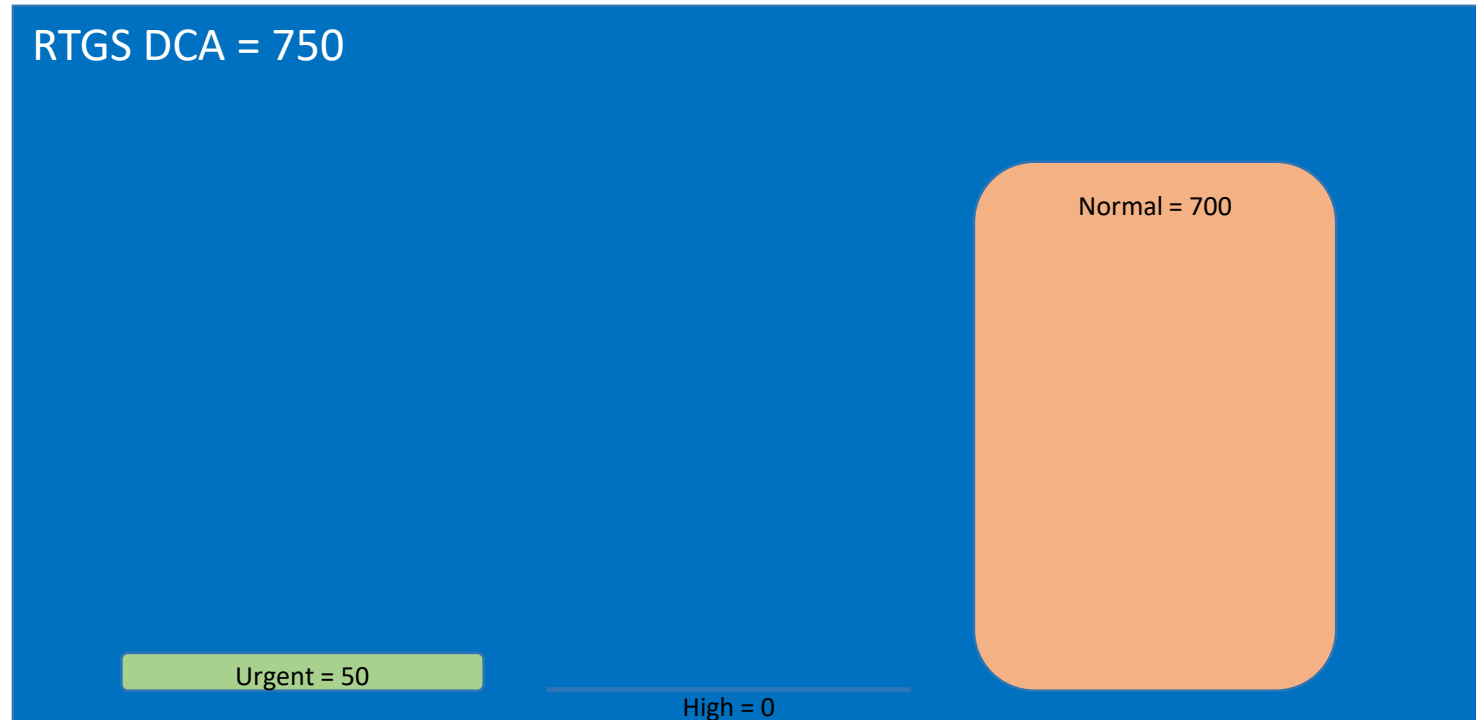
Initial situation → „normal" payment order to Bank C 20

How does the account look like after posting the amount?

target services

Liquidity management features
Principles in the liquidity management – solution for task 3

RTGS DCA = 730

Normal = 680

Urgent = 50

High = 0

Liquidity management features
Principles in the liquidity management – task 4

RTGS DCA = 730

Normal = 680

Urgent = 50

High = 0

Initial situation

→

AS transfer
+100

How does the account look like after posting the amount?

target services

Liquidity management features
Principles in the liquidity management – solution for task 4

RTGS DCA = 830

Normal = 780

Urgent = 50

High = 0

Liquidity management features
Principles in the liquidity management – task 5

RTGS DCA = 830

Normal = 780

Urgent = 50

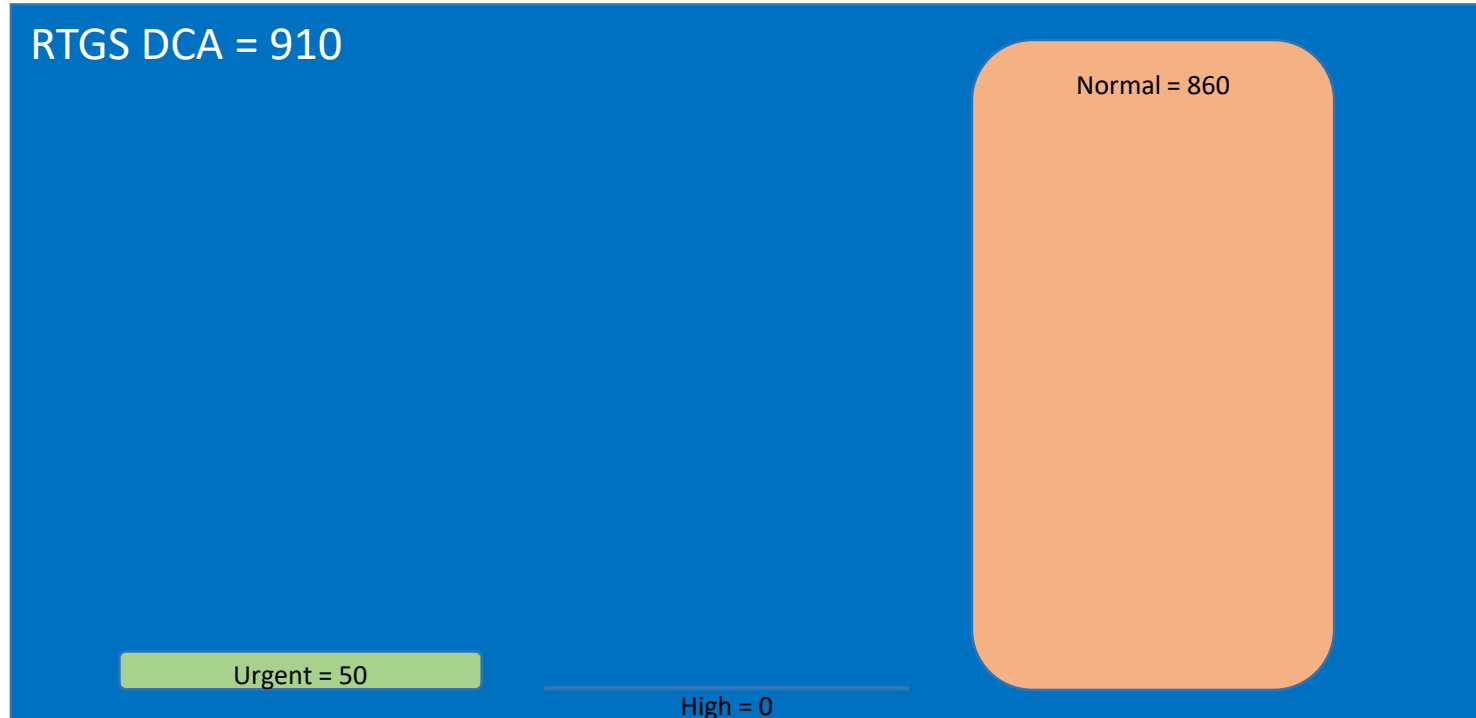High = 0

Initial situation → Incoming „high" payment of Bank B 50

How does the account look like after posting the amount?
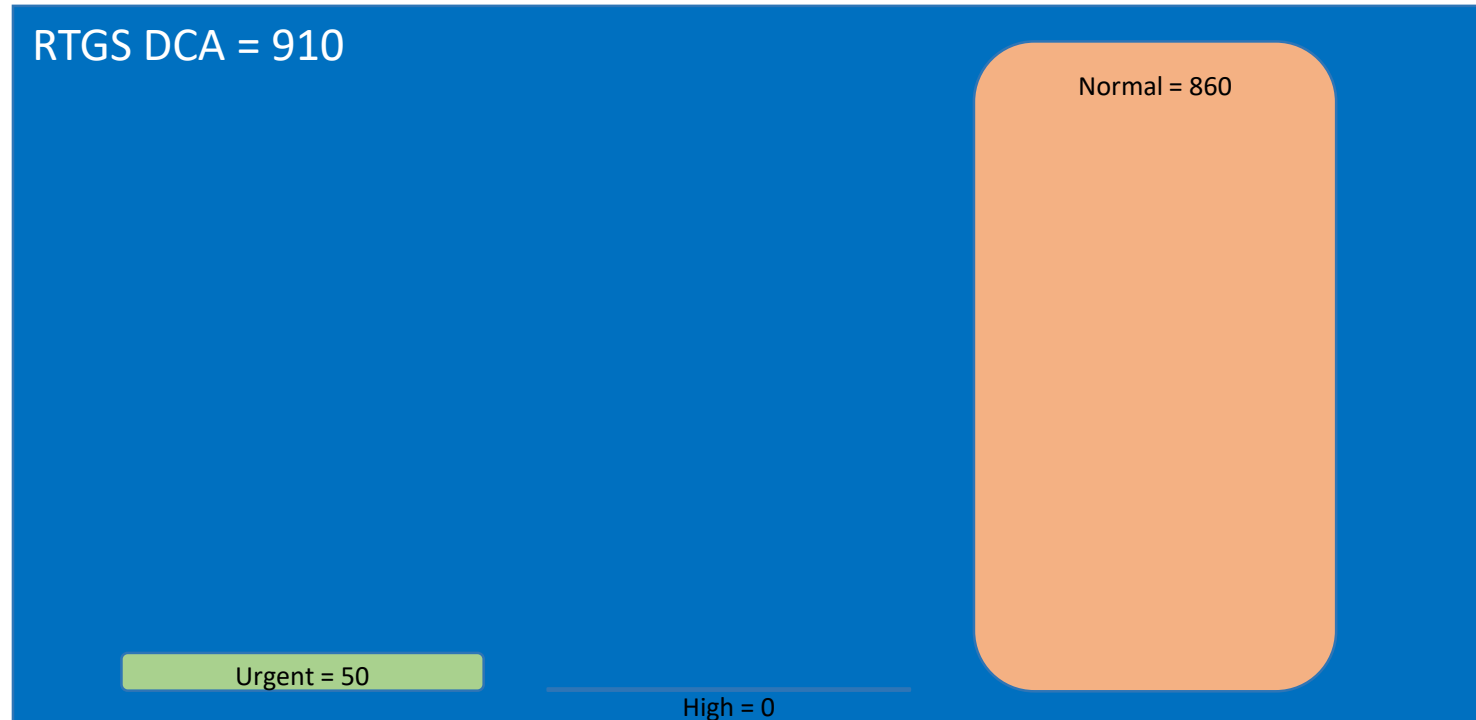
Liquidity management features
Principles in the liquidity management – solution for task 5

RTGS DCA = 880

Normal = 830

Urgent = 50

High = 0

RTGS DCA = 880

Normal = 830

Urgent = 50

High = 0
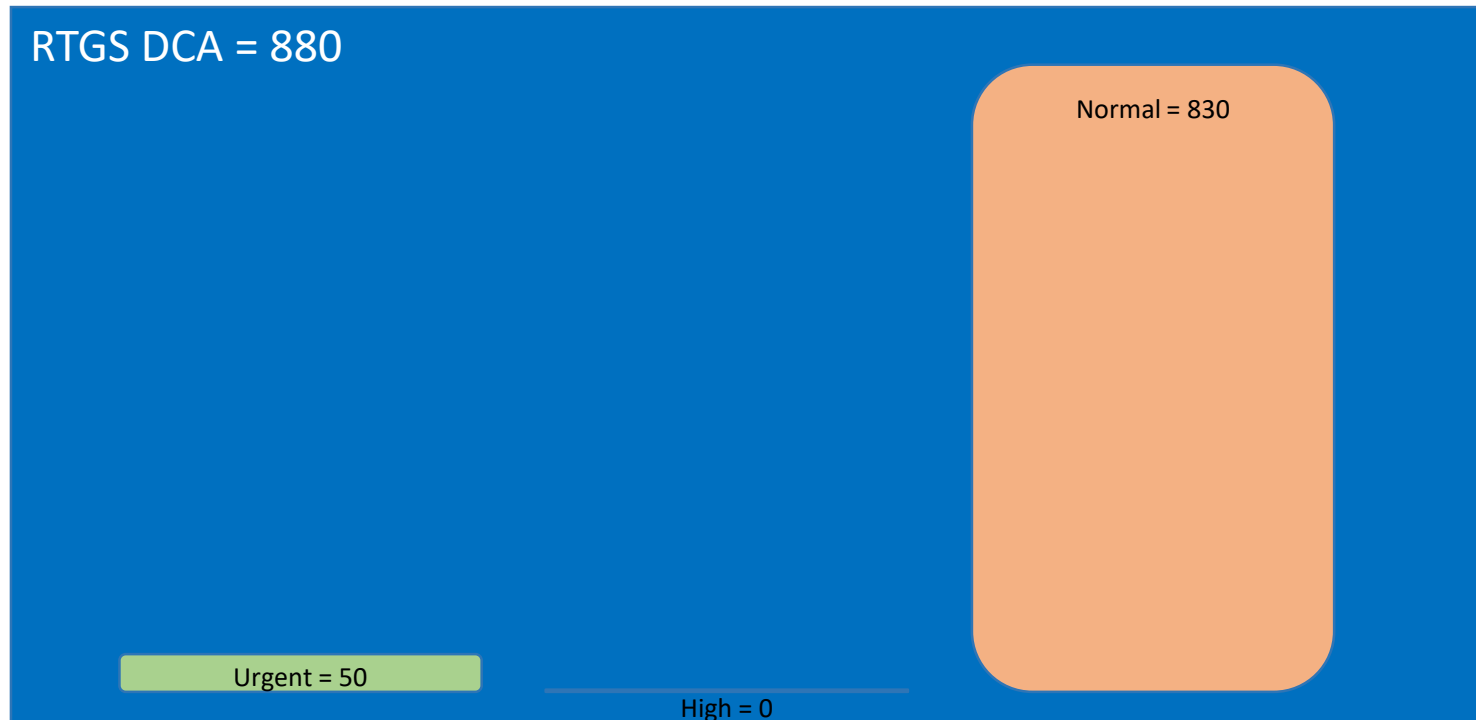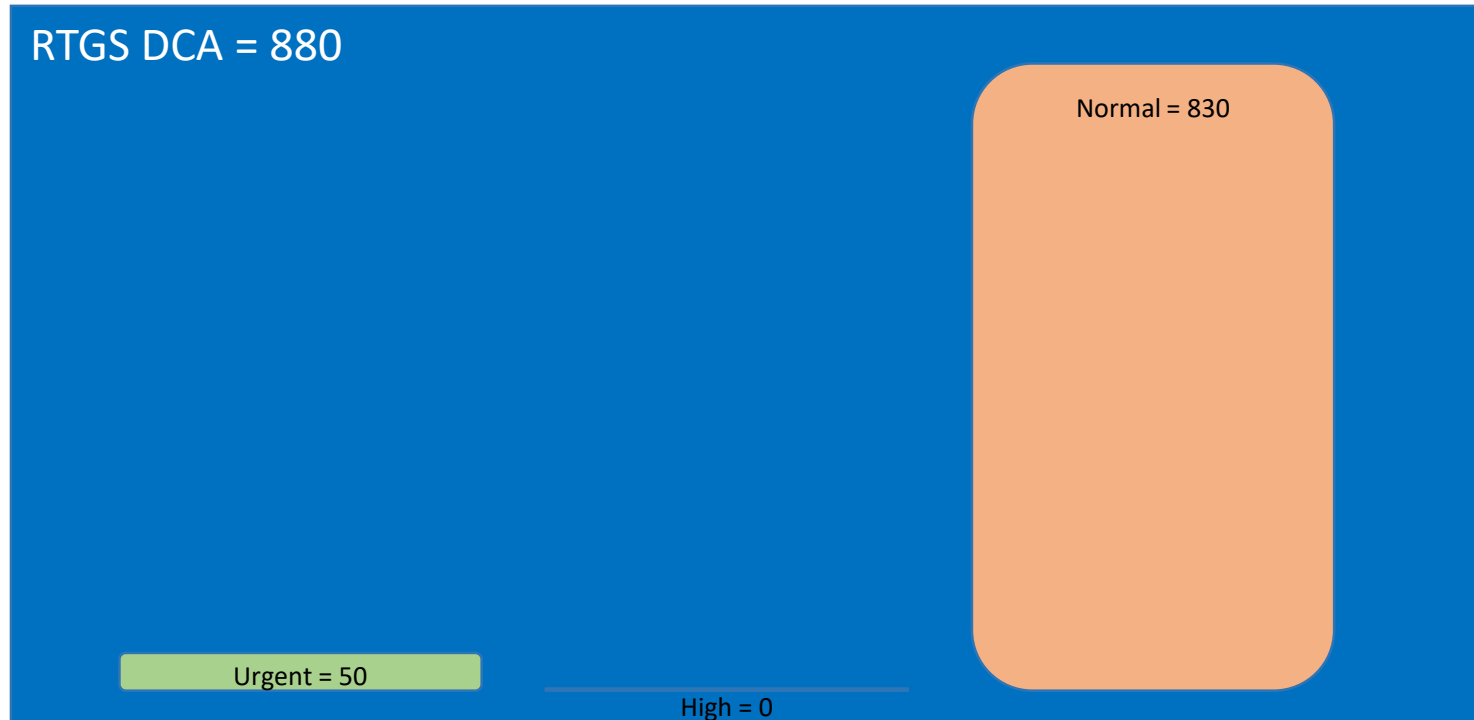
Initial situation

→ Incoming „normal" payment of Bank C 30

How does the account look like after posting the amount?

RTGS DCA = 910

Normal = 860

Urgent = 50

High = 0

Liquidity management features
Principles in the liquidity management – task 7

RTGS DCA = 910

Normal = 860

Urgent = 50

High = 0

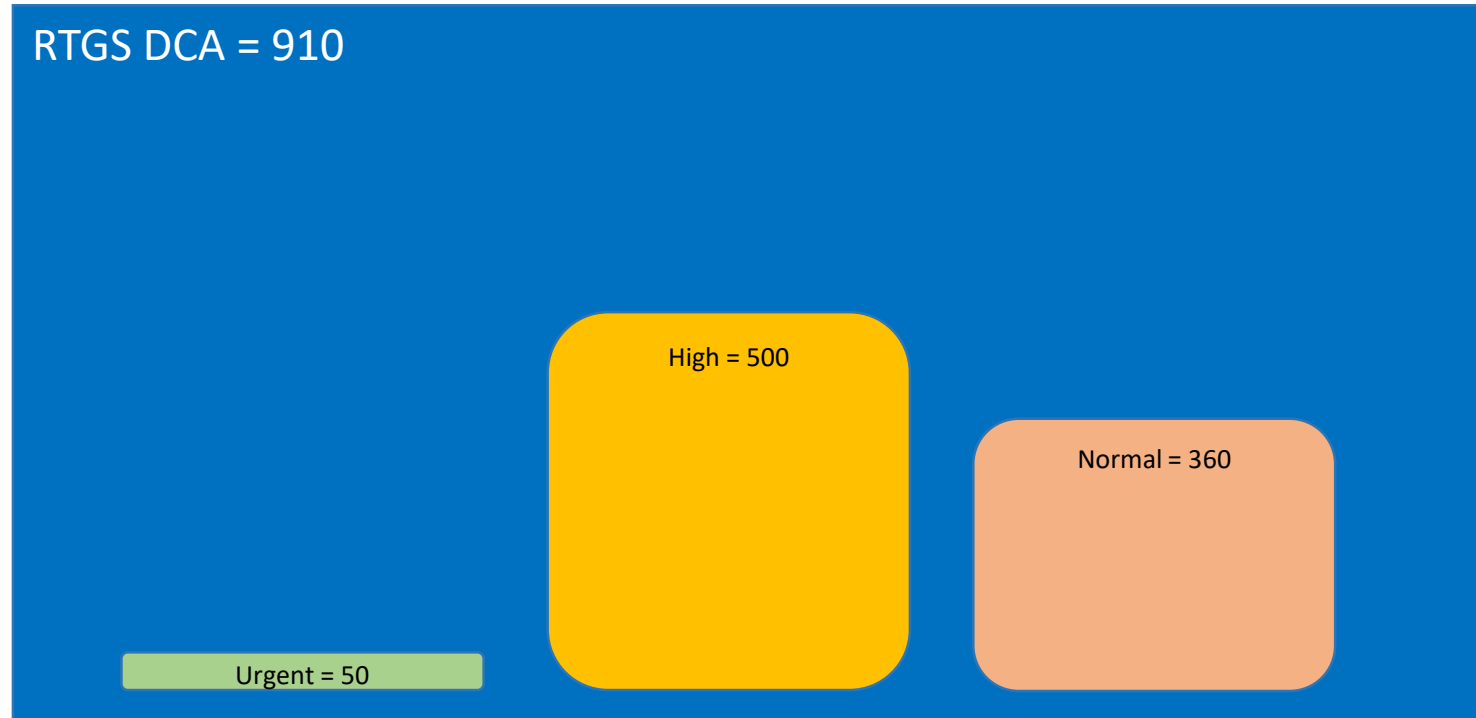Initial situation → New „high" reservation 500

How does the account look like after posting the amount?

target services

Liquidity management features
Principles in the liquidity management – solution for task 7

RTGS DCA = 910

High = 500

Normal = 360

Urgent = 50

Liquidity management features
Principles in the liquidity management – task 8

RTGS DCA = 910

High = 500

Normal = 360

Urgent = 50

| Initial situation | → | „urgent" payment order for a central bank 450 |

How does the account look like after posting the amount?

Liquidity management features
Principles in the liquidity management – solution for task 8

RTGS DCA = 460

High = 460

Urgent = 0

Normal = 0