Insights on T2S linking

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ECB T2S Programme Office
European Central Bank
T2S Linking – An Introduction

- T2S linking is the functionality to link Settlement Instructions and/or Settlement Restrictions together
  - T2S Actor can use linking functionality to achieve the settlement of specific operations such as coupon stripping/reattachment, baskets of collateral, etc.
  - T2S will link Settlement Instructions automatically to cover the settlement of operations such as realignment, auto-collateralisation, corporate rebalancing liquidity, etc.

- The presentation explains the concept of linking in T2S and describes principles and rules of T2S linking

- The presentation gives details about message fields to be used for linking instructions and it also includes specific scenario to explain usage of T2S linking functionality
The presentation aims to address following key questions on T2S linking:

- What is the concept of linking of instructions in T2S?
- How to create and amend the linking of instructions?
- What are the validations on linked instructions?
- How settlement of linked instructions takes place?
- How references should be used for linking of instructions?
- What are the message fields required for linking of instructions?
- How T2S actors receive information on linked instructions from T2S?
- Are there any limitations while linking of instructions?
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Background
Concept, link types and usages (I)

- **Concept**: Interdependencies between two or more instructions for different purposes

- **Link types** by:

  - **Nature**
    - Settlement link
    - Informative link

  - **Origin**
    - Externally linked
    - Internally linked

  - **Multiplicity**
    - 1 to 1
    - 1 to many
    - Many to many

- **Usages**: Back-to-back, repo, bond stripping…
Background
Concept, link types and usages (II)

- **Common Identification**: Association for matching purposes in externally matched instructions (or optional matching field in T2S)
  - **Processing Identification**: e.g. Association to a Account owner reference provided by a CSD, or third party with power of attorney
  - **Reference to previous own message**: Association to an instruction to be modified or cancelled
  - **Reference to related message**: Association to an instruction provided by T2S in status advices or settlement confirmations
Background
Concept, link types and usages (III)

Multiplicity

1 to 1
1 to many
Many to many

Settlement Instruction I
Settlement Restriction I
Settlement Instruction II
Settlement Restriction II
Settlement Instruction III
Settlement Restriction III
Settlement Instruction IV

Link 1
Link 2
Link 3
Link 4
Link 5
Link 6
Background
Concept, link types and usages (IV)

Multiplicity
- 1 to 1
- 1 to many
- Many to many

Settlement Instruction I
Settlement Instruction II
Settlement Instruction III-1
Settlement Instruction III-2
Settlement Restriction II
Settlement Restriction VI

Link 3
Link 4
Externally matched instruction

Link 3
Link 4
Background
Concept, link types and usages (V)

- **Externally linked**: T2S Actor sends an instruction with a link to another instruction
- **Internally linked**: T2S generates new instructions with a link to an already existing instruction

**Origin**
- Externally linked
- Internally linked
  - Realignment
  - Collateralisation
  - Substitution
  - Collateral relocation
  - Additional liquidity transfer (e.g. CARL)
Background
Concept, link types and usages (VI)

- **Settlement link**: Association between two or more instructions for settlement purposes
  - Pair of instructions:
    - After: Instruction to settle after or at the same time
    - Before: Instruction to settle before or at the same time
    - With: Instruction to settle at the same time
  - Group of settlement instructions (SI)
  - Pool reference: Instruction to settle at the same time

- **Informative link**: Association between two or more instructions for information purposes
  - Info

*From now on, "link" is equal to external settlement link in this presentation.*
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Principles and Rules
Linking principles (I)

- T2S knows that an instruction is linked when the it contains a processing position code (After, Before, With, Info), or when this code is blank but it includes a pool reference.

- A T2S link is a settlement link (link): It only creates a dependency within the settlement process (as a consequence a link between a SI/SR and a maintenance instruction or static data maintenance request is not possible).

- In addition, a link has implications on the validation and eligibility of a SI/SR.

- A link can be created between two Settlement Instructions (SI), two Settlement Restrictions (SR), between a SI and a SR or a pool of instructions (i.e. SI and SR).

- A link to a T2S generated instruction (i.e. created in the context of external links) or a liquidity transfer is not possible.
Principles and Rules
Linking principles (II)

Instructions can be linked by using:
- T2S instruction reference (i.e. MktInfrstrctrTxId)
- the combination of a T2S Actor reference of the instruction (i.e. TxId) and the T2S Actor owning the reference (BIC)
- the combination of a pool reference and the T2S Actor owning the pool reference (BIC)

A link between two instructions belonging to different CSDs/NCBs is only possible by using the T2S instruction reference

Privileges are required by T2S in order to include a link in an Instruction / Pool Reference belonging to a specific Party for the following messages
- Securities Settlement Transaction Instruction (sese.023)
- Intra-Position Movement Instruction (semt.013)
- Intra-Balance Movement Instruction (camt.066)

A link does not have to be reciprocal as the T2S Settlement engine could settle a pair of linked instructions together in some cases (SI-1 has a link ‘With’ with SI-2: SI-1 can only settle together with SI-II, while SI-II could settle on its own since it does not have any link)
CSDs and third parties can make an instruction non-modifiable so that the Account owner cannot link or unlink an instruction, as well as any other modification (e.g. priority).

Linked SI are not submitted to partial settlement. A SR* linked to a SI are submitted to partial settlement only if the linked SI can be fully settled.

A link to a partially settled instruction is not possible.

The counterparty of a SI/SR, which is linked, is not aware of any of the links unless its instruction remains unsettled on the Intended Settlement Date and the other SI/SR has a missing linked instruction with a link type with/after or a pool.

Internally linked instructions do not make use of processing position codes After, Before and With or pool reference (see UDFS section 1.6.1.11.4).

* In addition, the restriction type specified in the ST
A settlement instruction can only belong to one pool

A pool can comprise up to 999 settlement instructions (TtlOfLkdInstrs)

A pool can only make use of the link type WITH (or blank)

A pool cannot contain instructions belonging to different CSDs/NCBs

A pool reference can be re-used. T2S has a harmonised parameter*, which defines for how many days the pool reference is kept by T2S

The Pool Counter (TtlOfLkdInstrs) of already matched instructions is equal to the number of instructions multiplied by 2

T2S does not reduce the internal pool counter when a SI is cancelled

* See UDFS section 1.6.1.1.6 Parameters Synthesis
Principles and Rules
Creation and amendment of links (I)

- It is not possible to combine the amendment of a link with a modification of the partial settlement and the priority of an instruction.

- The amendment of a link can either add a new link or unlink the existing link (only one action per amendment instruction).

- Only one link or one unlink is allowed per modification message.
Object privileges at party level is required by T2S in order to maintain a link belonging to a specific Party for the messages Securities Settlement Conditions Modification Request (sese.030) and Intra-Balance Movement Modification Request (camt.072).

A partially/fully settled SI/SR, a cancelled SI/SR, or a SI on COSD process cannot be linked.

The amendment of an existing link requires two steps:
- Unlink the instruction
- Link the instruction again with the new link

The pool reference (and pool counter) cannot be unlinked or changed (the T2S Actors need to cancel the SIs and reinstruct).

The instruction to which a SI/SR is being linked must exist in T2S.

Unlinking or linking instructions with INFO is not possible, since the code INFO is not available in the amendment messages.
Validation*

- The links between a pair of instructions must have the same link type and:
  - With: same Intended Settlement Date
  - After: intended Settlement Date equal or later than the other instruction
  - Before: intended Settlement Date equal or earlier than the other instruction

- The Pool Counter (TtlOfLkdInstrs) of each linked settlement instructions within the pool must be the same

- The number of linked instructions within the pool must not exceed the Pool Counter

- Current instruction number is mandatory for any SI that is linked, both by a pool reference and by a processing position code

- When a SI is linked by the T2S Actor reference, the reference owner must be filled in; otherwise the instruction is rejected

- When a SI is linked by the T2S Instruction reference, this reference must exists; otherwise a SI/SR or an amendment instruction is rejected

* The validations included in the linking principles are not repeated again here.
For an exhaustive list of validations please refer to the business rules contained in the UDFS for messages sese.023, sese.030, camt.072, semt.013, camt.066
Eligibility for link type With (pair of instructions or pool), After and Before

- T2S does not submit an instruction to settlement if it has a link to a:
  - cancelled or missing instruction in case of a link ‘With’ and ‘After’
  - settled instruction in case of a link ‘With’ and ‘Before’
  - partially settled instruction in case of a link ‘With’, ‘Before’ and ‘After’

- T2S does not submit an instruction which is part of pool to settlement until all settlement instructions within the pool becomes eligible for settlement. T2S reports an INBC (Incomplete Number Count) reason code in the status advice notification for both real time and night time settlement process - when an instruction is one of several in the pool but not the last.
Eligibility for link type With (pair of instructions or pool), After and Before

- T2S submits an instruction, which does not have any link, to settlement independently of whether there were any another instruction having a link with it (unless the T2S settlement process has previously received the instruction with the link type ‘With’ or ‘Before’)

- Linked instructions belonging to different night-time settlement sequences will be attempted for settlement in the latest sequence of the linked SI/SR (e.g. T2S settles a Corporate Action related instruction linked to a trading instruction in night-time settlement sequence 4)
Settlement

- If a SI/SR selected for a sequence is linked “with” or “after” a SI/SR which does not correspond to the sequence criteria, these SI/SR are excluded from this sequence.

- T2S takes the highest priority in case there is a different priority within the set of linked instructions (in combination with the counterparty priority).

- Settlement instructions linked with WITH or a pair of instructions with After/Before are attempted to settle together.

- T2S applies provisioning net flows (i.e. technical netting) to check whether there is available quantities, amounts, and limit headroom.
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A link of a pair of instructions requires:

- **A Processing Position Code (PrcgPos)**
  - AFTE, BEFO, WITH or INFO
- **A Reference (Ref)**
  - T2S Instruction reference (MktInfrstrctrTxId) or
  - T2S Actor reference*
    - Securities Settlement Transaction Identification (SctiesSttlmTxId)
    - Intra-Position Movement Identification (IntraPosMvmntId)
    - Intra-Balance Movement Identification (IntraBalMvmntId)
    - Account Servicer Transaction Identification (AcctSvcrTxId)
    - Other Transaction Identification (OthrTxId)
- **A BIC of the party owning the reference (AnyBIC)** unless the T2S Instruction reference is provided
- **Total Of Linked Instructions (TtlOfLkdInstrs)**
- **Current Instruction Number (CurInstrNb)**

* The T2S Actor can specify any type of T2S Actor reference (i.e. SctiesSttlmTxId, AcctSvcrTxId or OthrTxId) in the linkages block. This reference plus the reference owner will be used by T2S to identify the SI/SR to be linked (independently of whether the instruction was instructed by CSD, CSD participant or third party)

** Although this field is mandatory, the value of the field is not validated by T2S
A pool of settlement instructions requires*:

- Total Of Linked Instructions (TtlOfLkdInstrs)
- Current Instruction Number (CurInstrNb)**
- A Reference (Ref)
  - Pool Identification (PoolID)
- BIC of the party owning the reference (AnyBIC)

* The Processing Position Code (PrcgPos) With is optional
** Although this field is mandatory, the value of the field is not validated by T2S
The status advice of a SI returns the Pool Identification (PoolId). No other information from the linkages block is part of the status advice.
The settlement confirmation of a SI returns the Pool Identification (PoolId). No other information from the linkages block is part of the status advice.
A message perspective
Intra-Position Movement Instruction - semt.013 (I)

A link of a pair of instructions requires:

- A Processing Position Code (PrcgPos)
  - AFTE, BEFO, WITH or INFO
- A Reference (Ref)
  - T2S Instruction reference (MktInfrstrctrTxId) or
    T2S Actor reference*
    - Securities Settlement Transaction Identification (SctiesSttlmTxId)
    - Intra-Position Movement Identification (IntraPosMvmntId)
    - Intra-Balance Movement Identification (IntraBalMvmntId)
    - Account Servicer Transaction Identification (AcctSvcrTxId)
    - Other Transaction Identification (OthrTxId)
- A BIC of the party owning the reference (AnyBIC) unless the T2S Instruction reference is provided
- Total Of Linked Instructions (TtlOfLkdInstrs)**
- Current Instruction Number (CurInstrNb)**

* The T2S Actor can specify any type of T2S Actor reference (i.e. SctiesSttlmTxId, AcctSvcrTxId or OthrTxId) in the linkages block. This reference plus the reference owner will be used by T2S to identify the SI/SR to be linked (independently of whether the instruction was instructed by CSD, CSD participant or third party)

** Although this field is mandatory, the value of the field is not validated by
A message perspective
Intra-Position Movement Instruction - semt.013 (II)

A pool of instructions requires:

- **Total Of Linked Instructions (TtlOfLkdInstrs)**
- **Current Instruction Number (CurInstrNb)**
- **A Reference (Ref)**
  - Pool Identification (PoolID)
- **BIC of the party owning the reference (AnyBIC)**

* The Processing Position Code (PrcgPos) With is optional
** Although this field is mandatory, the value of the field is not validated by T2S
A message perspective
Intra-Position Movement Status Advice - semt.014
Intra-Position Movement confirmation - semt.015

The status advice and settlement confirmation do not return information about the links except for the Pool Identification (PoolID)
A link of a pair of instructions requires:

- **A Processing Position Code (PrcgPos)**
  - AFTE, BEFO, WITH or INFO

- **A Reference (Ref)**
  - T2S Instruction reference (MktInfrstrctrTxId) or
  - T2S Actor reference*
    - Securities Settlement Transaction Identification (SctiesSttlmTxId)
    - Intra-Position Movement Identification (IntraPosMvmntId)
    - Intra-Balance Movement Identification (IntraBalMvmntId)
    - Account Servicer Transaction Identification (AcctSvcrTxId)
    - Other Transaction Identification (OthrTxId)

- **A BIC of the party owning the reference (AnyBIC)** unless the T2S Instruction reference is provided

- **Total Of Linked Instructions (TtlOfLkdInstrs)**

- **Current Instruction Number (CurInstrNb)**

* The T2S Actor can specify any type of T2S Actor reference (i.e. SctiesSttlmTxId, AcctSvcrTxId or OthrTxId) in the linkages block. This reference plus the reference owner will be used by T2S to identify the SI/SR to be linked (independently of whether the instruction was instructed by CSD, CSD participant or third party)

**Although this field is mandatory, the value of the field is not validated by T2S
A message perspective
Intra-Balance Movement Instruction - camt.066 (II)

A pool of instructions requires*:

- **Total Of Linked Instructions (TtlOfLkdInstrs)**
- **Current Instruction Number (CurlInstrNb)****
- **A Reference (Ref)**
  - Pool Identification (PoolID)
- **BIC of the party owning the reference (AnyBIC)**

* The Processing Position Code (PrcgPos) With is optional
** Although this field is mandatory, the value of the field is not validated by T2S
The status advice and settlement confirmation do not return information about the links except the pool id.
A modification of the linkage block of an accepted instruction requires:

- **A linkage Type (Lkg)**
  - Link: Addition of a new link
  - Unlink: Removal of an existing link

- **A Processing Position Code (PrcgPos)**
  - AFTR, BEFR or WITH

- **A Reference (Ref)**
  - T2S Instruction reference (MktInfrstrctrTxId) or 
  - T2S Actor reference**

- **A BIC of the party owning the reference (AnyBIC)**
  unless the T2S Instruction reference is provided

* Since the code INFO is not available in the message, its unlinking/linking is not possible
** The T2S Actor can specify any type of T2S Actor reference (i.e. SctiesSttlmTxId, AcctSvcrTxId or OthrTxId) in the linkages block. This reference plus the reference owner will be used by T2S to identify the SI/SR to be linked (independently of whether the instruction was instructed by CSD, CSD participant or third party)
A modification of the linkage block of a pool requires:

- Cancellation and reinstruct
The status advice returns:

- **A linkage Type (Lkg)**
  - Link: Addition of a new link
  - Unlink: Removal of an existing link

- **A Processing Position Code (PrcgPos)**
  - AFTR, BEFR or WITH

- **A Reference (Ref)**
  - T2S Instruction reference (MktInfstrctrTxId)
  - T2S Actor reference

- **A BIC of the party owning the reference (AnyBIC) unless the T2S Instruction reference is provided**
A modification of the linkage block of an accepted instruction requires:

- **A linkage Type (Lkg)**
  - Link: Addition of a new link
  - Unlink: Removal of an existing link

- **A Processing Position Code (PrcgPos)**
  - AFTE, BEFO or WITH

- **A Reference (Ref)**
  - T2S Instruction reference (MktInfstrctrTxId) or
  - T2S Actor reference*

- **A BIC of the party owning the reference (AnyBIC) unless the T2S Instruction reference is provided**

* Since the code INFO is not available in the message, unlinking/linking with INFO is not possible

** The T2S Actor can specify any type of T2S Actor reference (i.e. SctiesSttlmTxId, AcctSvcrTxId or OthrTxId) in the linkages block. This reference plus the reference owner will be used by T2S to identify the SI/SR to be linked (independently of whether the instruction was instructed by CSD, CSD participant or third party)
The status advice returns:

- A linkage Type (Lkg)
  - Link: Addition of a new link
  - Unlink: Removal of an existing link

- A Processing Position Code (PrcgPos)
  - AFTE
  - BEFO
  - WITH
  - INFO

- A Reference (Ref)
  - T2S Instruction reference (MktInfrstrctrTxId)
  - T2S Actor reference

- A BIC of the party owning the reference (AnyBIC) unless the T2S Instruction reference is provided
A message perspective
Securities Settlement Transaction Query - semt.026

The search criteria of the SI query allows to retrieve the settlement instructions belonging to same pool (PoolId)
The SI query result returns the following information related to the instruction linkages:

- Pool Identification (PoolID)
- Processing Position Code With (or blank)
- Reference (Ref)
- BIC of the party owning the reference (AnyBIC)

The SI query result does not return:
- Total Of Linked Instructions (TtlOfLkdInstrs)
A message perspective
Intra-Balance Movement Query - camt.078

The search criteria of the query does not include the linkages-related information
A message perspective
Intra-Balance Movement Query Response (camt.079)

The query result returns the following information related to the instruction linkages:

- Processing Position Code With (or blank)
- Reference (Ref) (including the pool Id)
- BIC of the party owning the reference (AnyBIC)
A message perspective
Intra-Position Movement Query - semt.028

The search criteria of the query does not include the linkages-related information
The query result returns the following information related to the instruction linkages:

- **Processing Position Code With (or blank)**
- **Reference (Ref) (including the pool Id)**
- **BIC of the party owning the reference (AnyBIC)**
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- Settlement instruction (SI) to move position of original bond from CSD participant account to issuance account
  - Securities Movement Type Code (SctiesMvmntTp): Delivery (DELI)
  - Common Identification (CmonId): csdmatchref1234
  - Corporate Action Event Identification (CorpActnEvtId): csdcaev4321-A
  - Trade Details (TradDtls) – Matching Status (MtchgSts): Matched (MACH)
  - Payment (Pmt): Separate Settlement (FREE)
  - QuantityAndAccountDetails (QtyAndAcctDtls) – Safekeeping Account (SfkpgAcct): csdpacc1357
  - Settlement Parameters (SttlmParams) – Securities Transaction Type (SctiesTxTp): Corporate Action (CORP)
  - Delivering Settlement Parties (DlvrgSttlmPties):
    - Depository (Dpstry): CSD BIC
    - Party 1 (Pty1): CSD Participant BIC
  - Receiving Settlement Parties (RcvngSttlmPties):
    - Depository (Dpstry): CSD BIC
    - Party 1 (Pty1): CSD BIC
    - Party 1 (Pty1) – Safekeeping Account (SfkpgAcct): csdissacc0246
  - Number Counts (NbCounts)* – TotalNumber (TtlNb) – Total Of Linked Instructions (TtlOfLkdInstrs): n+2 (n=outstanding coupon payments; 1 Principal payment; 1 CSD Part)*2
  - Linkages (Lnkgs) – Processing Position Code (PrcgPos): WITH (or blank)
  - Linkages (Lnkgs) – Reference (Ref) – Pool Identification (PoolID): csdpool5678
  - BIC of the party owning the reference (AnyBIC): CSD

* The Current Instruction Number (CurInstrNb) is mandatory, however the value of the field is not validated by T2S
Application of Linking – Scenario Analysis
Bond stripping (II)

- **n+1 settlement instructions** to create strip bonds from issuance account to CSD participant accounts (n=outstanding coupon payments; 1 Principal payment)
  - Securities Movement Type Code (SctiesMvmntTp): Delivery (DELI)
  - Common Identification (CmonId): csdmatchref9765
  - Corporate Action Event Identification (CorpActnEvtId): csdcaev4321-B
  - Trade Details (TradDtls) – Matching Status (MtchgSts): Matched (MACH)
  - Payment (Pmt): Separate Settlement (FREE)
  - QuantityAndAccountDetails (QtyAndAcctDtls) – Safekeeping Account (SfkpgAcct): csdissacc0246
  - Settlement Parameters (SttlmParams) – Securities Transaction Type (SctiesTxTp): Corporate Action (CORP)
  - Delivering Settlement Parties (DlvrSttlmPties):
    - Depository (Dpstry): CSD BIC
    - Party 1 (Pty1): CSD BIC
  - Receiving Settlement Parties (RcvgSttlmPties):
    - Depository (Dpstry): CSD BIC
    - Party 1 (Pty1): CSD Participant BIC
    - Party 1 (Pty1) – Safekeeping Account (SfkpgAcct): csdpacc1357
  - Number Counts (NbCounts)* – TotalNumber (TtlNb) – Total Of Linked Instructions (TtlOfLkdInstrs): n+2 (n=outstanding coupon payments; 1 Principal payment; 1 CSD Part)*2
  - Linkages (Lnkgs) – Processing Position Code (PrcgPos): WITH (or blank)
  - Linkages (Lnkgs) – Reference (Ref) – Pool Identification (PoolID): csdpool5678
  - BIC of the party owning the reference (AnyBIC): CSD

*The Current Instruction Number (CurInstrNb) is mandatory.*
T2S split already matched instructions

- T2S actor can subscribe to receive only one status notification or settlement confirmation per already matched instruction (or both)

The sese.024 (status advice) notifies the acceptance of an already matched instruction:
- Transaction Details (TxDtls) – Pool Identification (PoolID): csdpool5678
- Processing Status (PrcgSts) – Acknowledged Accepted (AckdAccptd) – No Specified Reason (NORE)
- Matching Status (MtchgSts) – Matched (Mtchd) – No Specified Reason (NORE)

The sese.025 (settlement confirmation) notifies the settlement of an already matched instruction:
- Transaction Details (TxDtls) – Pool Identification (PoolID): csdpool5678
Thank you for your attention

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