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| CCPA Business Requirements  Corporate Actions (BRS-CA)  Version 1.0 ● Final |
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# Document history

The following table contains the document revisions, including references to specific comments.

| Version | Notes |
| --- | --- |
| V 0.1 | Initial Draft |
| V 0.3 | * Added SWIFT ISO message fields to improve clarity. * Added Spin-off Corporate Action * Added support for Subscription ISIN right not present |
| V 1.0 | * FN00006191: [CA diary][CA Type] field: added 'EXOF' type * FN00006191: [CA diary][Adj Factor] field: revised description to consider the use of the field in case of split/rsplit * FN00006191: comment from MM: "In some special cases there are corporate action where the RD takes place before EXD (cum-date-driven ca). What would then be the consequences?" Answer: No impact on Risk Management System. At settlement level the claim from the seller to the buyer is handled. * FN00006191: added field [CA diary][Adjustment precision] * FN00006356: corrected type "[SettItem]" to "[PosItem]". * FN00006353: introduced the concept of default risk factors for rights. * FN00006334: introduced reference to the field [CA diary][Adjustment precision]. * FN00006352: added exception handling in case adjustment factor is not available. |

# Document Control

The following table contains the complete list of business requirements described in this document, together with their own identification code and status attributes.

For each requirement the following attributes are provided:

1. **Priority**: describes the importance of the requirement using the MoSCoW standard. More specifically, "Must" is a category used for business critical requirements,"Should" is specified for important but not "show-stopping" requirements, "Could" is used for "nice-to-have" requirements.
2. **Analysis**: expresses the level of completeness of the analysis. In particular the flag "Unknowns" means that there are still topics not covered by workshops and interviews, while "No unknowns" means that the analysis can be considered complete from the client perspective.
3. **Stability**: this flag describe the requirements stability in terms of changes connected to external stakeholder influence. A requirement is "Not Stable" if, for example, the team is waiting for an external feedback that could impact it (changing regulations, changing external systems, changing standards...)

| Code | Name | Priority | Analysis status | Stability |
| --- | --- | --- | --- | --- |
| FN00006370 | CA Diary Processing | Must | No unknowns | Stable |
| FN00006191 | Corporate Action Diary | Must | No unknowns | Stable |
| FN00006342 | Corporate Action Diary Entry | Must | No unknowns | Stable |
| FN00006192 | Diary Entry Time Constraint | Must | No unknowns | Stable |
| FN00006333 | CUM/EX Trading Positions Separation | Must | No unknowns | Stable |
| FN00006334 | Margin Calculation | Must | No unknowns | Stable |
| FN00006344 | Coverage of Market Standards | Must | No unknowns | Stable |
| FN00006345 | Instruction matching | Must | No unknowns | Stable |
| FN00006372 | Transformation Processing | Must | No unknowns | Stable |
| FN00006346 | Transformation: cancellation instruction | Must | No unknowns | Stable |
| FN00006347 | Transformation: cancellation process at Settlement Account level | Must | No unknowns | Stable |
| FN00006348 | Transformation: cancellation process at Position Account level | Must | No unknowns | Stable |
| FN00006349 | Transformation: transformation instruction | Must | No unknowns | Stable |
| FN00006350 | Transformation: transformation generation process at settlement account level | Must | No unknowns | Stable |
| FN00006352 | Transformation: transformation generation process at position account level | Must | No unknowns | Stable |
| FN00007034 | Transformation: fractions management | Must | No unknowns | Stable |
| FN00006373 | Market Claim Processing | Must | No unknowns | Stable |
| FN00006353 | Market Claim: right issue instruction | Must | No unknowns | Stable |
| FN00006354 | Market Claim: creation of right issue at settlement account level | Must | No unknowns | Stable |
| FN00006356 | Market Claim: creation of right issue at position account level | Must | No unknowns | Stable |
| FN00007052 | Market Claim: fractions management | Must | No unknowns | Stable |

# Overview

Corporate Actions are handled in the Clearing System with the purpose of:

* Settlement transaction management
* Risk Management

Management of transactions in fail is done by the CSD which, in case of Corporate Action, cancels and creates settlement instructions. The Clearing System automatically synchronizes trading and settlement positions according to the settlement updates provided by the CSD. In addition, the Clearing System allow the manual amendment of settlement instructions to handle exceptions. Transaction management is not needed for transactions that are settled at intended settlement date given that, in such case, the settlement date coincides with the corporate action record date.

Risk Management specific functions for corporate actions are required to handle the margin calculation during the time window in which both CUM and EX unsettled positions are maintained in the Clearing System. In such context the Clearing System maintains corporate action specific parameters to convert the EX Financial Instrument price, provided by the market, to the CUM Instrument price.

# Requirements

## Risk Management

### FN00006370 - CA Diary Processing

Processing of Corporate Actions diary is described in the following chart.

|  |  |
| --- | --- |
| 1:Processing at Ex-Date | |
| Diagram details | |
| 1.0 - Get diary entry | At Ex-Date - 1 EOD are processed the Corporate Actions in the Corporate Action Diary with the current Ex-Date. |
| 1.1 - CUM/EX trading position separation | Current unsettled positions, traded CUM, are given a specific name to keep them separated from the ones traded EX. |
| 1.2 - Margin calculation | Margin calculation for EX positions is performed using the market price.  Margin calculation for CUM positions is performed using the adjusted market price |

### FN00006191 - Corporate Action Diary

Clearing System maintains a Corporate Action Diary to actively handle Corporate Actions at Risk Management Level.

CA Diary shall contain the following parameters:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CA Diary | | | | |
|  | | | | |
| Field Name | Type | Prec. | Scale | Description |
| Class Code | VARCHAR(12) |  |  | Internal identification code of the financial instrument which is subject to Corporate Action. |
| CUM Class Code | VARCHAR(12) |  |  | Internal identification code of the financial instrument automatically created to handle CUM positions between EX and Record Date. |
| Corporate Action Type | VARCHAR(2) |  |  | The type of the Corporate Action.  Possible values:  01 = Exercises of Rights (EXRI)  02 = Split (SPLF)  03 = Reverse Split (SPLR)  04 = ISIN Change (CHAN)  05 = ISIN Merge (MRGR)  06 = Spin off (SOFF)  07 = Exchange (EXOF) |
| Corporate Action Description | VARCHAR(38) |  |  | Corporate Action Description. |
| Ex-date | INTEGER |  |  | Ex-Date in YYYYMMDD format.  The first day on which a financial instrument no longer certifies the entitlement to participate in a particular event (starting a 0:00 o'clock). |
| Record Date | INTEGER |  |  | Record Date in YYYYMMDD format.  The day at the end of which the CSD determines the entitled securities positions. |
| Adjustment Factor | DECIMAL(15,8) | 15 | 8 | Adjustment factor to be applied to CUM positions with MTM evaluation purposes. It is also used to handle specific transformations like split and reverse split as described in the transaction management section. |
| Adjustment precision | INTEGER |  |  | Number of decimal position to be applied in adjusting process |
| Rounding Rule | VARCHAR(1) |  |  | R = Round Nearest  T = Truncation |
| Adjustment Factor Rule | VARCHAR(1) |  |  | The applied rule can be:  - 1 = K  - 2 = 1/K |
| New ISIN | VARCHAR(12) |  |  | Possible values:  - New ISIN code In case of ISIN change.  - N Otherwise |
| Corporate Action Reference | VARCHAR(38) |  |  | Reference assigned by the account servicer to unambiguously identify a related corporate action event. |
| Corporate Action Internal ID | BIGINT |  |  | Corporate Action Internal ID assigned by the system. |

### FN00006342 - Corporate Action Diary Entry

Diary is populated manually. The user must provide at least the following values

* Class Code
* Corporate Action Type
* Ex-date
* Adjustment Factor
* Adjustment Factor Type
* Adjustment Factor Rule

### FN00006192 - Diary Entry Time Constraint

Corporate Action adjustment in the CA Diary are allowed until Ex-date-1 before the EOD.

### FN00006333 - CUM/EX Trading Positions Separation

Trading positions deriving from “CUM” trades are kept separated from positions deriving from “EX” Trades. Such behavior is obtained via the process below:

1. Corporate action details are gathered from the corporate action diary.
2. A new Class Code [CUM Class Code] is generated. Such code is intended to live between the [EX Date] and the [EX Date + 1. The field [CUM Class code] is updated in the corresponding Corporate Action Diary Entry.
3. All the unsettled trading positions corresponding to the [Class Code] value in the Corporate action diary are replaced by new identical entries having code [CUM Class Code]
4. Between [EX Date] and [EX Date +1] any new trade on the Financial Instrument subject of the corporate actions is posted to trading positions having [Class Code] (the original code) as instrument identification code.
5. At [Ex Date + 1] EOD (Record Date) the settlement instructions referring to both the positions identified by the instrument identification code [Class Code] and [Cum Class Code] are subject of transformation on the CSD. The transformation implies a cancellation of all the outstanding instruction and the creation of new ones. New Positions are created with instrument identification code [Class Code] only.

### FN00006334 - Margin Calculation

Margin Calculation of financial instruments which are subject of corporate action adds specific position valuation rules which are applied in the course of [EX Date] and [EX Date +1]:

* Positions referring to the instrument subject of CA, having instrument identification code [Class Code] are evaluated following the standard margin computation process..
* Positions referring to the instrument subject of CA, having instrument identification code [CUM Class Code] are valuated replacing the [Market Price] with the [Adjusted Market Price]

[Adjusted Market Price] = Rounding([Adjusting Factor] \* [Market Price], MODE)

Where:

X Adjusting Factor is the multiplicative factor defined in the diary entry. The reciprocal is taken in case of [Reciprocal]=yes.

X Mode is the rounding mode that can be [Truncation] or [Round nearest] where the number of decimals is defined at CA diary level [CA Diary][Adjustment precision].

* Margin is calculated “per ISIN”: CUM and EX positions produce concur to produce the same margin figure.

## Transaction Management

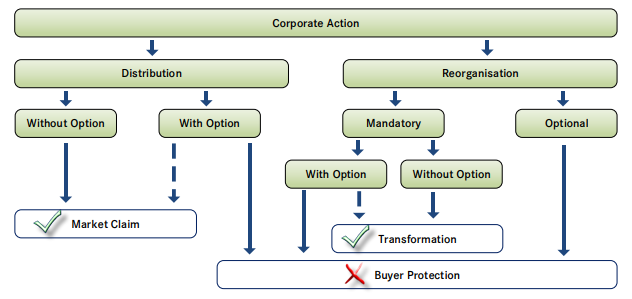
### FN00006344 - Coverage of Market Standards

The Clearing System covers the market standards of Corporate Actions. Such standards include Distributions (Cash/Security) and Reorganizations (conversions, stock split, redemption, etc.) which are handled at CSD level and covered by the following transaction management processes:

1. Market Claims: handled by the CSD, only Distribution Rights reflected in the Clearing System.

2. Transformations: handled by the CSD, all settlements status updates reflected in the Clearing System.

3. Buyer Protection: handled externally, not managed by the Clearing system.



### FN00006345 - Instruction matching

Matching of instructions eligible for Corporate Action is performed by the CSD in accordance to the following rules:

1. Eligible transaction are those which are not settled on the record date EOD.
2. Transfer of CA proceeds (market claim) happens from the seller to the buyer.

### FN00006372 - Transformation Processing

Trasformations are processed as described in the following chart.

|  |
| --- |
| 2:Transformations: Processing at Record Date |

### FN00006346 - Transformation: cancellation instruction

The process is initiated by the CSD that generates a MT548 “Status Update Message” as a consequence of the instrument cancellation confirmation received by T2S.

The Status Update Message provides the following relevant information:

1. [MT548:GENL:20C::SEME//]: It is the reference of the cancellation instruction received in the MT548 "Status update message".
2. [MT548:LINK:20C::RELA//]: It is the reference to the cancelled instruction received in the MT548 "Status update message".
3. [MT548:LINK:20C::MITI//]: It is the T2S reference to the cancelled instruction received in the MT548 "Status update message".
4. [MT548:REAS:24B::CAND//]: It is the reason code
5. [MT548:REAS:70D::REAS//]: It is the reason narrative

### FN00006347 - Transformation: cancellation process at Settlement Account level

For each cancellation message received a corresponding settlement position is updated in the settlement account.

The position selection is done using the following selection rule:

[SettItem][Sender msg ref] = [MT548:LINK:20C::RELA//]

The selected record is then updated as described below :

1. [SettItem][Cancel confirmation msg ref] = [MT548:GENL:20C::SEME//]
2. [SettItem][Settlement Status] = "CAND"
3. [SettItem][Reason Code] = [MT548:REAS:24B::CAND//]
4. [SettItem][Reason Narrative] = [MT548:REAS:70D::REAS//]

### FN00006348 - Transformation: cancellation process at Position Account level

For each cancellation message received a corresponding set of position records are updated in the position account.

The position selection is done following selection rule:

* [PosITem][Settlement ref] = [MT548:LINK:20C::RELA//]

The Settlement Status of the selected record is updated as described below :

1. [PosITem][Position Status] = "TRSF" (Cancelled as a consequence of a corporate action).

### FN00006349 - Transformation: transformation instruction

The CSD generates a MT548 “Status Update Message” as a consequence of the settlement instruction transformation confirmation received by T2S.

The Status Update Message provides the following relevant information:

1. [MT548:LINK:20C::PCTI//]: Reference of the transformation instruction generated by the CSD.
2. [MT548:LINK:20C::PREV//]: Reference of the trasformed instruction that has been cancelled.
3. [MT548:LINK:20C::MITI//]: Unique T2S Reference of the newly generated instruction.
4. [MT548:SETTRAN:36B::SETT//UNIT/]: It is the quantity of the financial instrument to be settled.
5. [MT548:SETTRAN:19A::SETT//]: It is the settlement amount paid/to be paid or received in exchange of the financial instrument.
6. [MT548:SETTRAN:35B:ISIN]: It is the ISIN of the financial instrument.
7. [MT548:SETTRAN::98A::SETT//]: Settlement Date (date/time at which the financial instruments are to be delivered or received).
8. [MT548:STAT:25D::SETT//]: Settlement Status.

### FN00006350 - Transformation: transformation generation process at settlement account level

For each transformation message received a corresponding record is created in the settlement account. The record creation is done as a clone of the original cancelled record.

The following rule is used to identify the original cancelled record:

[SettItem][Sender msg ref] = [MT548:LINK:20C::RELA//]

The selected record is then updated as described below :

1. [SettItem][CA instruction msg ref] = [MT548:GENL:20C::SEME//]
2. [SettItem][Linked instruction msg ref] = [MT548:LINK:20C::PREV//]
3. [SettItem][Market Infrastructure msg ref] = [MT548:LINK:20C::MITI//]
4. [SettItem][Original CTV] = [MT548:SETTRAN:19A::SETT//]
5. [SettItem][Original QTY] = [MT548:SETTRAN:36B::SETT//UNIT/]
6. [SettItem][Unsettled CTV] = [MT548:SETTRAN:19A::SETT//]
7. [SettItem][Unsettled QTY] = [MT548:SETTRAN:36B::SETT//UNIT/]
8. [SettItem][ISIN] = [MT548:SETTRAN:35B:ISIN]
9. [SettItem][Intended Settlement Date] = [MT548:SETTRAN::98A::SETT//]
10. [SettItem][Settlement Status] = "PEND"
11. [SettItem][Reason Code] = NULL
12. [SettItem][Reason Narrative] = NULL

### FN00006352 - Transformation: transformation generation process at position account level

For each received transformation message a corresponding set of position records is created.

New position records are initially generated as copy of the corresponding original canceled.

The set of original record to copy is selected using the following rule:

* [PosItem][Settlement ref] = [MT548:LINK:20C::RELA//]

In order to update the relevant record fields, the following variables are defined:

*TRANSFORMED\_QTY* = TRUNC(PosItem][Unsettled Quantity] / [PosItem][Adjustment Factor])

*POSITION\_FRACTION* = PosItem][Unsettled Quantity] / [PosItem][Adjustment Factor] - TRUNC(PosItem][Unsettled Quantity] / [PosItem][Adjustment Factor])

The new record is then modified as described below:

1. [PosItem][Settlement ref] = [MT548:LINK:20C::PCTI//]
2. [PosItem][Unsettled Quantity] = *TRANSFORMED\_QTY*
3. [PosItem][Original Quantity] = *TRANSFORMED\_QTY*
4. [PosItem][Corporate action fraction] = POSITION\_FRACTION
5. [PosItem][ISIN] = [MT548:SETTRAN:35B:ISIN]
6. [PosItem][Settlement date] = [MT548:SETTRAN::98A::SETT//]
7. [PosItem][Position Source] = “TS”

In case the corporate action is not created in time and the adjustment parameters are not available an alert is generated ad a default factor is used (1).

### FN00007034 - Transformation: fractions management

The application of a transformation at position level can generate, for each position item, a fraction which is stored in the field [PosItem][Corporate action fraction].

This reduces the total quantity of allocable unit at position account level generating an imbalance with the total quantity of the transformed settlement instruction.

For this reason the system stores at Settlement Account level a new quantity which represent the actual total not allocable unit.

For each transformed settlement instruction the following update is performed:

[SettItem][Position Fraction] = sum ([PosItem][Corporate Action Fraction])

where position items are selected using the following rule:

[PosItem][Settlement ref] = [SettItem][Sender msg ref]

### FN00006373 - Market Claim Processing

Claims are processed as described in the following chart.

|  |
| --- |
| 3:Rights Distribution |

### FN00006353 - Market Claim: right issue instruction

The CSD that generates a MT548 “Market Claims Message” as a consequence of the claim generation confirmation received by T2S. The Clearing System processes the Subscription Rights related messages (CA type=”RHDI”) and Spin-off related messages (CA type=”SOFF”), discarding other messages. Unknown ISIN is handled by the system adding a new specific ITEM with flag [Subscription right]='A', default risk factor is used. Subscription ISIN will have a default risk factor defined per asset type.

The Message provides the following relevant information:

1. [MT548:LINK:20C::PCTI//]: It is the reference to the Market Claim generated by the CSD.
2. [MT548:LINK:20C::PREV//]: This field contains the customer reference of the underlying instruction.
3. [MT548:LINK:20C::MITI//]: It is the instruction reference of the Market Claim in T2S.
4. [MT548:SETTRAN:36B:://UNIT/]: It is the quantity of the financial instrument to be settled.
5. [MT548:SETTRAN:35B:ISIN]: It is the ISIN of the financial instrument.
6. [MT548:SETTRAN::98A::SETT//]: Settlement Date (date/time at which the financial instruments are to be delivered or received).
7. [MT548:STAT:25D::SETT//]: Settlement Status.

### FN00006354 - Market Claim: creation of right issue at settlement account level

For each market claim message received a corresponding record is created in the settlement account. The record creation is done as a clone of the linked record that generated the market claim.

The following rule is used to identify the original record:

[SettItem][Sender msg ref] = [MT548:LINK:20C::PREV//]

The selected records are updated as described below :

1. [SettItem][Sender msg ref] = [MT548:LINK:20C::PCTI//]
2. [SettItem][Linked Instruction ref] = [MT548:LINK:20C::PREV//]
3. [SettItem][Market Infrastructure msg ref] = [MT548:LINK:20C::MITI//]
4. [SettItem][Original CTV] = [MT548:SETTRAN:19A:://SETT/]
5. [SettItem][Original QTY] = [MT548:SETTRAN:36B:://UNIT/]
6. [SettItem][Unsettled CTV] = [MT548:SETTRAN:19A:://SETT/]
7. [SettItem][Unsettled QTY] = [MT548:SETTRAN:36B:://UNIT/]
8. [SettItem][ISIN] = [MT548:SETTRAN:35B:ISIN]
9. [SettItem][Intended Settlement date] = [MT548:SETTRAN::98A::SETT//]
10. [SettItem][Partial Settlement Status] = NULL
11. [SettItem][Settlement Instruction type] = “C”
12. [SettItem][Reason Code] = NULL
13. [SettItem][Reason Narrative] = NULL

### FN00006356 - Market Claim: creation of right issue at position account level

For each claim message received a corresponding set of position records is created. The record creation is done as a clone of the original linked records in the Position Account.

The following rule is used to identify the original linked record:

* [PosItem][Settlement ref] = [MT548:LINK:20C::PREV//]

An adjustment factor is calculated to assign the claim at position account level.

Such factor is calculated using the formula below:

*CLAIM\_FACTOR = (*[MT548:SETTRAN:36B:://UNIT/]) */ ([SettItem][Unsettled Quantity])*

After this step, for each connected position, a new position quantity, fraction and countervalue is calculated as from the formula below:

1. QUANTITY= Rounding ([MT548:SETTRAN:36B:://UNIT/] \* CLAIM\_FACTOR)
2. FRACTION= [MT548:SETTRAN:36B:://UNIT/] \* CLAIM\_FACTOR - Rounding ([MT548:SETTRAN:36B:://UNIT/] \* CLAIM\_FACTOR)
3. COUNTERVALUE = [MT548:SETTRAN:19A:://SETT/] \* CLAIM\_FACTOR

Where the rounding is intended as “down to the nearest whole number”.

The selected records are updated as described below :

1. [PosItem][Settlement ref] = [MT548:LINK:20C::PCTI//]
2. [PosItem][Unsettled Quantity] = QUANTITY
3. [PosItem][Unsettled CTV] = COUNTERVALUE
4. [PosItem][Original Quantity] = QUANTITY
5. [PosItem][Original CTV] = COUNTERVALUE
6. [PosItem][ISIN] = [MT548:SETTRAN:35B:ISIN]
7. [PosItem][Intended Settlement date] = [MT548:SETTRAN::98A::SETT//]
8. [PosItem][Corporate Action Fraction] = FRACTION
9. [PosItem][Position source] = "CL"

### FN00007052 - Market Claim: fractions management

The application of a claimat position level can generate, for each position item, a fraction which is stored in the field [PosItem][Corporate action fraction].

This reduces the total quantity of allocable unit at position account level generating an imbalance with the total quantity of the transformed settlement instruction.

For this reason the system stores at Settlement Account level a new quantity which represent the actual total not allocable unit.

For each transformed settlement instruction the following update is performed:

[SettItem][Position Fraction] = sum ([PosItem][Corporate Action Fraction])

where position items are selected using the following rule:

[PosItem][Settlement ref] = [SettItem][Sender msg ref]