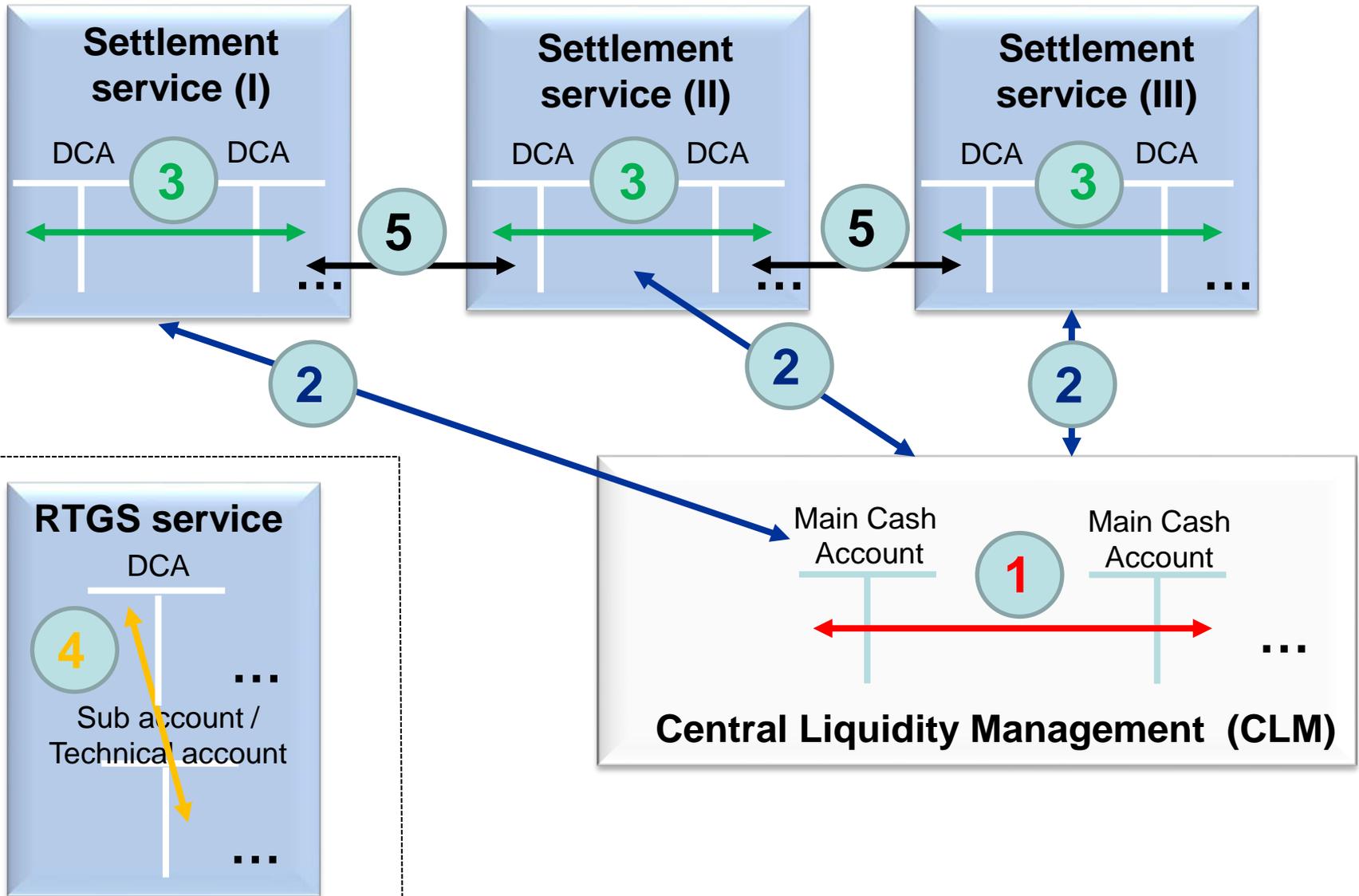


ISO20022 Liquidity Management flows in the consolidated market infrastructure (CLM, RTGS, T2S, TIPS)

16 March 2017

Ad-hoc Workshop on messages for the Future RTGS Services

Overview on liquidity transfers technically foreseen (I)



Overview on liquidity transfers technically foreseen (II)

- 1** Liquidity transfers between Main Cash Accounts (MCAs) within the Central Liquidity Management (CLM)
- 2** Liquidity transfers between MCAs and Dedicated Cash Accounts (DCAs) in the different Settlement Services
- 3** Liquidity transfers between DCAs within one Settlement Service
- 4** Liquidity transfers between DCAs of the RTGS service and sub accounts/technical accounts held for AS settlement procedure 6
- 5** Liquidity transfers between DCAs of different Settlement Services

The liquidity transfers shown will be technically possible, however there might be a business policy decision which will restrict their usage.

Overview on liquidity transfers technically foreseen (II)



Liquidity transfers between Main Cash Accounts (MCAs) within the Central Liquidity Management (CLM)

1a) Liquidity transfer between MCAs within CLM – successful

1b) Liquidity transfer between MCAs within CLM – reject

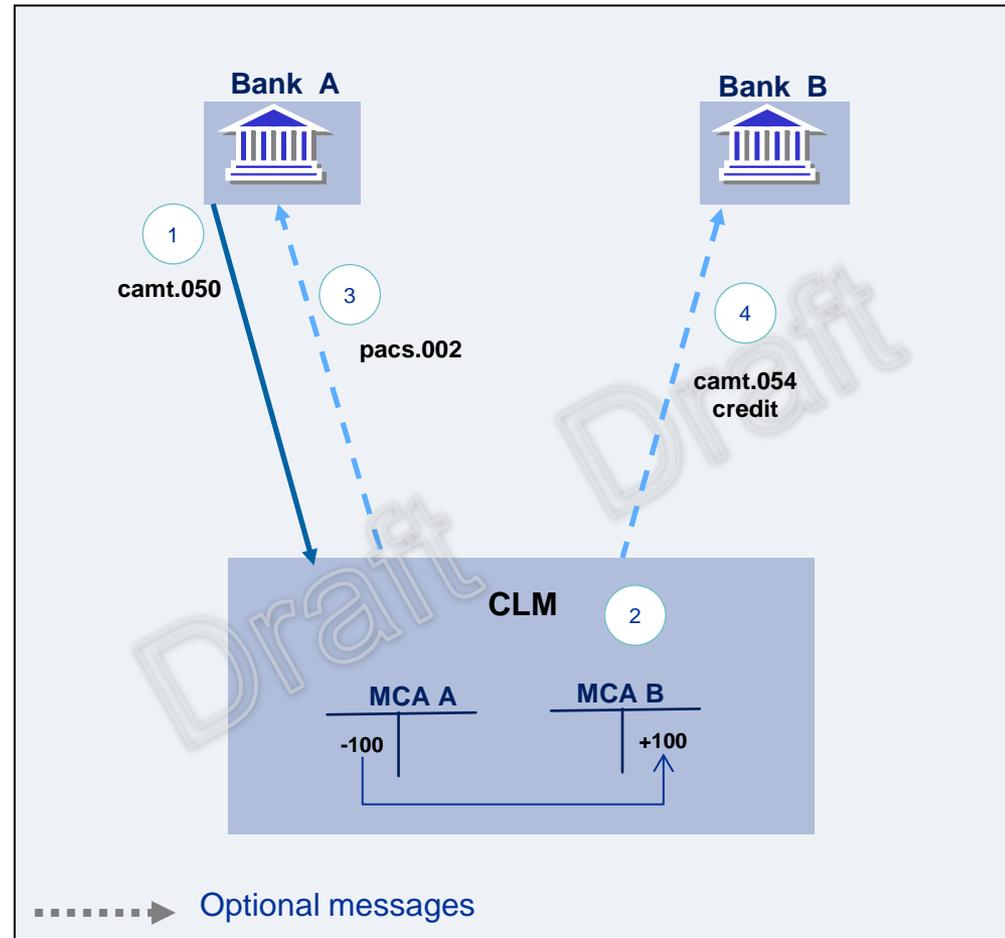
1c) Liquidity transfer initiated by the co-manager - successful

1d) Liquidity transfer initiated by the co-manager - reject

1a Liquidity transfers between MCAs within CLM

Bank A wants to transfer liquidity from its MCA to the MCA of Bank B.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to CLM, with beneficiary Bank B.
2. CLM debits Bank A's MCA and credits Bank B's MCA.
3. On an optional CLM notifies the sender by a pacs.002.
4. On an optional basis CLM generates a notification camt.054 credit and sends it to B.

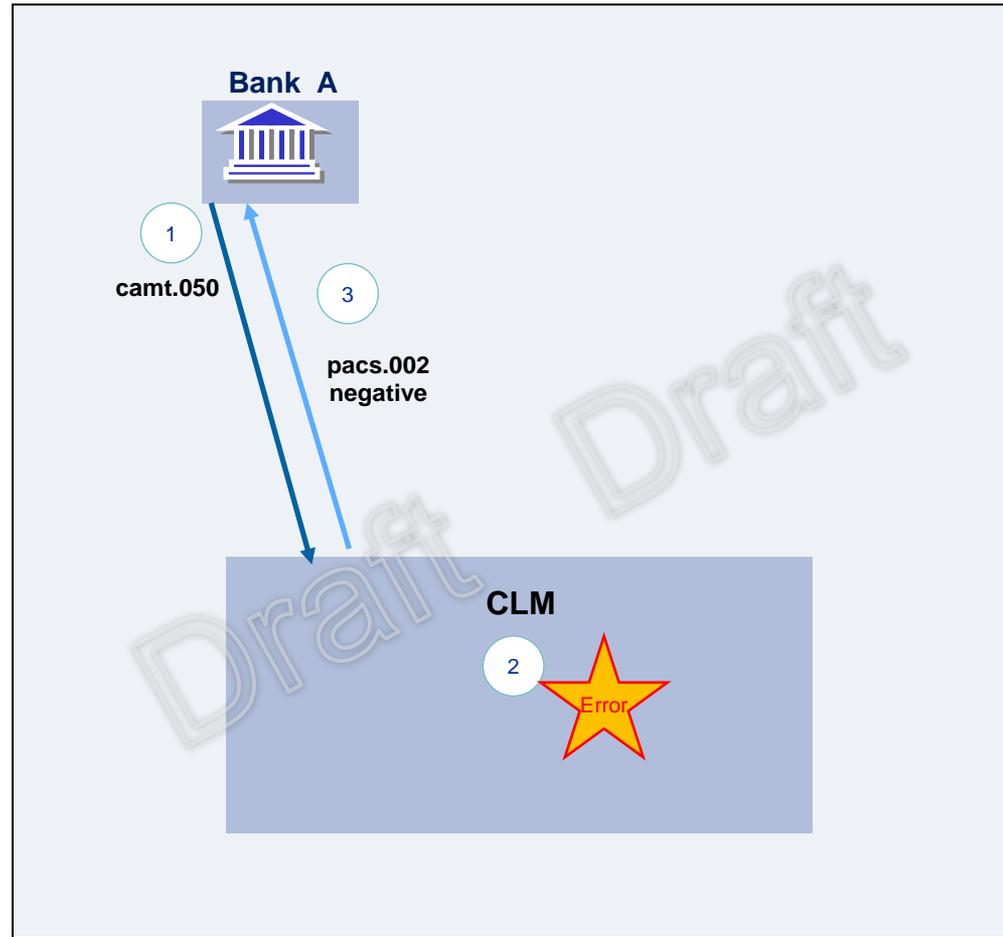


1b

Reject - Liquidity transfers between MCAs within CLM

Bank A wants to transfer liquidity from its MCA to the MCA of Bank B. However the liquidity transfer is rejected.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to CLM, with beneficiary Bank B.
2. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in CLM.
3. CLM generates a negative notification pacs.002 and sends it to Bank A.

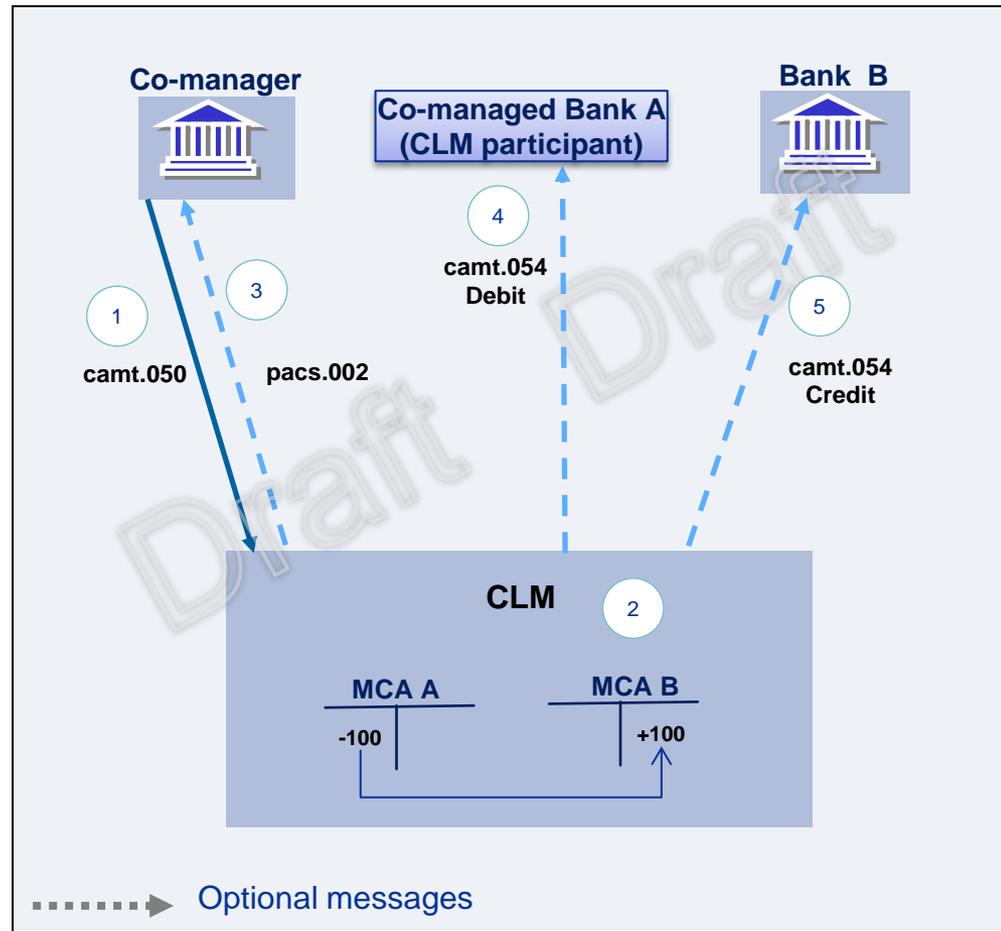


1c

Liquidity transfers between MCA accounts within the CLM initiated by a Co-manager

Co-manager of Bank A wants to transfer liquidity from Bank A's MCA to the MCA of Bank B.

1. Co-manager generates a Liquidity transfer message (camt.050) and addresses it to CLM, with beneficiary Bank B, setting as debtor the co-managed Bank A.
2. CLM debits co-managed MCA of Bank A and credits Bank B's MCA.
3. CLM generates on optional basis a notification pacs.002 and sends it to the co-manager.
4. On an optional basis, CLM generates a debit notification camt.054 and sends it to the co-managed bank A.
5. On an optional basis a credit notification camt.054 is sent to B.

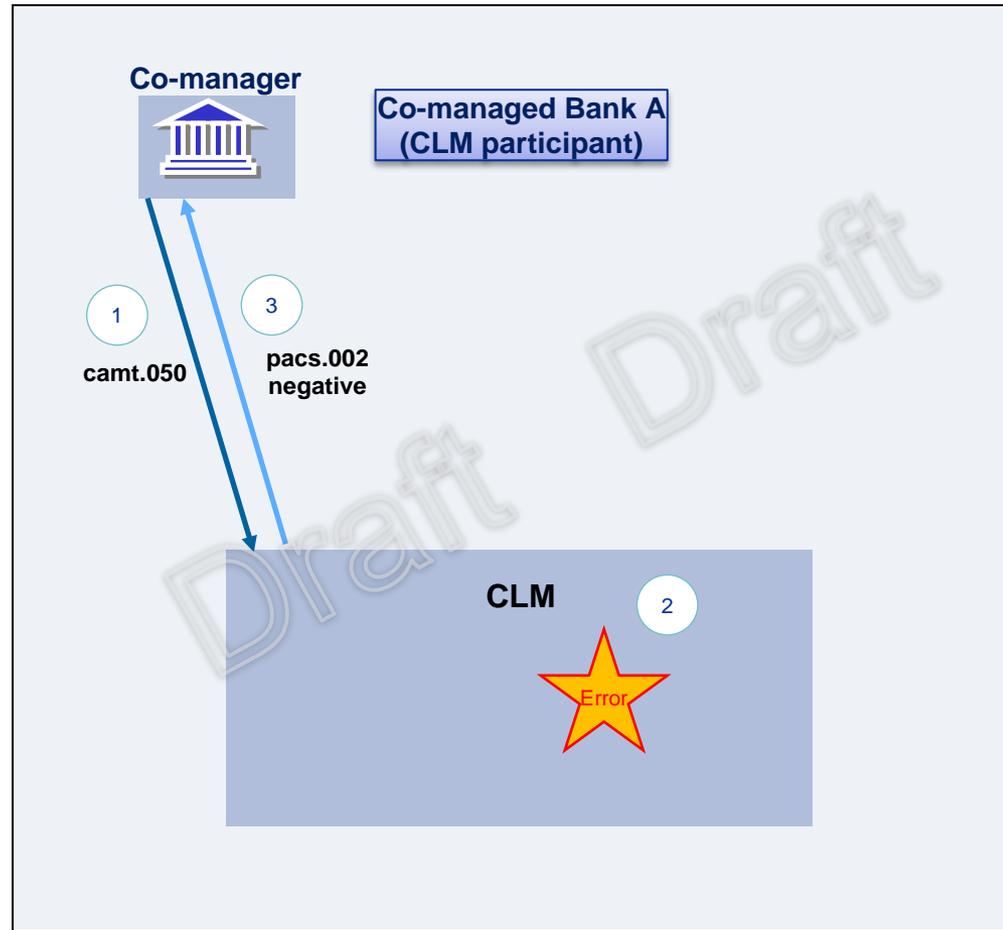


1d

Reject - Liquidity transfers between MCA accounts within the CLM initiated by a Co-manager

Co-manager of Bank A wants to transfer liquidity from Bank A's MCA to the MCA of Bank B.

1. Co-manager generates a Liquidity transfer message (camt.050) and addresses it to CLM, with beneficiary Bank B, setting as debtor the co-managed Bank A.
2. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in CLM.
3. CLM generates a pacs.002 negative and sends it to the co-manager.



Overview on liquidity transfers technically foreseen (III)

2

Liquidity transfers between MCAs and DCAs in the different Settlement Services

2a) Liquidity transfer from MCAs to DCAs – successful

2b) Liquidity transfer from MCAs to DCAs – reject

2c) Liquidity transfer from DCAs to MCAs – successful

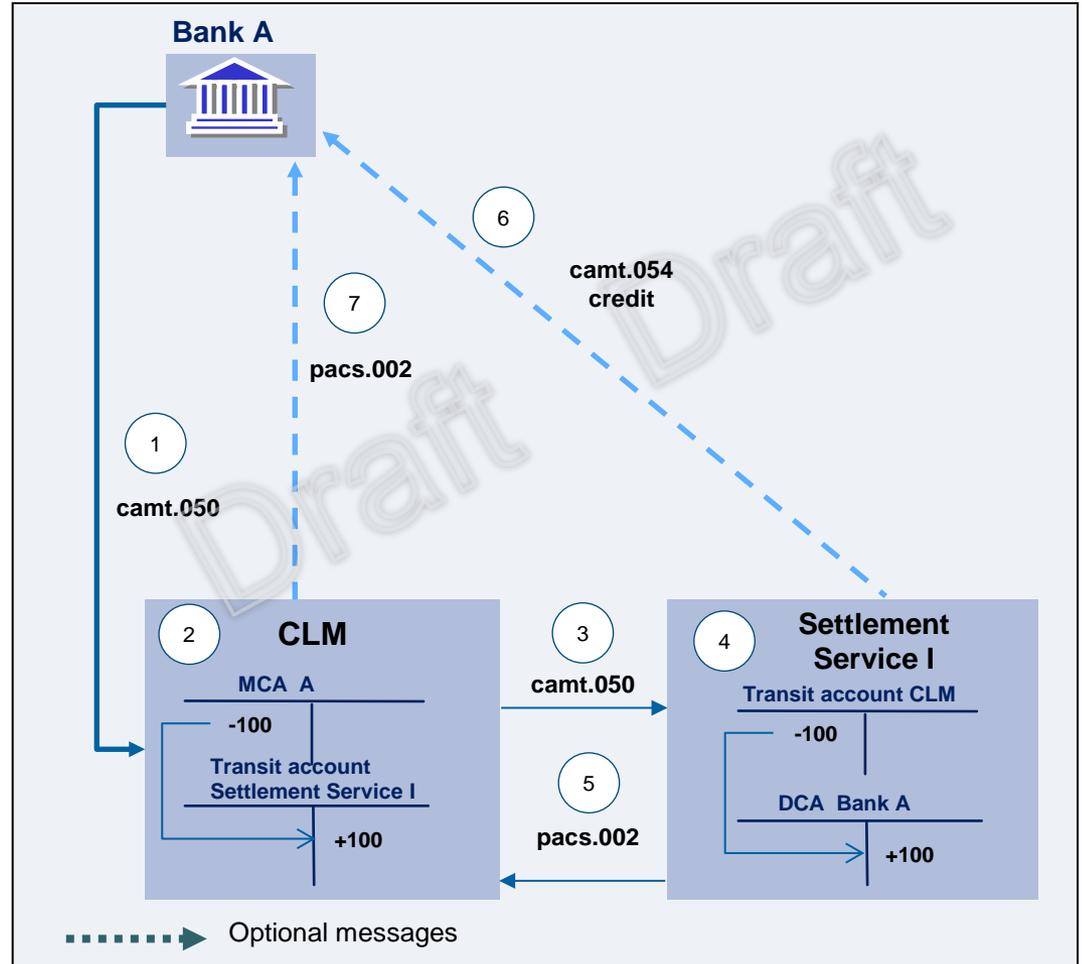
2d) Liquidity transfer from DCAs to MCAs – reject

2a

Liquidity transfers (LT) from MCA account in the CLM to a DCA account in a settlement service

Bank A wants to transfer liquidity from its MCA in CLM to its DCA in a settlement service

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to CLM, with beneficiary its own DCA in a settlement service.
2. CLM debits the MCA of Bank A and credits the transit account settlement service I.
3. CLM sends the Liquidity transfer message (camt.050) to the settlement service.
4. The settlement service debits the Transit account CLM and credits the DCA of Bank A.
5. Settlement service sends a notification pacs.002 to the CLM
6. On an optional basis, the settlement service sends a notification camt.054 credit to Bank A.
7. On an optional basis, CLM sends a notification pacs.002 to Bank A.

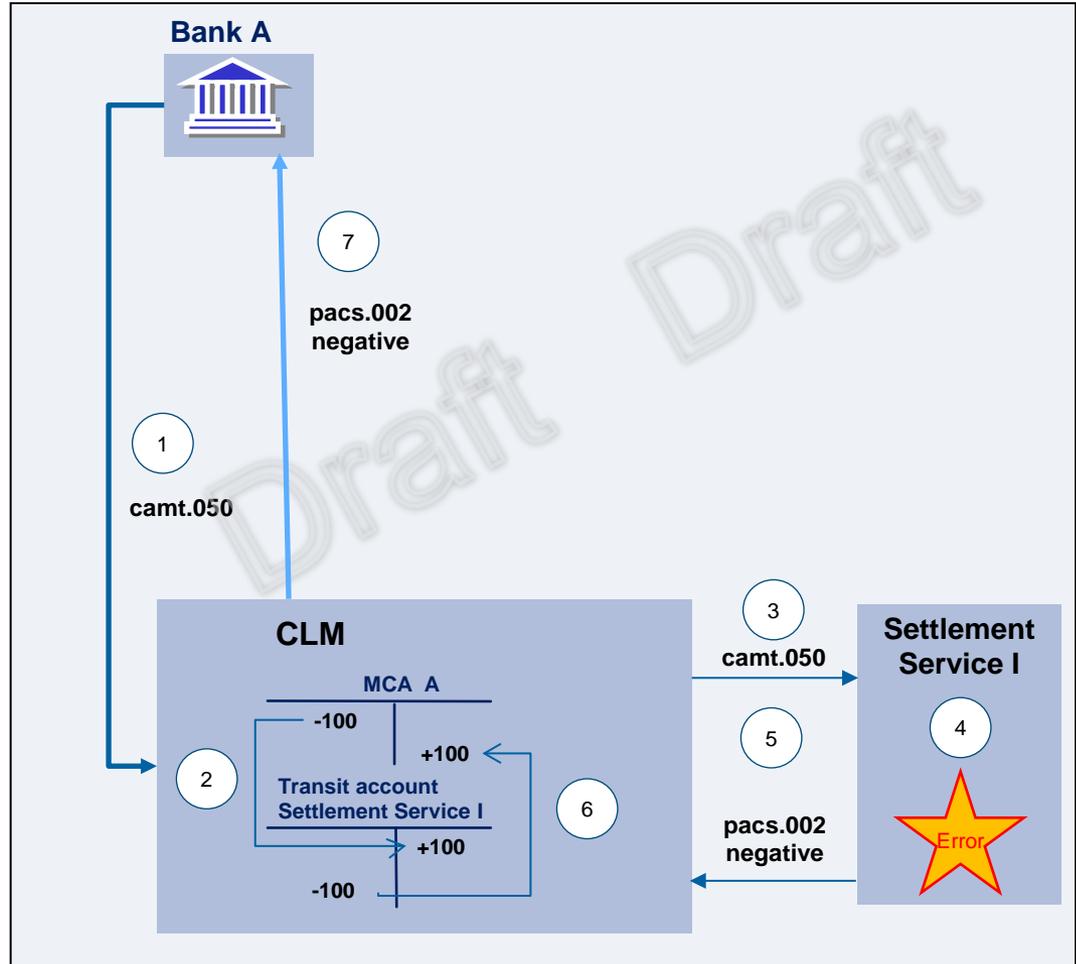


2b

Reject - LT from MCA account to a DCA account in a settlement service

Bank A wants to transfer liquidity from its MCA in CLM to its DCA in a settlement service. However the liquidity transfer is rejected.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to CLM, with beneficiary its own DCA in a settlement service.
2. CLM debits the MCA of Bank A and credits the transit account.
3. CLM sends the Liquidity transfer message (camt.050) to the Settlement service.
4. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in the settlement service.
5. Settlement service sends a negative pacs.002 to CLM.
6. The booking of step 3 is automatically reversed, i.e. the transit account is debited and the MCA of Bank A is credited.
7. CLM sends a negative notification pacs.002 to Bank A.

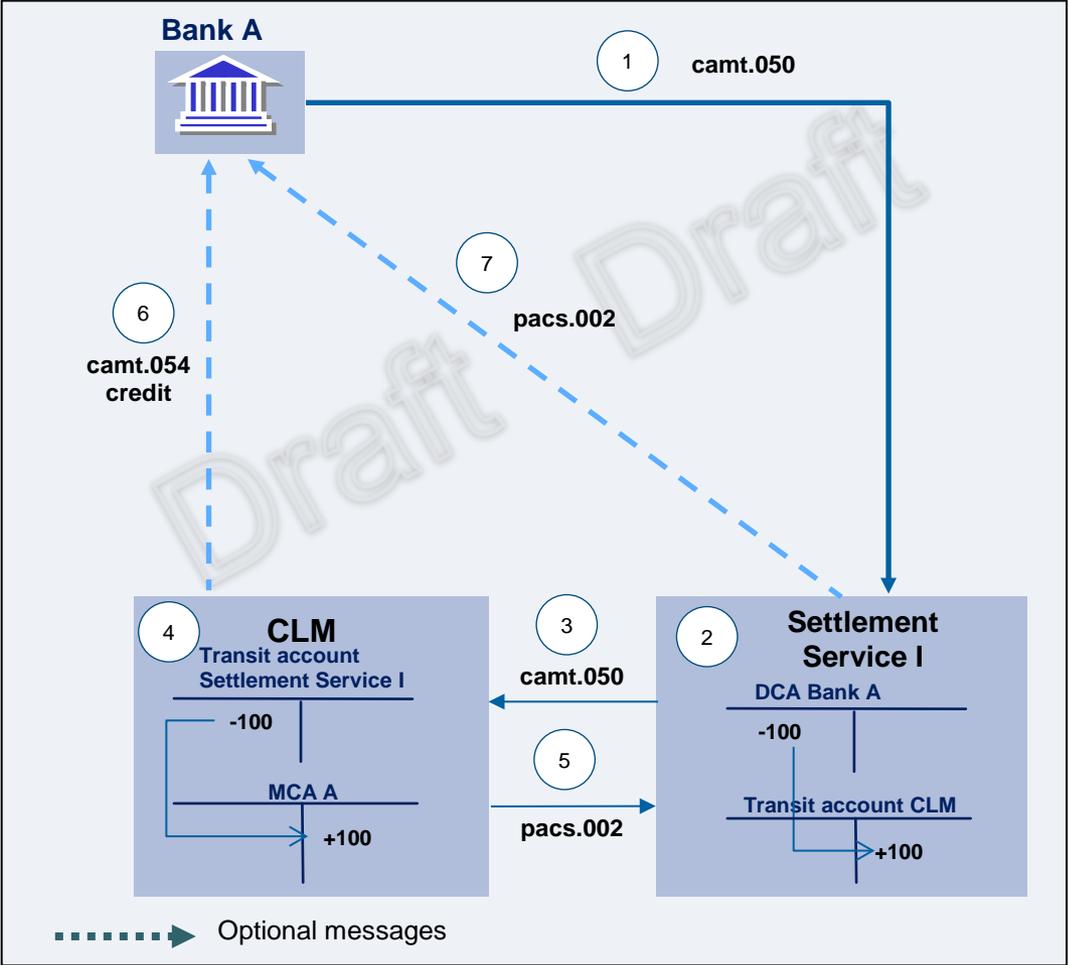


2c

Liquidity transfers from DCA in a settlement service to its MCA

Bank A wants to transfer liquidity from the DCA in a settlement service to its MCA.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to a settlement service to transfer liquidity from its DCA to the MCA.
2. The settlement service debit Banks A account and credits the transit account CLM.
3. The settlement service forwards the Liquidity transfer message to the CLM.
4. The CLM debits the transit account and credits the MCA.
5. The CLM sends a positive notification pacs.002 to the settlement service.
6. CLM sends on optional basis a camt.054 credit to Bank A.
7. The settlement service sends on optional basis a pacs.002 to Bank A.

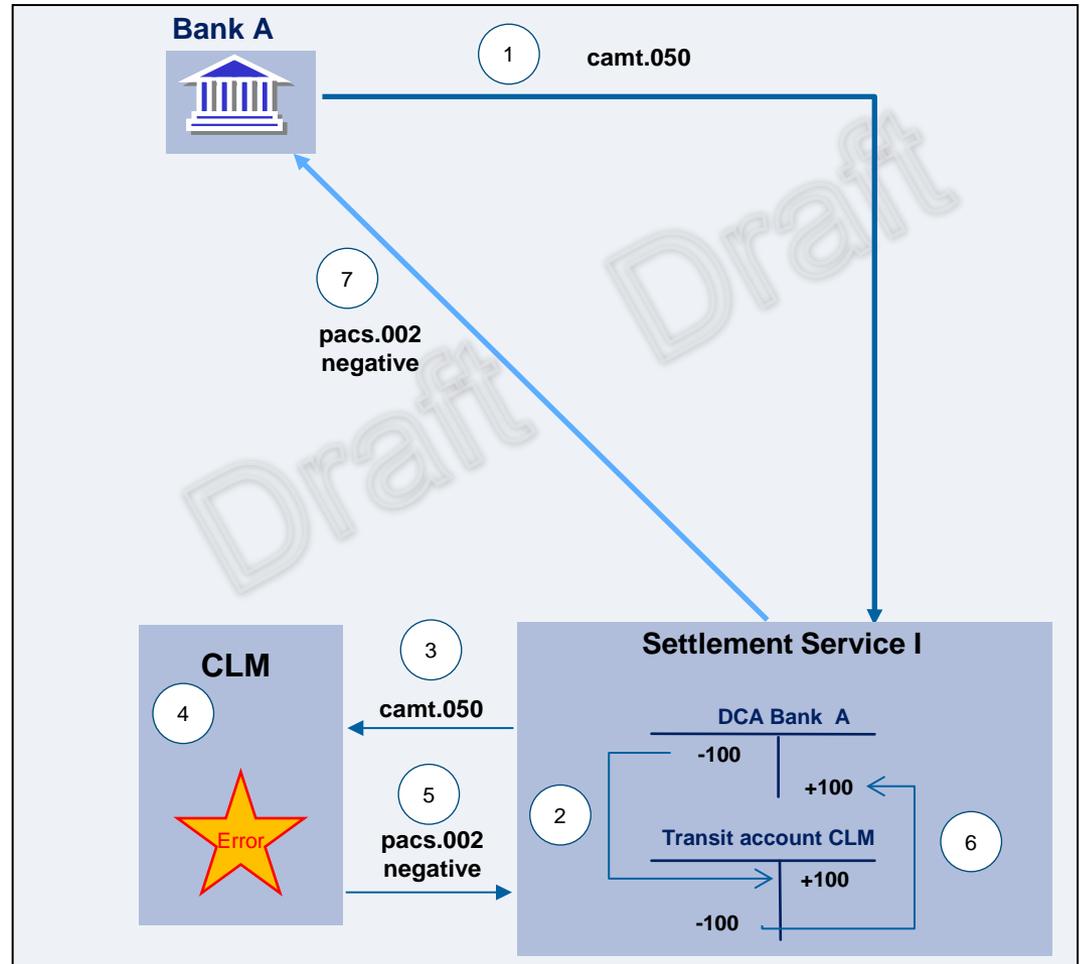


2d

Reject - Liquidity transfers from DCA in a settlement service to its MCA

Bank A wants to transfer liquidity from the DCA in a settlement service to its MCA. However the liquidity transfer is rejected.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to a settlement service to transfer liquidity from its DCA to the MCA.
2. The settlement service debit Banks A account and credits the transit account CLM.
3. The settlement service forwards the Liquidity transfer message to the CLM.
4. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in the settlement service.
5. The CLM sends a negative notification pacs.002 to the settlement service.
6. The booking of step 2 is automatically reversed, i.e. the transit account is debited and the DCA of Bank A is credited.
7. The settlement service sends a negative notification pacs.002 to Bank A.



Overview on liquidity transfers technically foreseen (IV)



Liquidity transfers between DCAs within one Settlement Service

3a) Liquidity transfer between DCAs within one settlement service – successful

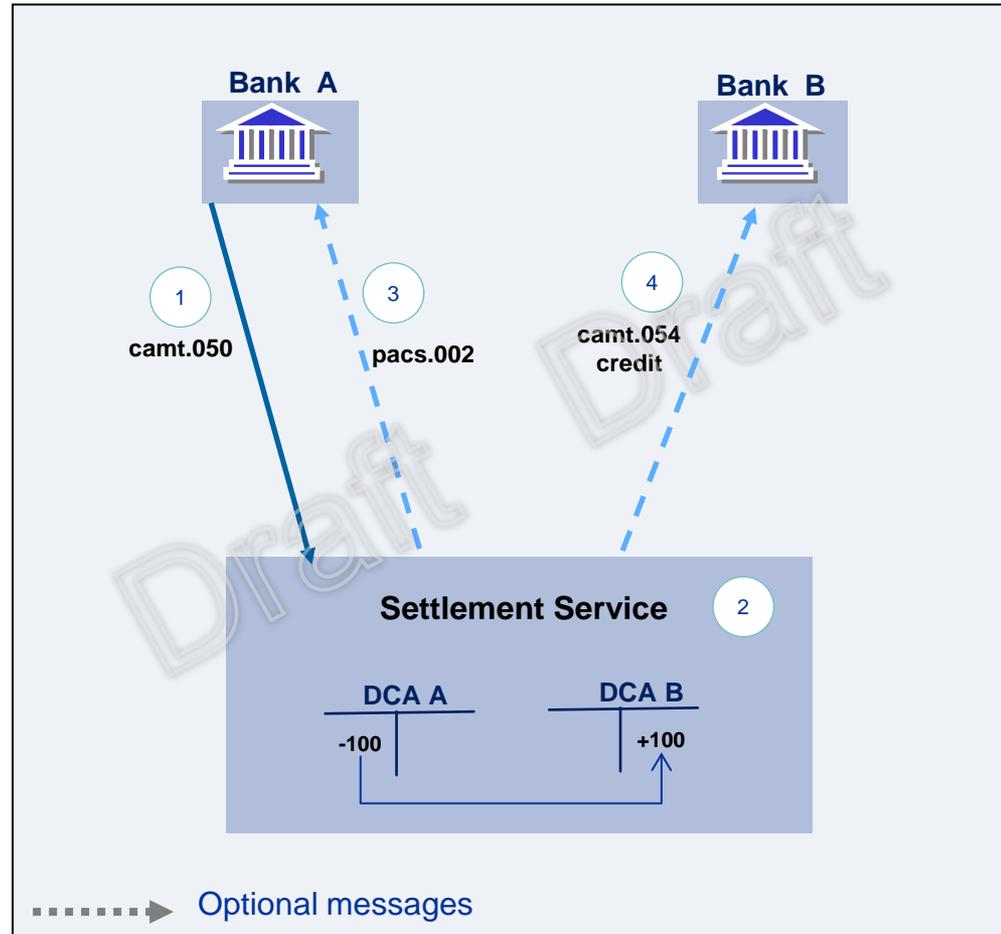
3b) Liquidity transfer between DCAs within one settlement service – reject

3a

Liquidity transfers between two DCAs within one Settlement service

Bank A wants to transfer liquidity from its DCA to bank B's DCA within one Settlement service

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to the Settlement service, with beneficiary Bank B.
2. Settlement service debits Bank A's DCA and credits Bank B's DCA.
3. On an optional basis the settlement service sends a notification pacs.002 to Bank A.
4. On an optional basis the settlement service sends a notification camt.054 credit to Bank B.

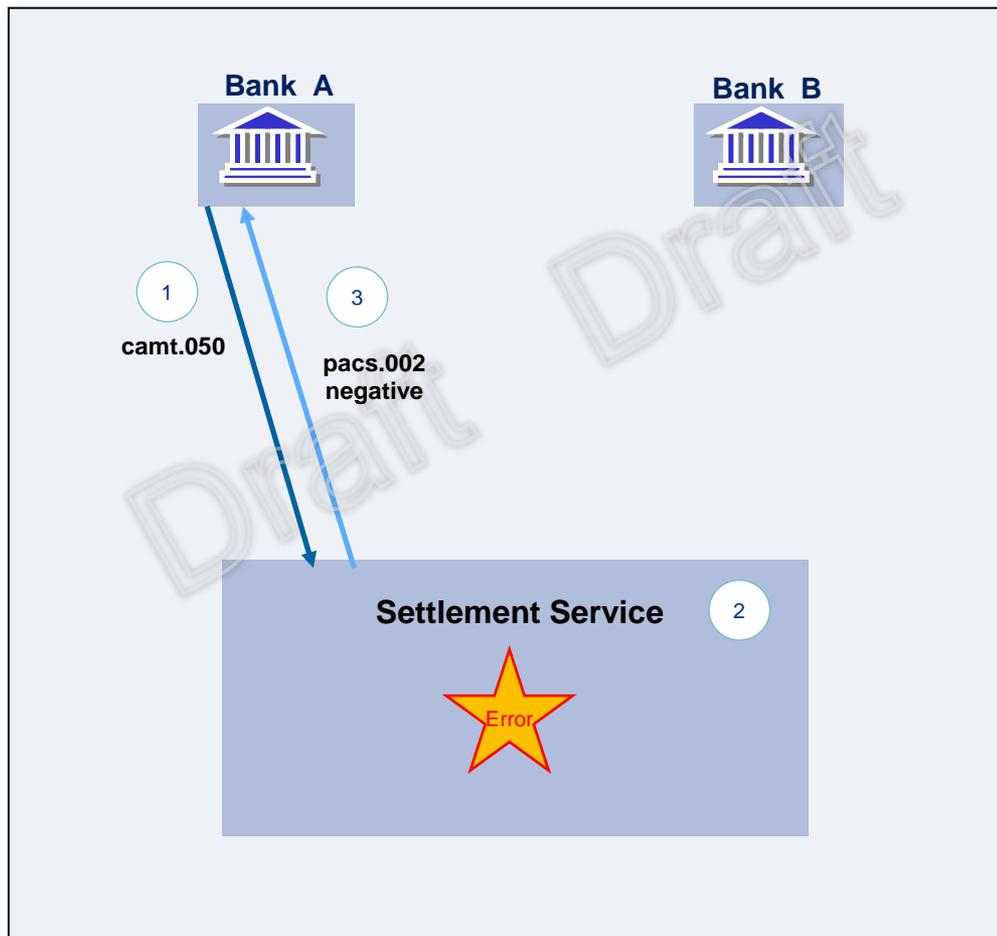


3b

Reject - Liquidity transfers between two DCAs within one Settlement service

Bank A wants to transfer liquidity from its DCA to bank B's DCA within one Settlement service. However the liquidity transfer is rejected.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to the Settlement service, with beneficiary Bank B.
2. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in the settlement service.
3. The Settlement service generates a negative pacs.002 and sends it to Bank A.



Overview on liquidity transfers technically foreseen (V)



Liquidity transfers between DCAs of the RTGS service and sub accounts/technical accounts held for AS settlement procedure 6

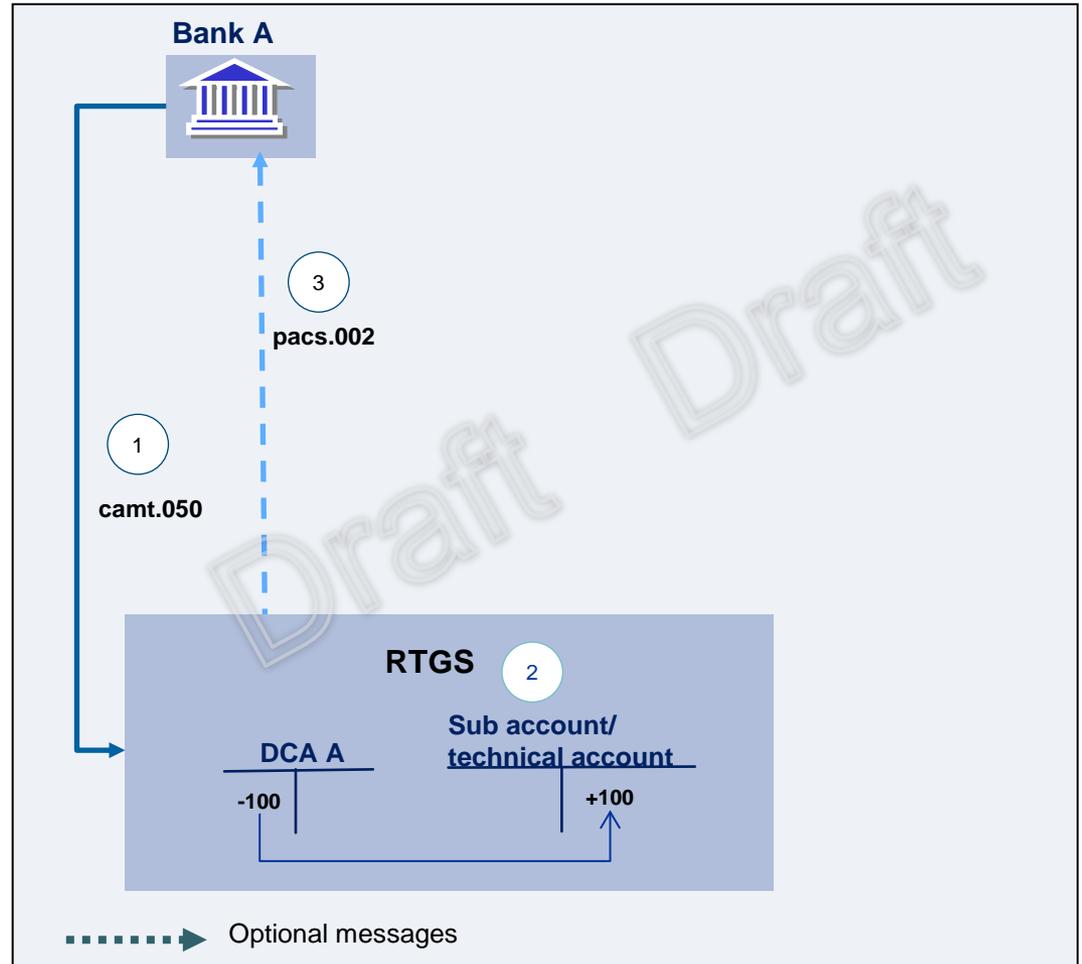
- 4a) Liquidity transfer between DCAs of the RTGS service and sub account/technical account – successful**
- 4b) Liquidity transfer between DCAs of the RTGS service and sub account/technical account – reject**
- 4c) Liquidity transfer between DCAs of the RTGS service and sub account/technical account initiated by Ancillary system – successful**
- 4d) Liquidity transfer between DCAs of the RTGS service and sub account/technical account initiated by Ancillary system – reject**

4a

Liquidity transfer between DCA of the RTGS service and the sub accounts/technical account held for the AS procedure 6

Bank A wants to fund the sub account/technical account for e.g. AS settlement (procedure 6).

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to RTGS settlement service, with beneficiary the sub account/technical account.
2. RTGS debits Bank A's DCA and credits the sub account/technical account.
3. On an optional basis, the RTGS service sends a positive pacs.002 to Bank A.

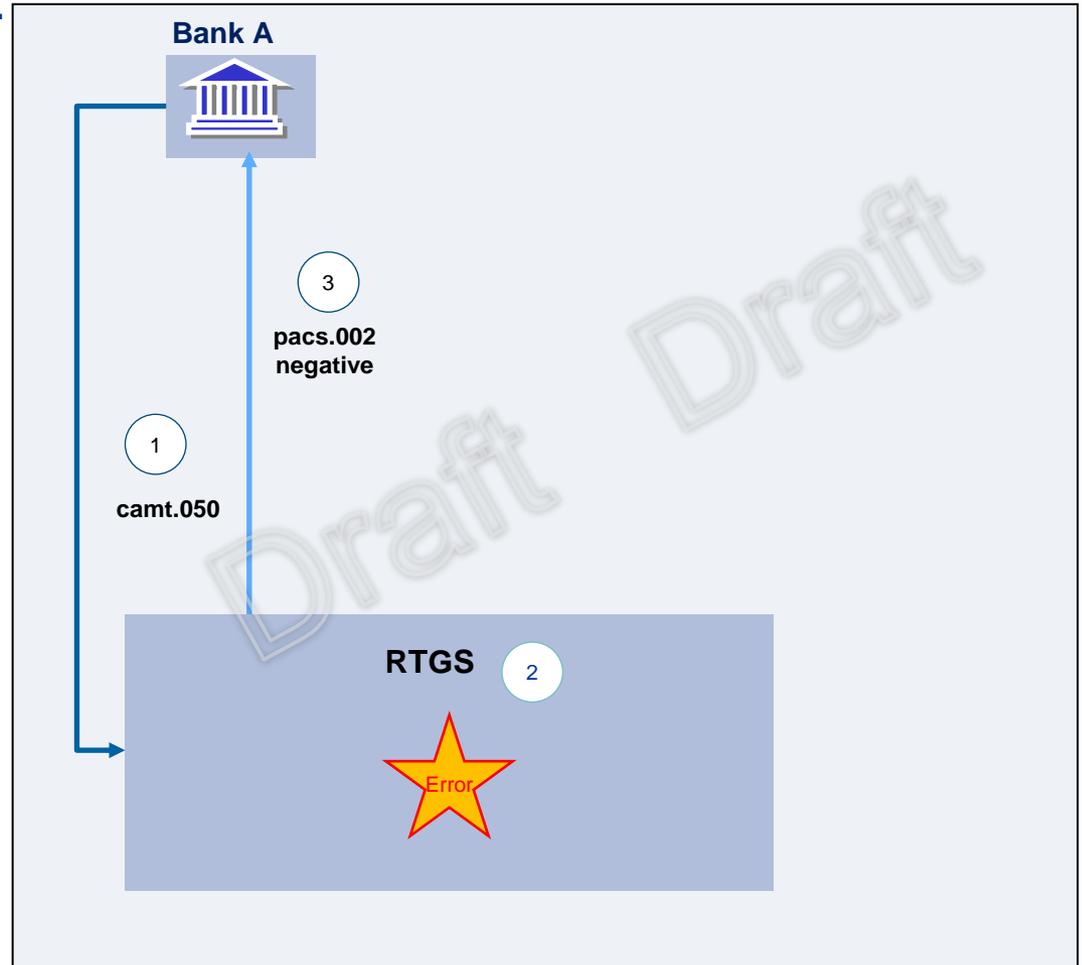


4b

Reject - Liquidity transfer between DCA of the RTGS service and the sub account/technical account held for the AS procedure 6

Bank A wants to fund the sub account/technical account for e.g. AS settlement (procedure 6). However the liquidity transfer is rejected.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to RTGS settlement service, with beneficiary its own DCA.
2. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in the settlement service.
3. RTGS generates a negative pacs.002 and sends it to Bank A.

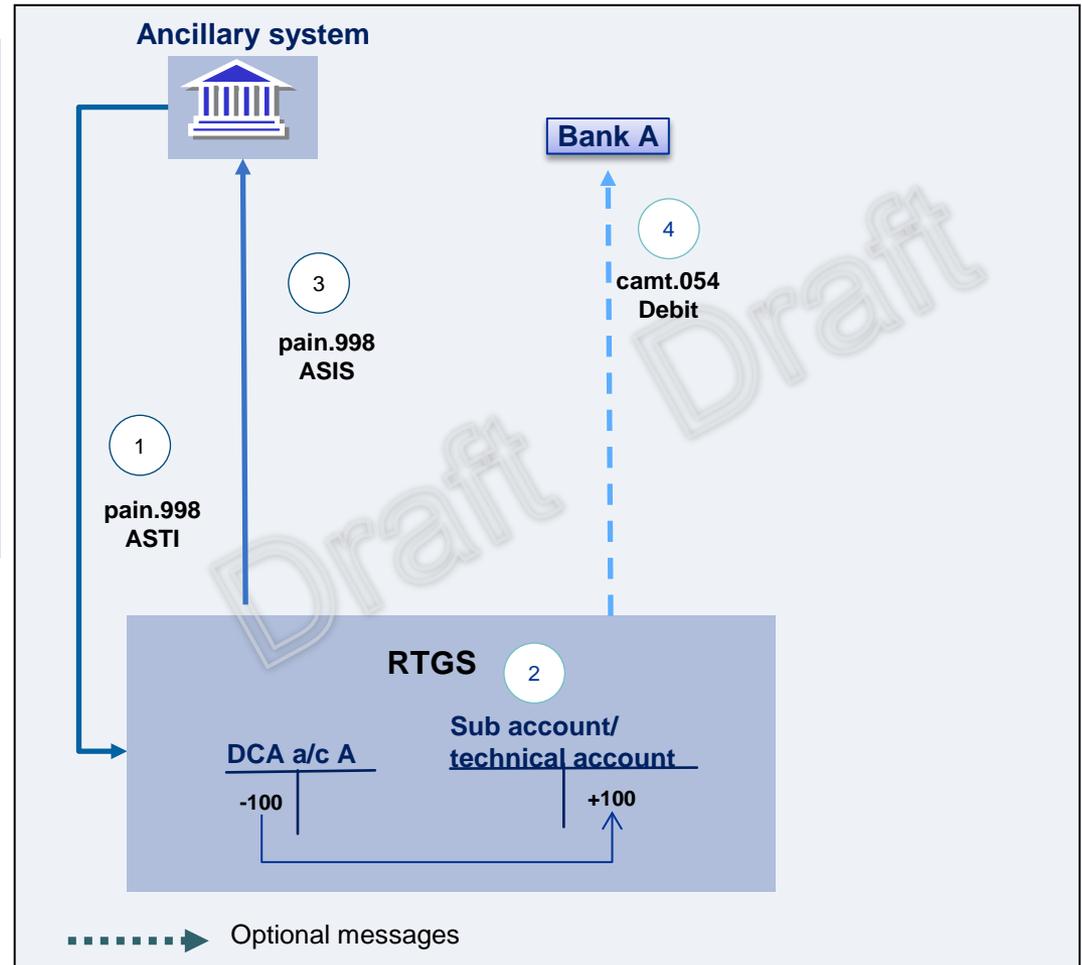


4c

Liquidity transfer between DCA of the RTGS service and the sub accounts/technical account held for the AS procedure 6

Ancillary system wants to fund Bank A's sub account/technical account for e.g. AS settlement (procedure 6).

1. The ancillary system generates a Liquidity transfer via ASTransferInitiation (pain.998) and addresses it to the RTGS service, with beneficiary the sub account/technical account.
2. RTGS debits Bank A's DCA and credits the sub account/technical account.
3. The RTGS notifies the AS via ASInitiationStatus (pain.998).
4. On an optional basis a debit notification (camt.054) is sent to Bank A.

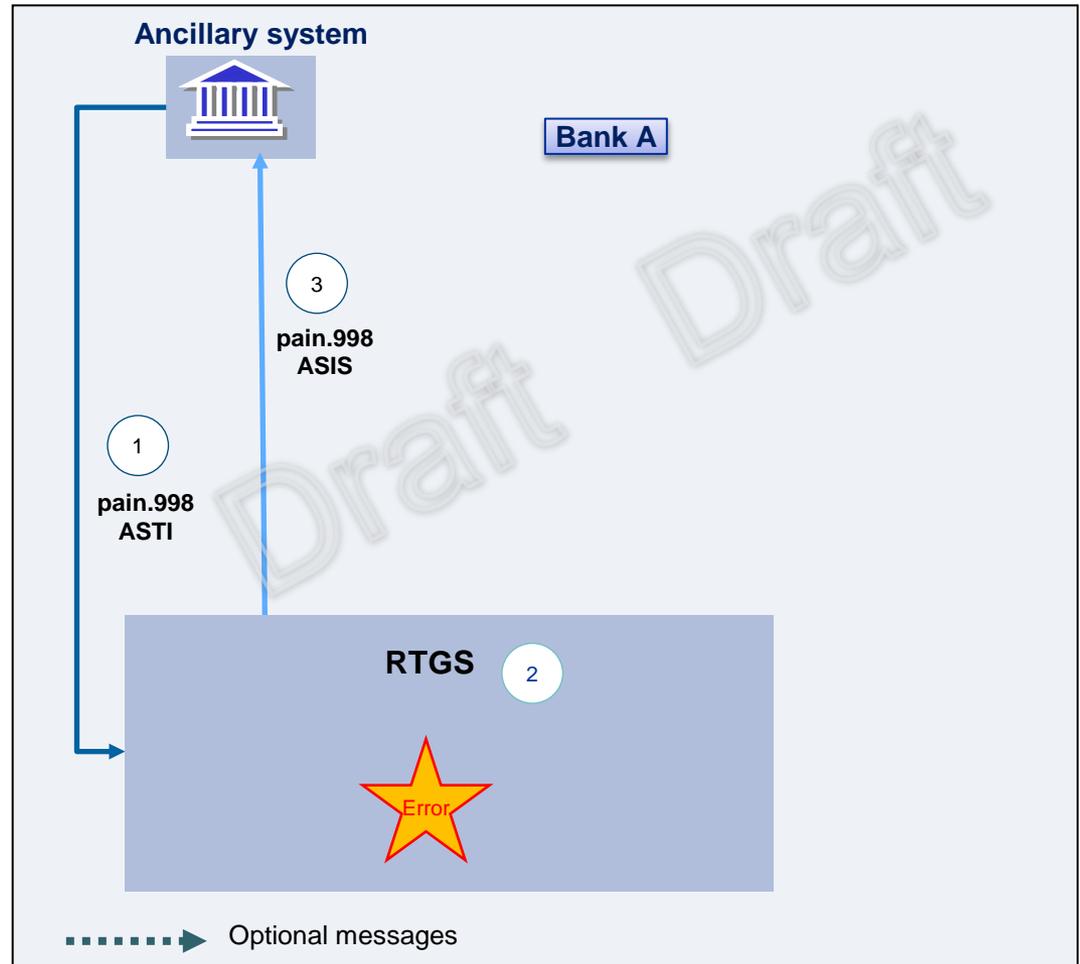


4d

Reject - Liquidity transfer between DCA of the RTGS service and the sub accounts/technical account held for the AS procedure 6

Ancillary system wants to fund Bank A's sub account/technical account for e.g. AS settlement (procedure 6). However the liquidity transfer is rejected.

1. The ancillary system generates a Liquidity transfer via ASTransferInitiation (pain.998) and addresses it to the RTGS service, with beneficiary the sub account/technical account.
2. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in the RTGS service.
3. The RTGS notifies the AS via ASInitiationStatus (pain.998) with error information.



Overview on liquidity transfers technically foreseen (II)

5 Liquidity transfers between DCAs of different Settlement Services

5a) Liquidity transfer between DCAs of different settlement services– successful

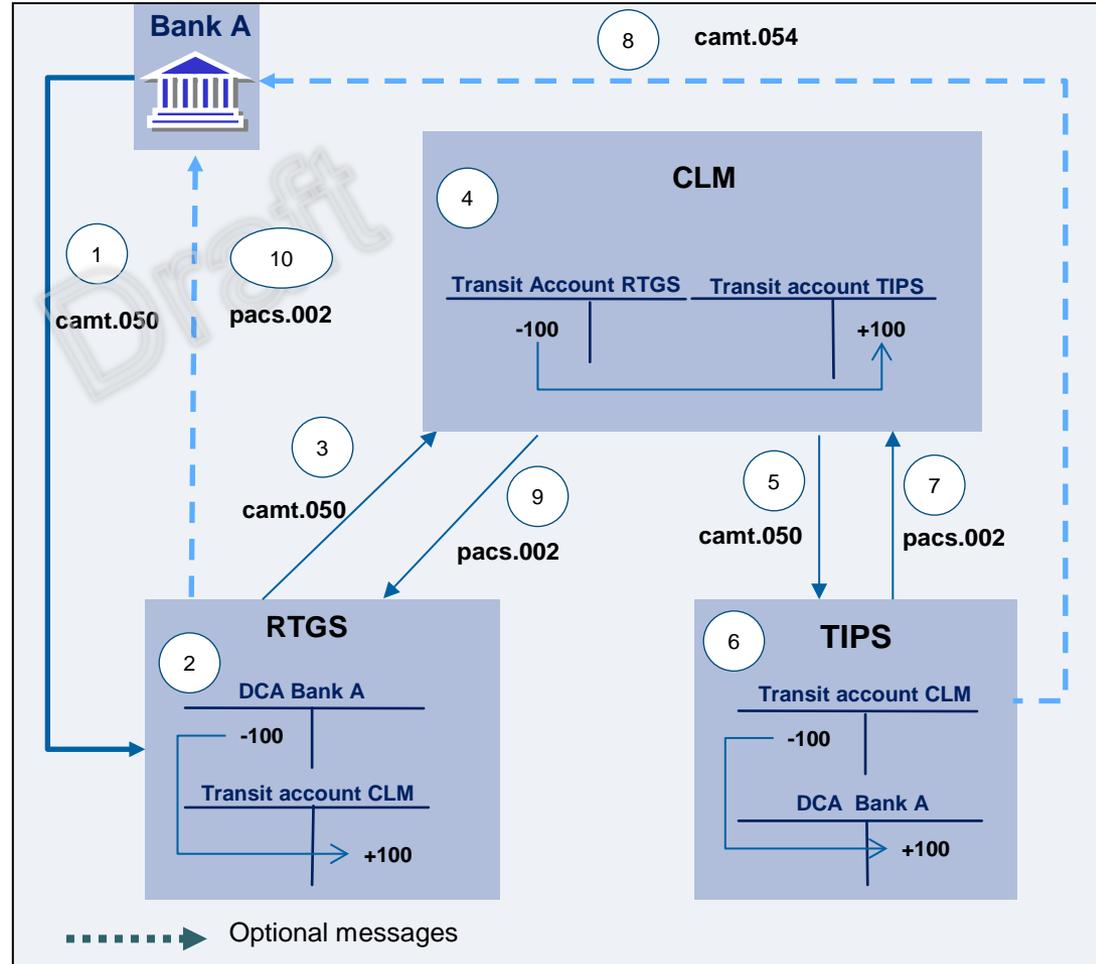
5b) Liquidity transfer between DCAs of different settlement services– reject

5a

Liquidity transfer between two DCA maintained in two settlement services

Bank A wants to provide liquidity from its DCA in RTGS service to its TIPS DCA.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to the RTGS service, with beneficiary its own TIPS DCA.
2. RTGS service debits the DCA of Bank A and credits the Transit account.
3. RTGS service sends the Liquidity transfer message (camt.050) to CLM service.
4. CLM service debits the Transit Account RTGS and credits the Transit account TIPS.
5. CLM service sends the Liquidity transfer message (camt.050) to TIPS service.
6. TIPS service debits the Transit Account CLM and credits the DCA Bank A.
7. TIPS sends a positive pacs.002 to CLM.
8. TIPS service sends on optional basis a camt.054 credit to Bank A.
9. CLM forwards the positive pacs.002 to RTGS service.
10. RTGS service sends on optional basis a pacs.002 to Bank A.



5b

Reject - Liquidity transfer between two DCA maintained in two settlement services

Bank A wants to provide liquidity from its DCA in RTGS service to its TIPS DCA. However the liquidity transfer is rejected.

1. Sender (Bank A) generates a Liquidity transfer message (camt.050) and addresses it to the RTGS service, with beneficiary its own TIPS DCA.
2. RTGS service debits the DCA of Bank A and credits the Transit account.
3. RTGS service sends the Liquidity transfer message (camt.050) to CLM service.
4. CLM service debits the Transit Account RTGS and credits the Transit account TIPS.
5. CLM service sends the Liquidity transfer message (camt.050) to TIPS service.
6. The liquidity transfer is validated with error. Due to the error the liquidity transfer is not settled in the RTGS service.
7. TIPS sends a negative pacs.002 with error to CLM.
8. CLM performs a reversal booking.
9. CLM forwards the negative pacs.002 with error to RTGS service.
10. RTGS performs a reversal booking.
11. RTGS service sends the negative pacs.002 to Bank A.

