

Nasdaq CSD SE

**MEASURES FOR PREVENTING AND ADDRESSING
SETTLEMENT FAILS**

Document Revisions

Version	Date	Revision Notes
1	2017-09-18	1 st version
2	2018-12-31	Annual review

Article 6 (3). For each securities settlement system it operates, a CSD shall establish procedures that facilitate the settlement of transactions in financial instruments referred to in Article 5(1) on the intended settlement date with a minimum exposure of its participants to counterparty and liquidity risks and a low rate of settlement fails. It shall promote early settlement on the intended settlement date through appropriate mechanisms.

Article 6 (4). For each securities settlement system it operates, a CSD shall put in place measures to encourage and incentivize the timely settlement of transactions by its participants. CSDs shall require participants to settle their transactions on the intended settlement date.

Article 2 (15). Settlement fail means the non-occurrence of settlement, or partial settlement of a securities transaction on the intended settlement date, due to a lack of securities or cash and regardless of the underlying cause¹.

Article 7 (1) For each securities settlement system it operates, a CSD shall establish a system that monitors settlement fails of transactions in financial instruments referred to in Article 5(1). It shall provide regular reports to the competent authority and relevant authorities, as to the number and details of settlement fails and any other relevant information, including the measures envisaged by CSDs and their participants to improve settlement efficiency. Those reports shall be made public by CSDs in an aggregated and anonymised form on an annual basis. The competent authorities shall share with ESMA any relevant information on settlement fails.

1. Introduction

Nasdaq CSD SE (hereafter: “Depository” or “CSD”) will provide standard transaction types to its Participants: (i) deliver and receive free of payment, (ii) delivery and receive versus payment. Delivery and receive versus payment instructions are received by the Depository for the settlement of stock exchange trades or over the counter transactions.

Depository will support and promote early settlement of received instructions through following facilities’ and attributes related to settlement instructions:

Attribute / facility	T2S instruments	Non-T2S instruments
Mandatory matching fields	X	X
Tolerance levels	X	-
Recycling	X	X
Hold and release mechanism	X	X
Cancellation facility	X	X
Partial settlement	X	-
RTGS settlement	during day time settlement cycle	X
Allegation and removal of allegation	X	X
Status advice of instruction	X	X
Cash forecast from Depository’s system	X	X

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R0909&from=EN>

T2S cash forecast	X	-
Straight-through-processing (STP)	X	X

Table 1: Facilities and attributes to be used to promote early settlement and prevent settlement fails

In accordance with the Rules on Issue and Circulation of Securities of the Government of Lithuania the tolerance level and partial settlement functionality can't be introduced for Lithuanian Government saving notes.

Depository offers optional free of charge Trade Capture service. The Trade Capture solution is developed in order to allow enriching trade feeds of the Baltic Stock Exchanges with settlement information and enabling automatic generation of settlement instructions which are sent to the Depository.

Depository has an obligation to publish aggregated data of settlement fails on an annual basis to the public and report on regular basis to relevant authorities.

The Technical Standards on Settlement Discipline are adopted by European Commission and need to be implemented by CSDs by 2020 XXX. Depository is working on preparing the implementation of the requirements of Settlement Discipline.

2. Settlement facilitation and processing

Settlement instructions can be inserted into the Securities Settlement System by several means:

- Generated by Trade Capture service offered by Nasdaq CSD for stock exchange trades;
- 2) Manually in Core CSD system GUI;
- 3) Via MQ (Message Hub) or SWIFT-Net using ISO 20022 standard messages;
- 4) From Central counterparties and T2S using ISO 20022 standard messages;
- 5) Internally generated by the system (corporate action settlement, market claims, transformations, auto-collateralization, other purposes).

Depository facilitates straight-through-processing (STP) of market transactions and processes all settlement instructions on automated basis.

Depository offers to Account Operators the Trade Capture service whereby Nasdaq Baltic Stock Exchange transactions are automatically routed to the Depository's Core system (Trade Capture browser). The Trade Capture service solution is offered to Depository participants, allowing enriching trade feeds of the Nasdaq Baltic Stock Exchanges with settlement information and enabling automatic generation of settlement instructions which are sent to the Depository settlement system. Nasdaq Baltic Stock Exchanges provide protocols and trading systems Genium INETⁱ and INET Nordicⁱⁱ Member Trade File to its trading venue Membersⁱⁱⁱ.

If Trade Capture functionality is not used, participant of the Depository has to instruct the Depository itself using standard settlement instructions via GUI or messaging. Stock Exchange trading venue Member has to provide the relevant settlement information to its settlement agent. For matching purposes such settlement instructions shall comply with the mandatory matching fields.

Stock Exchange trades can be enriched and confirmed also via messaging (proprietary trade capture transaction instruction). Depository participants can input (via messaging or GUI) single instruction containing data for two instructions. If this is the case, the Depository's system validates whether the instructing party is allowed to debit and credit securities accounts indicated in the settlement instruction.

When a trade leg is confirmed, the settlement instruction is created and becomes accessible for account operators in Depository Core system's GUI and if subscribed account operator is notified with relevant ISO standard message. Such settlement instructions are forwarded to T2S for matching (if unmatched) and settlement.

3. Matching and population of settlement instructions

3.1 Mandatory matching

Depository Core system's matching criteria are harmonized with T2S matching criteria; it means that the matching rules are the same for the settlement instructions to be settled in the Depository's Core system and for the settlement instructions to be settled in T2S. Settlement instructions with Baltic non T2S instruments are matched continuously in the Depository Core system. Not matched settlement instructions with Baltic T2S eligible instruments are matched in T2S.

For two settlement instructions to match; the following mandatory matching fields must be present in both settlement instructions and their values should be the same for the corresponding delivering and receiving settlement instructions:

- Securities movement type (deliver or receive);
- Payment type (free of payment or against the payment);
- ISIN code;
- Settlement quantity (quantity in unit or nominal value);
- Trade date;
- Intended settlement date;
- Delivering (settlement) party BIC;
- Receiving (settlement) party BIC;
- CSD of Delivering party;
- CSD of Receiving party;
- Currency (N/A if payment type „free of payment“);
- Settlement amount (N/A if payment type „free of payment“);
- Credit/debit indicator (N/A if payment type „free of payment“).

Additional or optional non-mandatory matching fields can be used. Additional matching fields only match in case both counterparties have provided the same value in the same additional matching field. The other counterparty has to indicate the same value in the same field for the settlement instructions to match:

- Opt-out indicator;
- Cum/Ex indicator.

Optional matching fields must match in case both counterparties have provided values in the corresponding optional matching fields. In case one party leaves the field empty, the settlement instructions will still match:

- Common reference;
- Client of settlement party;
- Client of settlement counterparty;
- Securities account of client of settlement party.

Depository participants are required to indicate transaction types (non-matching field) in their settlement instruction:

- Option “TRAD” if the instruction is related to settlement of a trade;
- Option “REDM” if the instruction is related to redemption of fund units;
- Option “SUBS” if the instruction is related to subscription of fund units;
- Option “OWNI” if the instruction is related to portfolio transfer within the same account operator;
- Option “OWNE” if the instruction is related to portfolio transfer between two account operators, incl. external portfolio transfer;
- Option “COLI” if the instruction is related to a collateral transaction, from the point of view of the collateral taker or its agent;
- Option “COLO” if the instruction is related to a collateral transaction, from the point of view of the collateral giver or its agent;
- Option “BSBK” if the instruction is related to a buy sell back transaction;
- Option “CNCB” if the instruction is related to a collateral delivery/receipt to a national central bank for central bank credit operations;
- Option “RVPO” if the instruction is related to a reverse repurchase agreement transaction;
- Option “SECB” if the instruction is related to a securities borrowing operation;
- Option “SECL” if the instruction is related to a securities lending operation;
- Option “SBBK” if the instruction is related to a sell buy back transaction;
- Option “TRPO” if the instruction is related to a triparty repurchase agreement;
- Option “TRVO” if the instruction is related to a triparty reverse repurchase agreement;
- Option “PLAC” if the instruction is related to a placement;
- Option “TURN” if the instruction is related to turnaround

3.2 Tolerance matching

Tolerance matching is applied if the settlement amounts input by the counterparties in the settlement instruction differ by a predefined tolerance amount. The amount of acceptable tolerance range depends on the settlement amount indicated in the settlement instructions, i.e. for retail transactions with values up to and including EUR 100 000, the applicable tolerance amount is EUR 2. Transactions with values over the EUR 100 000, the applicable tolerance amount is EUR 25.

The amount of acceptable tolerance depends on the settlement amount indicated in the settlement instructions as shown in Table 1 below.

Settlement amount	Tolerance
≤ EUR 100 000	EUR 2
> EUR 100 000	EUR 25

Table 2: Tolerance matching

In case there are several settlement instructions that could potentially match and have the only difference in settlement amount within the tolerance matching range, the settlement instructions with the smallest settlement amount of difference will match. Such matched settlement instructions are submitted for settlement and a settlement amount indicated by the seller (deliverer) of the securities is used. Participant that has sent the buy settlement instruction is informed of the new settlement amount through sese.024 containing the new tolerance matched settlement amount. If the settlement amount is out of the tolerance range, the settlement instructions will not match.

4. Depository's functionalities

4.1 Recycling

At end of each settlement day the Depository's system recycles all pending settlement instructions.

After recycling all settlement instructions that were reported with status PEND are changed to report status PENF. Matched settlement instructions are recycled for unlimited time until settled or cancelled. The recycling period of unmatched settlement instructions is 20 business days and after that settlement instructions will expire and are immediately cancelled by the system. The recycling period starts from the ISD or the date of the last status change of the instruction.

All unmatched settlement instructions are also recycled at the end of each settlement day so that they are submitted to the matching process on the next settlement day. The Recycling period of unmatched settlement instructions is 20 business days and after that settlement instructions expire. The recycling period starts from the Intended Settlement Date or the date of the last status change of the instruction. An expired settlement instruction is immediately cancelled by the system (processing status set to Cancelled), cancellation reason "Cancelled by system" is assigned and cancellation is communicated (GUI or sese.024 with CANS code).

4.2 Hold and release mechanism

Depository enables a hold and release mechanism that shall consist of:

- Hold mechanism that allows pending settlement instructions to be blocked by the instructing participant for the purpose of settlement; and
- Release mechanism that allows pending settlement instructions that have been blocked by the instructing participant to be released for the purpose of settlement.

Settlement instructions with the Hold indicator are not eligible for the settlement process and are pending until they are released by all involved parties

A settlement instruction that is on hold can be matched, amended and cancelled. If a settlement instruction remains on Hold at the end of the indicated ISD, the system will recycle the instruction following the standard recycling rules.

4.3 Cancellation facility

Participants can cancel unmatched or unsettled pending matched settlement instructions. An unmatched settlement instruction can be immediately unilaterally cancelled. A matched pair of settlement instructions can only be cancelled bilaterally, i.e. cancellation requests are required from both settlement parties. If a cancellation request is only received from one party, both instructions remain eligible for settlement. Matched settlement instructions remain active and continue a normal lifecycle until both counterparties submit a valid cancellation request. Cancellation of partially settled instructions results in the cancellation of the remaining unsettled quantity only.

4.4 Partial settlement

Depository offers participants the option to settle their settlement instructions partially. The partial settlement process settles only a fraction of the original quantity or amount when full settlement is not possible due to a lack of securities or cash. The settlement instruction is partially settled, in case there are insufficient securities to settle the full quantity and provided that the settlement instructions are eligible to settle partially and the partial settlement threshold criterion is fulfilled – i.e. Partial settlement is allowed but must satisfy either a cash value minimum or a minimum quantity of securities.

It is foreseen that settlement instructions settle during night time settlement (NTS) and those that do not settle due to lack of cash or securities can be settled during real time gross settlement (RTGS) (when lack of cash/securities is eliminated).

In the Stock Exchange system it is not possible to add the partial settlement indicator to a trade. Nevertheless, the partial settlement indicator can be added by the account operator to a settlement instruction. Trade legs are received via trade capture and as soon as a trade leg is enriched and /or confirmed by the account operator it will become a settlement instruction and the account operator can set the partial settlement indicator on this settlement instruction. The account operator can maintain only settlement instructions not trade legs.

4.5 Additional facilities and information

4.5.1 Allegement

A settlement allegement is sent when a settlement instruction received by the corresponding settlement system cannot find a matching settlement instruction during the first matching attempt or pre-defined time period. Consequently, the counterparty indicated in the first settlement instruction receives an allegement notification that informs them about the unmatched settlement instruction in the settlement system.

Allegement messages for Baltic eligible instruments are sent (via A2A) to subscribed participants.

Allegement messages for Baltic T2S eligible instruments are sent (via A2A) to subscribed participants as soon as the allegement message is received from T2S. T2S will send allegement messages with predefined delay periods:

- 1-hour delay period from the first unsuccessful matching attempt of a settlement instruction (standard delay period), or
- 5-hour delay period measured backwards from the FOP cut-off time on the intended settlement date (before cut-off).

It is also possible to see allegation instruction from Depository system GUI:

4.5.1.1 Removal of an allegation notification

As soon as settlement instructions match allegation removal message is sent to an account operator to acknowledge that the previously sent allegation is no longer outstanding, because the alleged party has sent its instruction.

When settlement instruction initiating party cancels unmatched settlement instruction, allegation cancellation message is sent to the account operator informing that previously sent allegation message is no longer outstanding.

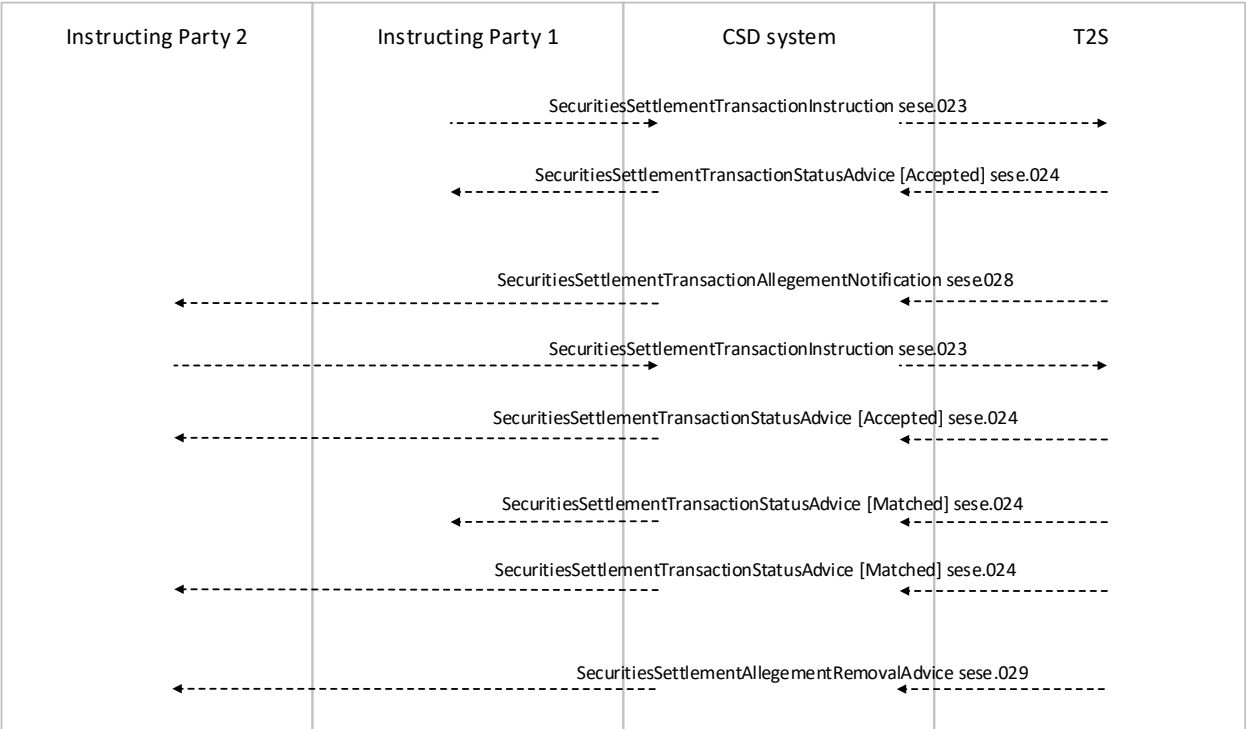


Figure 1: Messaging Workflow – sending settlement allegation and removal of an allegation message

4.5.2 Real time information on the status of the settlement instructions

The Depository system informs instructing party immediately if a settlement instruction is incorrect or incomplete after technical and/or business validation. The Depository system sends settlement instruction status advice messages and settlement instruction confirmation messages to subscribed participants immediately after relevant triggering event has taken place. It will be also possible to see settlement instruction status from Depository system GUI:

Pending instructions, which can still settle on ISD

- Pending settlement instructions, for which settlement at the ISD is still possible are reported with status PEND.

Failed settlement instructions, which cannot settle anymore on ISD

- Failing settlement instructions, for which settlement at the ISD is no longer possible at the end of the day are reported with status PENF (available only in Core CSD system).

Fully settled settlement instructions

Settlement status of successfully settled instructions is changed to Settled (GUI), and settlement confirmation message sese.025 with code SETT is sent (if subscribed).

Partially settled settlement instructions, including the settled part and the missing part of either financial instruments or cash

The partial settlement process settles only a fraction of the original quantity or amount when full settlement is not possible due to a lack of securities or cash. Settlement instructions that are settled partially (in two or more parts) still remain as a single instruction in the system – the quantity of already settled and the quantity of remaining unsettled securities is tracked with the instruction.

- When the settlement instruction settles partially, sese.025 with the code PAIN is sent (if subscribed) indicating the settled quantity and the settled amount and specifying that there is a part of the settlement instruction that remains unsettled;
- As the settlement instruction remains unsettled due to lack of cash or securities, sese.024 with code PART is sent (if subscribed) informing about pending status and the unsettled quantity and amount of settlement instruction;
- When the last partial settlement takes place, sese.025 with the code PART is sent (if subscribed) confirming settlement of the remaining part of the settlement instruction that was previously partially confirmed.

Cancelled settlement instructions, including information whether it is cancelled by the system or by the participant

Participants can send cancellation instruction to cancel pending unsettled settlement instructions (GUI or sese.020).

During pending cancellation and after successful cancellation the new status of the settlement instruction is communicated (GUI or sese.027).

When Depository cancels the instruction, cancellation reason “Cancelled by system” is assigned and cancellation is communicated (GUI or sese.024 with CANS code).

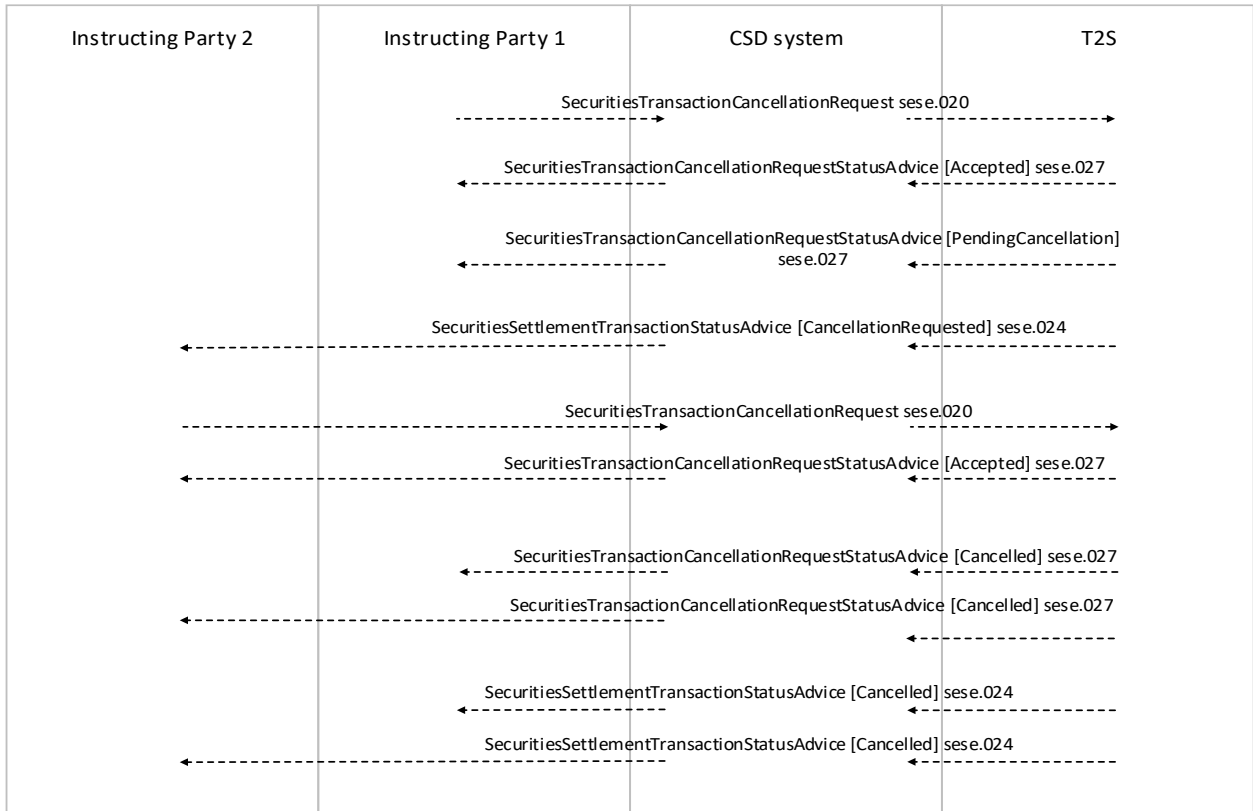


Figure 2: Messaging Workflow – Cancelling matched settlement instruct

An unmatched settlement instruction is cancelled unilaterally (immediately).

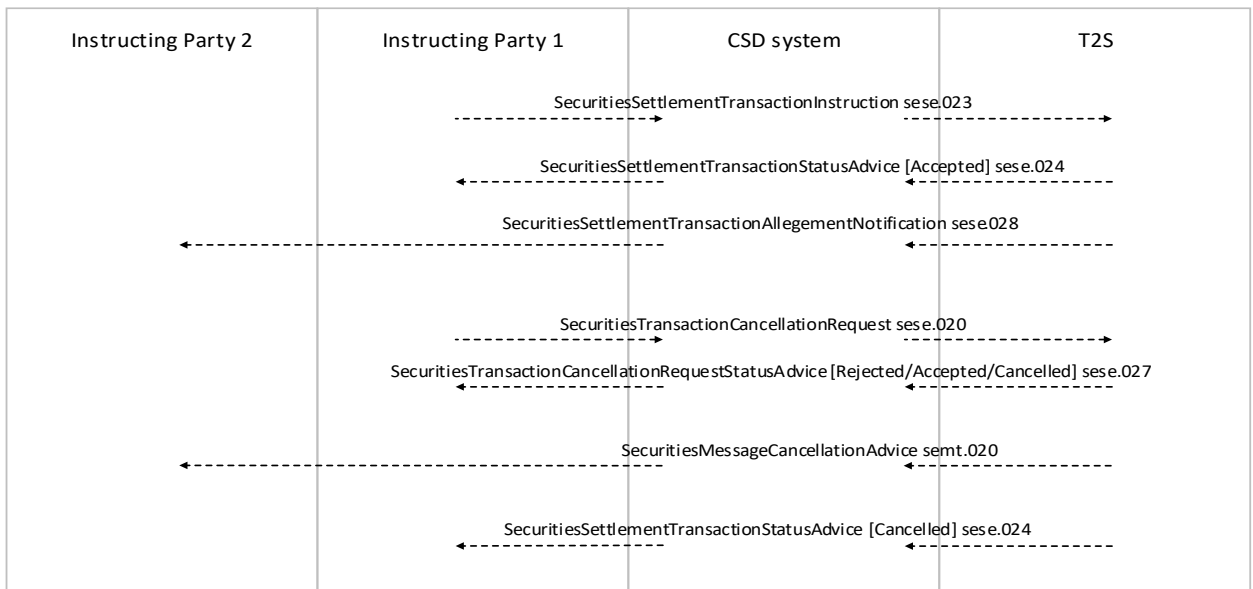


Figure 3: Messaging Workflow – Cancelling unmatched settlement instructions

Whether an instruction is matched or not matched

As soon as matching is executed (either in T2S or in the Depository system) those participants that have subscribed for status advice messages receive a sese.024 message with a “MACH – Matched” status and the corresponding matching reference. Such information is also visible in the Depository system’s GUI irrespective of the subscription settings.

After the first unsuccessful matching attempt the Depository system sends out a settlement instruction status advice message sese.024 with the matching status “NMAT – Unmatched”. The same matching status is also visible in GUI irrespective of the subscription settings.

Whether an instruction can settle partially

The settlement instructions are eligible to settle partially if the partial settlement indicator for an instruction is set to allow (or disallow) (GUI or sese.023 PartialSettlementIndicator with the relevant value).

The possible values of partial settlement indicators are:

- Partial settlement is allowed (sese.023 PartialSettlementIndicator “PART”);
- Partial settlement is not allowed (sese.023 PartialSettlementIndicator “NPAR”);
- Partial settlement is allowed but must satisfy a cash value minimum (value defined in static data) (sese.023 PartialSettlementIndicator “PARC”);
- Partial settlement is allowed but must satisfy a minimum quantity of securities (quantity defined in instrument definition) (sese.023 PartialSettlementIndicator “PARQ”).

Whether an instruction is on hold

Hold/release instructions are considered to be a subtype of amendment instructions and therefore all requirements on amendment instructions implicitly apply to hold/release instructions as well.

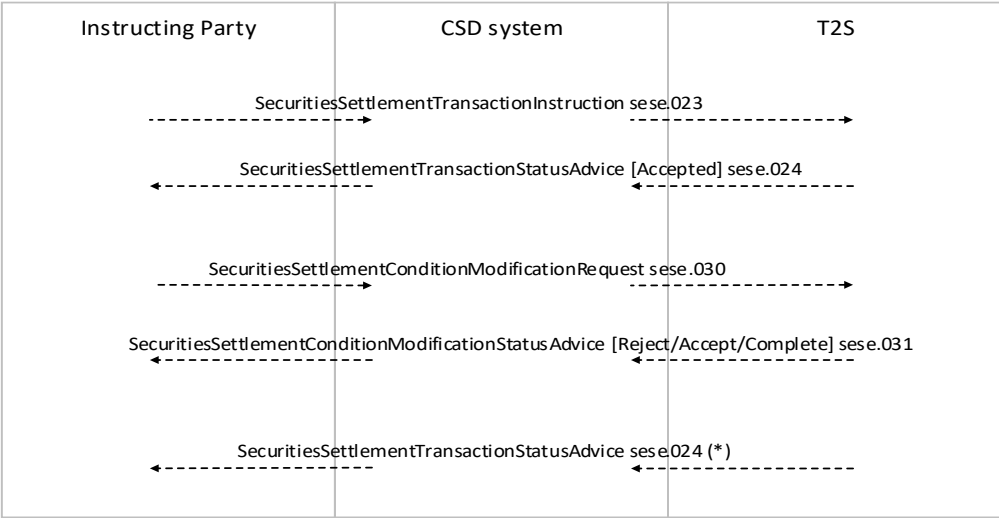


Figure 4: Messaging Workflow – Amending (incl hold/release) settlement instructions

The reasons for instruction being pending or failing (where relevant)

Instructions that are not successfully settled are updated with relevant pending information (i.e lack of cash, lack of securities) and are attempted to settle during the ISD.

4.5.3 Settlement

The Depository system settles settlement instructions for both T2S eligible securities and cash simultaneously on a trade-by-trade (gross) basis, with final (irrevocable and unconditional) transfer of securities from the seller to the buyer occurring at the same time as final transfer of cash from the buyer to the seller. Settlement status of successfully settled instructions is changed to Settled.

Matching and maintenance of settlement instructions is executed continuously during general business hours.

- Free of payment (FOP) settlement instructions are settled continuously in real time during the general business hours.
- Against payment (DVP) settlement instructions settle continuously in real time during the general business hours.

For non-T2S instruments, Depository system supports the following settlement methods:

- Real-time gross: settlement instructions are settled in real time;
- Technical netting with optimization: Settles the batch if netting is successful. If the netting is not successful, then the batch is optimized;

4.6. Cash Forecast

The cash forecast provides Depository participants information on their cash settlement needs and, based on that, they are able to provide and use liquidity effectively. The cash forecast only considers known information that is in the Depository system and is available for cash agents and settlement parties in GUI.

4.6.1. Cash Forecast from Depository system

The cash forecast includes the following information:

- Net total of accepted pending settlement instructions (irrespective of place of settlement – the Depository system or T2S);
- Cash balance of the cash settlement account (only information on the cash balances in the Depository system is included). The information is available to the cash agent only;
- Expected cash balance – which is the sum of cash balance and net total of pending settlement instructions.

4.6.2. T2S cash forecast

In order to get the most recent data from T2S, the Depository provides the possibility for a Depository participant – Payment Bank in T2S to query T2S cash forecast, T2S DCA cash balance and T2S DCA cash postings. The queries are available in the Depository system GUI and responses from T2S are also displayed in GUI.

T2S cash forecast query provides information on the cash need of the T2S party DCA, based on the current DCA cash balance, liquidity transfer orders, cash needs for pending DVP transactions, as well as the amount of outstanding intraday credit from auto-collateralization

Depository participants, who are also Payment Banks in T2S, will be able to request the following cash forecast queries from T2S via the Depository system GUI:

- Current Settlement Day Cash Forecast Query returns information about cash needs for transactions pending to settle during the current settlement day;
- Following Settlement Day Cash Forecast Query, returns information for the next settlement day and considers instructions that are expected to be settled the following settlement day.

5. Monitoring of settlement fails

Depository Operations monitors the number and value of settlement fails per participant of Depository for every intended settlement date, including the length of each settlement fail expressed in business days. The report of settlement fails are conducted on a monthly basis by Depository Operations and shared for internal review to Head of Sales & Services and Head of Depository Services on monthly basis.

Settlement fail ^{iv}means the non-occurrence of settlement, or partial settlement of a securities transaction on the intended settlement date, due to a lack of securities or cash and regardless of the underlying cause.

The rate of settlement fails is based on the number of settlement instructions shall be calculated by dividing the number of settlement fails by the number of settlement instructions entered into the securities settlement system during the relevant period.

Depository Operations reports, before the end of the fifth business day of the following calendar month, to respective Financial Supervision Authority the required information for the securities settlement systems it operates for each calendar month.

6. Publication of settlement fails to authorities

In order to promote transparency and facilitate the comparability of settlement fails across the EU Depository plans to publish aggregated data of settlement fails on an annual basis.

ⁱ The electronic trading system, which supports performance of Trades with financial instruments in the market of Fixed-income Instruments

ⁱⁱ The electronic trading system, which supports performance of Trades with financial instruments in the market of Equity Instruments

ⁱⁱⁱ A legal person to whom the status of the Member of the Exchange has been assigned and with which the Exchange has concluded a Membership Agreement

^{iv} CSDR Article 2 (1) Recital 15