

Stock Exchange Transactions Go OTC  
ICSD Migration (Phase 1)

## **Customer Simulation Guideline**

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July 2021

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# 1. Implementation timeline

## 1.1 General information

The SET-GO project was initiated by Clearstream and aims to enable processing of stock exchange (SE) instructions in an "OTC-like" mode. As a mechanism to ensure a smooth transition of this project, the project will provide the functional specification and enable an adequate customer simulation. SET-GO project has been set up to deliver a solution for:

- **Regulatory requirements**  
The number of settlement runs will be enriched for NCSC securities traded at the German stock exchanges and processed via the Creation settlement platform.
- **Modernisation**  
The current services and procedures for processing stock exchange instructions will be upgraded and aligned with the T2S functionality.
- **Harmonisation**  
International market members requested a uniform method of processing settlement instructions. A similar lifecycle management for the processing of OTC and stock exchange instructions shall be introduced.

The functional details about the envisaged changes are available in the following Announcements which will be updated continuously:

- SET-GO Introduction Note for the ICSD Migration (Phase 1);
- SET-GO List of Frequently Asked Questions (FAQs).

These documents provide information regarding future stock exchange instruction management for the SET-GO ICSD Migration (Phase 1). More information about the SET-GO CSD Migration (Phase 2) will be outlined in an updated version of the SET-GO Introduction Note. This document will be enhanced in line with the development of the project.

Customers interested in executing specific test cases for the migration procedures and the new lifecycle management of SE instructions in custody type NCSC need to register. In addition, CBF offers a dedicated migration reporting to registered customers. More information about the registration forms are outlined in this document.

## 1.2 ICSD Migration (Phase 1)

With the go-live of the SET-GO ICSD Migration (Phase 1) on 22 November 2021, the settlement and related reporting of non-cleared stock exchange instructions in non-collective safe custody (NCSC) securities will be executed and reported via Creation. The content of today's LION instructions for stock exchange instructions in custody type NCSC will be converted in an "OTC-like" mode using the Xact automated connectivity channels (ISO 15022) and Xact Web Portal (online functionality, GUI). A new routing system (Stock Exchange Transaction Interface, SETI) is used to transmit instructions of NCSC securities to Creation. The settlement reporting for NCSC securities will be accessible exclusively via the ClearstreamXact functionality. Whenever not explicitly explained in the upcoming chapters the lifecycle follows the standard Creation OTC process for CBL internal instructions (41, 51 / 4F, 5F) as described in the SET-GO Introduction Notes.

During customer simulation, Clearstream offers a setup that will cover the future functionality used in production for non-cleared stock exchange trades. In general, test cases for stock exchange instructions in custody type NCSC will be supported, that is such instructions will be forwarded to Creation for lifecycle management.

For CSC and NCSC-T securities, no changes are envisaged in the current flow for stock exchange instructions. Customers can continue entering stock exchange trades and settlement instructions will be processed in ICP mode as it is today. That is, the instruction and lifecycle management for stock exchange instructions for CSC and NCSC-T securities will be executed and reported via LION. Customers acting in DCP mode may receive additional settlement reporting via T2S, if the related report subscription has been enabled. The existing framework will not change, no dedicated test cases will be set up for CSC and NCSC-T securities.

In the following “non-cleared stock exchange instructions in non-collective safe custody (NCSC) securities” will be referred to as “SE instructions (NCSC)”.

Figure 1 depicts the target flow after introduction of SET-GO ICSD Migration (Phase 1).

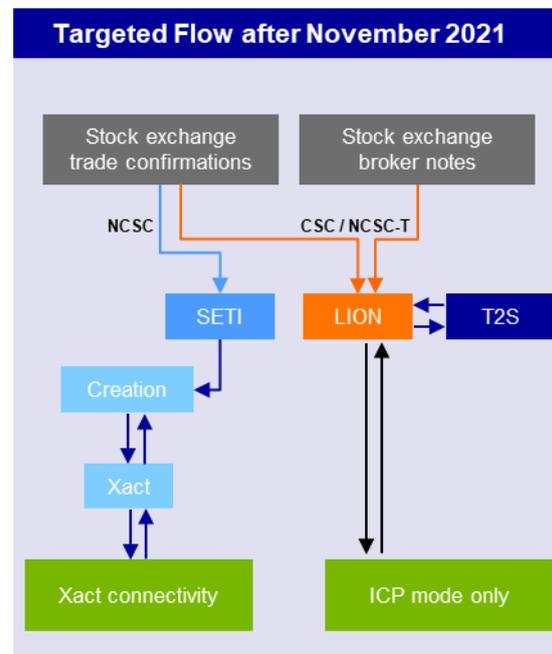


Figure 1: Targeted flow after ICSD Migration (Phase 1)

### 1.3 Structure and content of this document

This simulation guideline covers the necessary scope and general framework for organising, preparing, and executing the SET-GO Customer Simulation with Clearstream. The purpose of the document is to ensure a smooth and efficient transition phase in November 2021. It provides a common understanding and commitment of all involved stakeholders for the simulation execution, its required timeline, the environment setup, and the content.

The guideline describes how Clearstream supports customer specific SET-GO testing by offering them the Clearstream simulation environments (OCCT and IMS23) as well as by organising functional Focus Days, when special data setups are needed. In addition, this guideline intends to provide customers with the simulation requirements and to guide them through continuous simulation. Clearstream will provide test cases that will be executed during the migration testing and guided simulation period.

Following the introduction and general topics in chapter 1:

- Chapter 2 sets out the schedule and the content of each stage planned for the simulation.
- Chapter 3 outlines details on static and dynamic data, snapshot data, information related to CBF and CBF-i account connectivity settings as well as technical connectivity testing.
- Chapter 4 describes the prerequisites for participation in the guided simulation and migration reporting including forms and creation of holdings.
- Chapter 5 provides the customer simulation calendar which gives a chronological overview of the planned test activities and availability of the environments.
- Chapter 6 explains the guided simulation and provides predefined stock exchange trades and test narratives for corporate action events including the Focus Days. In addition, detailed information on the migration test scenarios and related migration reporting is given.
- Chapter 7 describes the free simulation in which customers can execute test cases including regression testing of CSC securities on their demand.
- Chapter 8 and the appendix provide additional material supporting the customer simulation.

## 2. Scope of Customer Simulation for ICSD Migration (Phase 1)

In general, the scope of the customer simulation for ICSD Migration (Phase 1) entails the following:

- Migration of pending SE instructions (NCSC) and related dedicated reporting;
- Settlement procedures and reporting of SE instructions (NCSC);
- Corporate action processing in custody type NCSC and CSC;
- Regression testing of SE instructions in custody type CSC.

The customer simulation in ICSD Migration (Phase 1) follows a staggered approach. In total, the customer simulation runs over a period of 12 weeks, split into two stages of six weeks each:

- Stage 1 starts on 16 August 2021 and ends on 23 September 2021. This test period will enable the verification of the ClearstreamXact functionality (A2A, U2A) on predefined test cases in OCCT.
- Stage 2 starts on 11 October 2021 and ends on 17 November 2021. This period will focus on the testing of migration procedures and supports an end-to-end test with the trading platforms. The test will start in OCCT and complemented with activities on IMS23, T7, UTEST and XONTRO.

Depending on the stage, a different scope for the customer simulation applies. The following two tables indicate the test activities planned for each phase in chronological order:

Stage 1 – loader sheet based testing		
Test week	Period	Focus
1 and 2	16 August – 27 August 2021	Customers connectivity testing A2A and U2A; Verification of Xact settlement report definitions and flow; Focus Days: Party Hold Release
3 and 4	30 August – 10 September 2021	Creation settlement functionality; Xact settlement reporting; Custody NCSC corporate actions processing (cycle 1)
5 and 6	13 September – 23 September 2021	Creation settlement functionality, Xact settlement reporting; Custody NCSC corporate actions processing (cycle 2)

Table 1 - Customer Simulation ICSD Migration Stage 1

Stage 2 – end-to-end testing		
Test week	Period	Focus
1	11 October – 15 October 2021	Migration testing: pending SE instructions NCSC (run 1)
2	18 October – 22 October 2021	Start NCSC trading via T7 and related settlement functionality on Creation
3	25 October – 29 October 2021	Start CSC trading via T7 for LION regression testing, Script based NCSC trading via XONTRO (week 1)
4	1 November – 5 November 2021	Script based NCSC trading via XONTRO (week 2), Custody NCSC corporate actions processing (cycle 3), KADI event processing
5	8 November – 12 November 2021	Migration testing: pending SE instructions NCSC (run 2)
6	15 November – 17 November 2021	KADI event processing

Table 2 - Customer Simulation ICSD Migration Stage 2

The customer simulation for ICSD Migration (Phase 1) covers the guided simulation including migration testing and the free simulation for stock exchange instructions. The different test activities enable customers the verification of the instruction management for CBL internal instructions (41, 51 / 4F, 5F) and CBF LION instructions (type AA10, Börsengeschäfte). The focus of the customer simulation is on the testing of settlement instruction procedures allowing a verification of the Xact report definitions and instruction maintenance via A2A and Xact Web Portal.

Please refer to the figure below for an indicative timeline of the planned test activities with regards to the SET-GO customer simulation. More detailed information can be found in chapter 5 “Customer simulation calendar”.

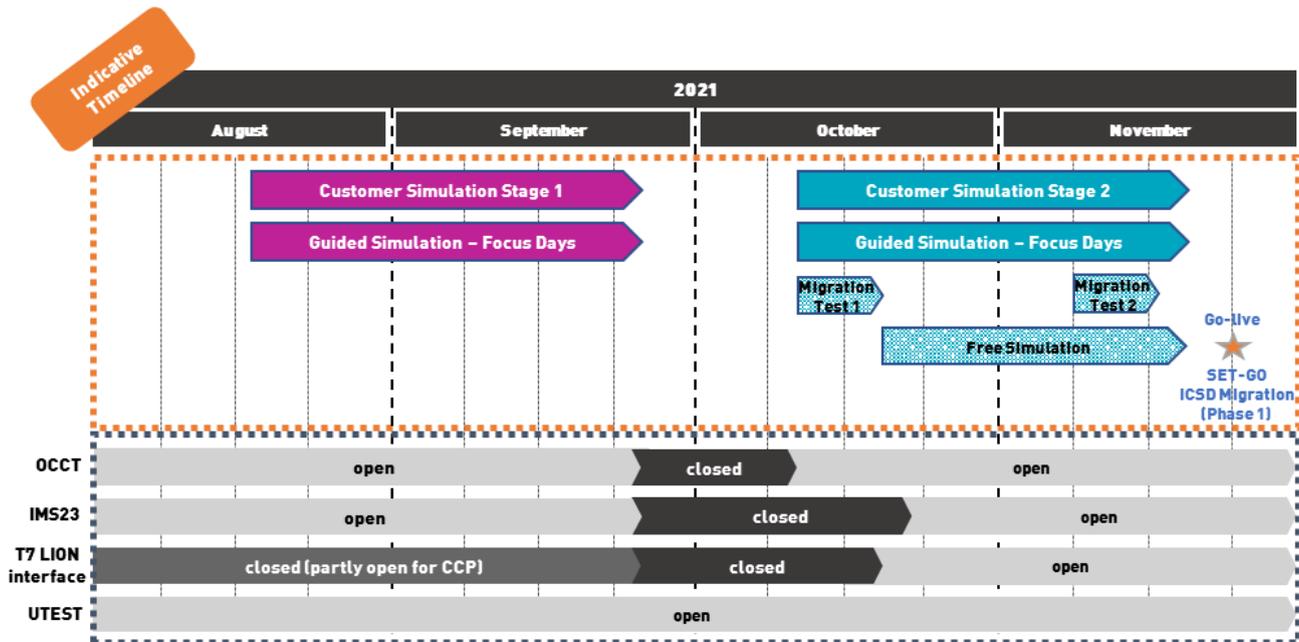


Figure 2 – SET-GO customer simulation timeline overview

For further information on the guided simulation, please refer to chapter 6 “Execution of test cases – guided simulation”. Custody events are described in section 6.2 “Corporate actions” and the migration testing is outlined in section 6.3 “Migration testing”.

For further information on the free simulation, please refer to chapter 7 “Execution of test cases – free simulation”.

## 3. Preparation testing environments

### 3.1 Getting ready for customer simulation

During the simulation period for the ICSD Migration (Phase 1), customers will be able to receive settlement reporting for SE instructions via the different testing environments. For securities in custody type NCSC, the reporting will be offered via the CBL testing environment (OCCT). As part of the regression testing, the reporting for securities in custody type CSC will be provided via the CBF customer simulation environment (IMS23). Customers acting in DCP mode can also receive the reporting via the T2S Pre-Production environment (UTEST) for ISINs with custody CSC and NCSC-T.

As of 18 August 2021, OCCT will be available and participating customers can start to execute test cases and assess possible impacts on their functional and organisational procedures. In addition, IMS23 will be open for regression testing in Stage 2 as of 19 October 2021. OCCT and IMS23 are used simultaneously for other Clearstream testing activities. Customers are requested to consider that a coordination of different test requirements and various test executions in the timeframe August to November 2021 is strongly recommended at customers' premises. For this simulation period, the latest static data and related connectivity settings requested by customers for IMS23 or OCCT will be available.

Customers need to consider that for the migration testing in Stage 2 data will be taken from the snapshot dates on 30 July 2021 (run 1) and 24 September 2021 (run 2). Only the data for customer accounts registered will be reconciled and updated.

For a successful participation in the customer simulation, account and connectivity settings must be available. Please contact the Connectivity Support team ([connect@clearstream.com](mailto:connect@clearstream.com)), if:

- The account and connectivity settings in OCCT or IMS23 need to be verified.
- The customer has not registered for the previous customer simulation and requires a setup in OCCT or IMS23.
- There are particular setup requirements related to the SET-GO Customer Simulation. These queries will be routed to the experts of the SET-GO Customer Readiness team.

### 3.2 Snapshot data

The objective of the snapshot is to enable production-like test data. Extracted from LION production environment, this data will be used to set up SE instructions (NCSC) for a settlement on Creation via SET1. Instructions with custody type CSC, NCSC-T, WPR and STR are out of scope. In addition, the snapshot data does not contain broker notes ("Aufgaben") meaning a trade that is pending at the broker.

Only SE instructions (NCSC) of customers participating in migration testing will be used for further processing. The snapshot is taken from the business day:

- 30 July 2021 for pending SE instructions (NCSC) end of day and new trade confirmations received from the stock exchange locations at around 22:00. All pending instructions with an ISD (Intended Settlement Date) above 400 business days will be deleted from the data set.
- 24 September 2021 for pending SE instructions (NCSC) end of day that were presented by the stock exchange locations between 2 August 2021 and 23 September 2021. As a result, there will be no overlap between the snapshot dates.

Due to the limitations defined for testing environments IMS23 and OCCT, CBF reduces the number of instructions extracted from the snapshot date. Only ISINs supported in OCCT will be used for testing. CBF will provide a list of ISINs on the Clearstream website. Customers participating in the migration testing may have to enrich their static data for securities.

### 3.3 CBF and CBF-i account settings in testing environments

At present, only settlement parties with an own CBF-i account can access Creation and perform the lifecycle management for SE instructions. CBF-i accounts are the 6-series accounts on the Creation platform, which are technically and legally independent and governed by the German law.

Prior to the simulation period, customers can provide their modification request or static data of CBF and CBF-i accounts for IMS23 and / or OCCT by 23 July 2021. In general, the settings used in the testing environment shall not deviate from production. If customers decide differently, they are requested to reconfirm the settings in the testing environment and are requested to consider the risk that is imposed by executing test cases with deviating static data. The default language of the reports transmitted via the testing environment depends on the settings used in production. Customers cannot change these settings in IMS23.

Changes related to the account settings can be send via email to the Connectivity team. If there are changes in the connectivity configuration the related forms need to be presented.

If a customer does not require an update of the static data for CBF and CBF-i accounts, then the related connectivity settings will be reused from the previous simulation periods stored in OCCT and IMS23.

Please contact the Connectivity Support team ([connect@clearstream.com](mailto:connect@clearstream.com)), if the account settings in IMS23 and OCCT need to be updated.

### 3.4 CBF customer simulation environment (IMS23): Connectivity channels

For the message exchange via the SWIFT network, SWIFT requires the use of Test BICs as technical sender and receiver address within its testing environment. The Test BIC must be registered with the SWIFT network. If customers wish to participate via a Test BIC for the first time, they should allow some time for the preparation of the technical setup by SWIFT, RMA key exchange and connectivity tests.

For a regression test in custody type CSC and NCSC-T, the message exchange via File Transfer (FT) as well as MQ and the production sender / receiver addresses are to be used. Only production addresses are allowed in the CBF connection to T2S.

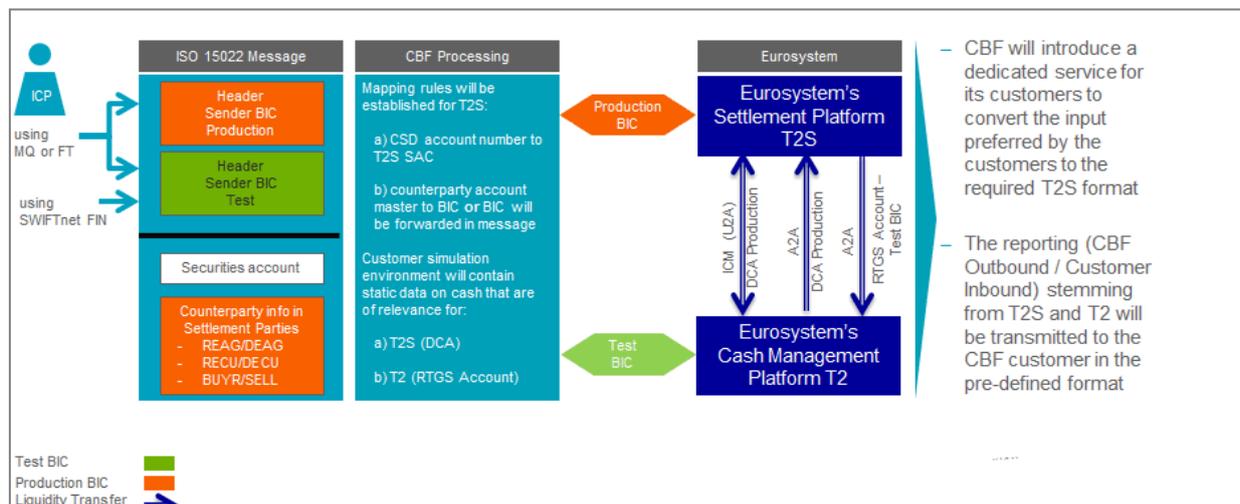


Figure 3 - Message flow during the testing

Technically, CBF customers can send instructions to the CBF customer simulation environment (IMS23) by using the production BIC DAKVDEFFXXX in the header or the CBF Test BIC ZYDGDEF0DOM when they instruct via File Transfer or MQ. Via SWIFT, BIC ZYDGDEF0DOM must always be used. If a customer wants to send an instruction to a test system via File Transfer, the message has to be identified as not being for production. This is done by a TNG trailer at the end of the instruction: ä5: äTNG: üü

The trailer is used for CBF replies to customers, too. This guarantees that CBF test messages can clearly be identified, so that the customer can avoid injections into the customer's production system.

The CBF customer SWIFT addresses used in their messages to CBF is applied by CBF to create the T2S actor reference for DCP eligible instruction types. If the SWIFT address is a Test BIC and linked to an account with T2S Party BIC, this BIC is used when forwarding the messages to the T2S platform.

In order to set up the required connectivity channels, it is required as in production to request the settings in advance. The required order forms are available via the [Clearstream website](#). Please contact the Connectivity Support team ([connect@clearstream.com](mailto:connect@clearstream.com)), if connectivity settings in IMS23 needs to be verified.

### 3.5 CBL test environment (OCCT): Connectivity channels

For the message exchange via the SWIFT network, SWIFT requires the use of Test BICs as technical sender and receiver address within its testing environment. The Test BIC must be registered with the SWIFT network. If customers wish to participate via a Test BIC for the first time, they should allow some time for the preparation of the technical setup by SWIFT, RMA key exchange and connectivity tests.

Customers interested in connectivity via ClearstreamXact (A2A) or Xact Web Portal (U2A) are requested to present their related Test BIC code on the SET-GO Customer Simulation Registration Form which will be available on Clearstream website. Once the Test BIC codes are provided, Clearstream will link the Test BIC codes to the customer CBF-i accounts in OCCT. Regardless of whether it is a settlement or custody reporting, the same Test BIC is always applied.

Ensuring a proper instruction maintenance via Xact Web Portal customers are requested to check if the tester have sufficient access and the necessary user rights. For more details about the relevant settlement functionalities, please refer to "Table 8 - Functionalities for instruction maintenance" in section 6.1.

Please contact the Connectivity Support team ([connect@clearstream.com](mailto:connect@clearstream.com)), if connectivity settings in OCCT needs to be enriched for the customer simulation.

#### 3.5.1 Technical connectivity test

With the connectivity test, customers can verify if their test environment settings have been updated to be connected to the CBL testing environment (OCCT). The connection test can be used to verify technical addresses.

Technically, CBF customers can send instructions to the CBL test environment (OCCT) using the CBL Test BIC ZYAILUL0XXX in the header via A2A connectivity (SWIFT, File Transfer) or U2A connectivity (Xact Web Portal). BICs used in production are different to the ones provided in the test environment. For CBF-i accounts, Test BICs needs to be provided by customers and they need to be linked to the BIC. Customers are requested to check account connectivity settings and updates in the Xact A2A message formats.

For a successful participation in the customer simulation, account and connectivity settings must be available in the testing environments, in both OCCT and IMS23. Message exchange via the SWIFT network, requires the use of Test BICs as technical sender and receiver address within the testing environment. Test BICs used in IMS23 might be different to the Test BICs used in OCCT. The Test BIC must be registered with the SWIFT network. If customers wish to participate via a Test BIC for the first time, they should allow some time for the preparation of the technical setup by SWIFT, RMA key exchange and connectivity tests.

Please contact the Connectivity Support team ([connect@clearstream.com](mailto:connect@clearstream.com)) to agree on the connectivity.

#### 3.5.2 Connectivity report definitions

The settlement reporting for SE instructions (NCSC) via Xact A2A is based on the enhanced ClearstreamXact service offering. In light of the introduction for SET-GO, an upgrade of the "Report details" via Xact Web Portal is introduced. Like in production, the following options can be established:

- Option 1: All OTC instructions independent from the business type, that includes OTC and stock exchange instructions;
- Option 2: OTC instructions only;
- Option 3: Non-cleared stock exchange instruction only.

For more details about Xact Web Portal reporting, please refer to [Announcement C20053](#).

Please contact the Connectivity Support team ([connect@clearstream.com](mailto:connect@clearstream.com)) to define A2A reports for the customer simulation. The same applies for customers who wish to submit MT530 "Transaction Processing Commands" to request modification of SE instructions (NCSC).

As outlined in the SET-GO Introduction Note, Reg-Über-Filialen (Branches) are not configured as a settlement participant and cannot request the access for the trading account via ClearstreamXact meaning no reporting service is provided. The lifecycle of the SE instructions (NCSC) must be managed by the respective settlement agent of the Branch and can no longer be reported to the Branch itself.

For all stock exchange instructions, the Party Level 1 and 2 concept is used. In future, the Party Level 1 (REAG / DEAG, representing the settlement party) and Party Level 2 (BUYR / SELL, providing details about trading partners) are presented in both legs of the settlement instruction.

Therefore, the Reg-Über-Zentrale (Head Office) has to consider that the Branch(es) may require a reporting. If a Branch is interested in participating in the customer simulation, they will need to contact their respective Head Office.

In the SET-GO Customer Simulation Registration Form, customers must provide the CBF-i accounts that will participate in the simulation if they are acting as settlement agent or on their own behalf as account owner (Reg-Über Konzept). Customers being a Branch are requested to liaise with their Head Office to agree on simulation activity. Registration forms provided by Branches cannot be considered by CBF. For further information on the SET-GO Customer Simulation Registration Form, please refer to section 4.2.

All customers maintaining a CBF-i account for SE instructions (NCSC) are requested to set up their report definition in ClearstreamXact and verify the connectivity setting. This is important for customers using their own settlement account and third-party management head offices. Customers that would like to configure the Xact A2A report definitions in OCCT are requested to send an MT599 to CBF latest by 13 August 2021. This manual setup applies to the CBL test environment (OCCT) only. There will be no re-copy functionality meaning test settings cannot be transferred to production.

## 4. Preparation test execution

### 4.1 Xact Web Portal Registration for OCCT

All customers maintaining a CBF-i account for SE instructions (NCSC) are requested to verify the existing ClearstreamXact connectivity setting. This is important for customers using their own settlement account and third-party management head offices. Customers are requested to check if all users maintaining SE instructions via Xact Web Portal can access the functionality and that sufficient rights are granted. The Xact Web Portal as the graphical user interface for the instruction management is used to configure the report definitions for the automated message flow (A2A connectivity).

Customers are requested to register for access to the Xact Web Portal and define their settings for Xact A2A connectivity channels by 30 July 2021.

### 4.2 SET-GO Customer Simulation Registration Form

Customers interested in executing dedicated test cases for the new lifecycle management of stock exchange instructions in custody type NCSC are requested to complete the SET-GO Customer Simulation Registration Form. CBF will use the "Single Point of Contact (SPOC)" concept. Therefore, customers are requested to define a coordinator for the customer simulation who will receive all relevant information and updates, if necessary. The "SPOC" is kindly asked to inform their test team responsible for SET-GO simulation activities.

Allowing a proper execution of the customer simulation, CBF will request dedicated account information in the Registration Form. Customers need to define on account level whether the account used in customer simulation is the settlement account by a member of a German stock exchange. If the account is flagged as a Reg-Über-Zentrale (Head Office) and / or the testing shall be executed for a Reg-Über-Filiale (Branch) these details need to be specified. In addition, the T7 member id information and / or the participation in XONTR0 needs to be indicated in the SET-GO Customer Simulation Registration Form.

In Stage 2, test cases may require customer coordination for instruction management to be executed on Creation and / or the creation of stock exchange trades. For this purpose, CBF offers a "Disclosed Member List" with corresponding SPOC contact details. Interested customers need to fill in the details which require a signature from the SPOC in the SET-GO Customer Simulation Registration Form. The SET-GO Customer Readiness team will send the Disclosed Member List to participating customers via [T2S-support@clearstream.com](mailto:T2S-support@clearstream.com) after Stage 1 has been completed.

Based on the information provided on the registration form, Clearstream will create necessary settings in OCCT and IMS23, if a customer requires an update of the static data for CBF or CBF-i and / or the related connectivity settings.

The SET-GO Customer Simulation Registration Form is available on the Clearstream website [under Testing and Simulation](#).

### 4.3 SET-GO Migration Reporting Registration Form

Customers interested in receiving the dedicated migration reporting during the customer simulation need to register. Based on the information provided in the SET-GO Migration Reporting Registration Form, the migration reporting will be made available via Host Fileservice. Customers should consider informing their data centres about the dedicated migration reporting.

Different to production, during customer simulation the migration reports available on Host Fileservice can only be retrieved via [the website of Group Deutsche Boerse](#). The connectivity media "Direct", "NJE" and "CA-spool" are not supported in simulation but are available for the migration weekend in production.

The SET-GO Migration Reporting Registration Form is [available](#) on the [Clearstream website](#) and must be returned by 27 August 2021.

## 4.4 Creation of holdings

For the guided simulation holdings, pending SE instructions, and cash balances in EUR and USD will be created by the SET-GO Customer Readiness team, if applicable.

Between 2 and 11 August 2021, CBF will collect the existing holdings of predefined securities from customer accounts and redistribute them:

- For CSC securities via CBF account 4424 using the main account (4424 000). Holdings will be transferred to the main account of the customers (xxxx 000);
- For NCSC securities via CBF-i account 64424.

Once the holdings are set up, customers can verify CSC securities via CASCADE Online functionality (HOST / PC) and NCSC securities via Xact Web Portal. A MT535 "Statement of Holding" is another option, if subscribed for CASCADE (IMS23) and / or Creation (OCCT). In the above-mentioned time frame, customers must not enter test cases nor transmit instructions. This will allow the SET-GO Customer Readiness team the preparation of the Focus Days in time.

For CSC securities, customers who are connected to UTEST and receive (settlement) reporting might notice instruction flows between CBF and T2S from setup activities.

The static data for the ISINs selected are based on the settings defined in Wertpapier-Service-System (WSS) stored in IMS23.

The table below shows the ISINs in custody type CSC that will be maintained by the SET-GO Customer Readiness team:

ISIN	Name	Nominal available	Tradeable via
DE0005009104	CASH.LIFE AG	100,000	T7 XFRA
DE0005035505	ALLGAEUER BRAUHAUS	100,000	T7 XFRA

Table 3 - List of ISINs in custody type CSC for the customer simulation of SET-GO ICSD Migration (Phase 1)

The table below shows the ISINs in custody type NCSC that will be maintained by the SET-GO Customer Readiness team for testing via T7 and XONTR0.

ISIN	Name	Nominal available	Tradeable via
AU000000EUR7	SHS EUROPEAN LITHIUM LTD	100,000	T7 XFRA
AU000000ORE0	SHS OROCOBRE LIMITED ORD REG	100,000	T7 XFRA
AU000KFWHAF2	AUD 2,90 KREDITANSTALT FUER WIEDERAUFBAU (KFW)	100,000	T7 XFRA
CA05156X1087	SHS AURORA CANNABIS INC ORD REG	100,000	T7 XFRA
CA1380351009	SHS CANOPY GROWTH CORP	100,000	T7 XFRA
CA85207K1075	SHS SPROTT PHYSICAL SILVER TRUST	100,000	T7 XFRA
CNE100000296	SHS BYD CO.LTD (CCASS 1211)	100,000	T7 XFRA
HK0000047982	SHS EMPEROR WATCH AND JEWELLERY LIMITED ORD BR	100,000	T7 XFRA
HK8028008944	SHS TIMELESS SOFTWARE LTD	100,000	T7 XFRA
IE00B4L5Y983	SHS ISHARES CORE MSCI WORLD UCITS ETF ACC	100,000	T7 XFRA
IE00B58JVZ52	SHS SEAGATE TECHNOLOGY PLC ORD REG	100,000	T7 XFRA
IE00B6X95T99	EUR 3,40 IRELAND, REPUBLIC OF (REGS)	100,000	T7 XFRA
IE00BD1RP616	SHS BANK OF IRELAND GROUP ORD REG	100,000	T7 XFRA
IE00BJ38CQ36	EUR 0,80 IRELAND, REPUBLIC OF 15-2022	100,000	T7 XFRA

ISIN	Name	Nominal available	Tradeable via
IE00BYZK4552	SHS ISHARES AUTOM.+ROB.UCITS ETF	100,000	T7 XFRA
KYG875721634	SHS TENCENT HOLDINGS LIMITED ORD REG	100,000	T7 XFRA
LU0088087324	GDR SES S.A. BR FDR	100,000	T7 XFRA
LU0156801721	SHS TENARIS SA	100,000	T7 XFRA
LU0271695388	SHS PIONEER S.F.-EUR COMMODITIES A-CAP-EUR	100,000	T7 XFRA
LU0390221256	SHS MAINFIRST-GERMANY FD-A CAP	100,000	T7 XFRA
LU0552385295	SHS MORGAN STANLEY-MS INV F GL.OPP.FD A USD	100,000	T7 XFRA
US037833AK68	USD 2,40 APPLE INC. (FORMERLY KNOWN AS APPLE COMPUTERS INCORPORATION)	100,000	T7 XFRA
US47215P1066	ADR JD.COM INC REG (1ADR/2SHS)	100,000	T7 XFRA
US6960774031	SHS PALATIN TECHNOLOGIES INC. ORD REG	100,000	T7 XFRA
US7960542030	GDR SAMSUNG LTD (REGS) (4 GDR - 1 SHS)	100,000	T7 XFRA
USU8810LAA18	USD 5,30 TESLA MOTORS INC	100,000	T7 XFRA
XS1417876163	EUR 11,25 4FINANCE S.A	100,000	T7 XFRA
XS1744024859	UNT SG ISSUER (00206)	100,000	T7 XFRA
AU000000NCM7	SHS NEWCREST MNG LTD	100,000	XONTRO
DK0060094928	SHS ORSTED A/S	100,000	XONTRO

Table 4 - List of ISINs in custody type NCSC for the customer simulation of SET-GO ICSD Migration (Phase 1)

## 4.5 Processing of stock exchange transactions (CCP / non-CCP)

Upon customer demand, stock exchange trades can be entered for settlement via Creation or CASCADE. Trades can be set up with an operating Market Identifier Code (MIC) in the trading system. If the flag:

- “XFRA” is used, they are forwarded as non-CCP trades towards the new routing system SETI (NCSC) or CBF system LION (CSC / NCSC-T). This flow is part of the SET-GO ICSD Migration (Phase 1) customer simulation.
- “XETR” is used, they are processed via CCP and clearing results will be provided to CBF for further processing in CASCADE. This flow has been added for completeness of stock exchange trade flows.

In general, the simulation environment of Eurex Clearing AG (ECAG) for CCP activities will be connected to the CBF customer simulation environment (IMS23). As ECAG will introduce a new clearing platform, CBF supports the testing of stock exchange trades cleared by the clearing platform (C7 SCS). For information on available instruments, please refer to the websites of the trading systems [www.xetra.com](http://www.xetra.com) and [www.eurex.com/ec-en/support/initiatives/c7-scs-releases](http://www.eurex.com/ec-en/support/initiatives/c7-scs-releases).

Non-cleared stock exchange trades will be transmitted to the CBF customer simulation environment (IMS23) on “CCP Batch Days” only. The batch days defined by ECAG are shown in chapter 5 “Customer simulation calendar”. Non-cleared stock exchange trades will be supported during the SET-GO Customer Simulation Stage 2 from 19 October 2021.

In production, the reference for non-cleared SE instructions starts with the prefix “LP”. In customer simulation the prefix “LT” is used. This procedure is applicable for instructions processed via LION in IMS23. SE instructions transmitted via SETI to the various test applications use the prefix “LP”, that is for customer simulation and production.

The figure below depicts the process chain of stock exchange instructions during SET-GO ICSD Migration (Phase 1) Customer Simulation.

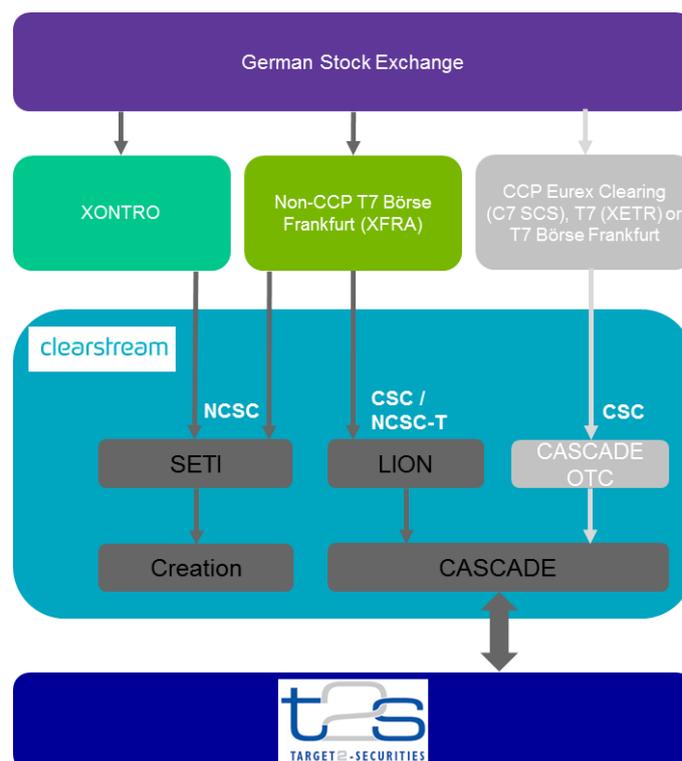


Figure 4 - Process chain stock exchange instructions

## 4.6 Custody services environment settings

The processing of events in OCCT will be executed via Custody. An exception applies to KADI non-income transformation events that will be executed in IMS23. The events (Focus Days) scheduled are limited to the scope defined in this document. CBF asks customers participating in the test to ensure that their internal test system for securities master data will support these ISINs.

The table below lists the event-driven activities related and the related processing during the customer simulation in IMS23 and OCCT.

Event-related activity	General information related to event procedures using KADI	General information related to event procedures using Custody
<b>Cancellation period for pending market claims</b>	During the customer simulation, pending market claims are cancelled after ten business days. A reminder is sent after five business days.	During the customer simulation and different to the production procedures, pending market claims are not cancelled. The cancellation is triggered by the settlement applications as per the rules defined in RTS.
<b>Cancellation period for pending transformations</b>	During the customer simulation, pending transformations are not cancelled because the 60 days period is also applicable in UTEST. This time frame exceeds the guided customer simulation period.	During the customer simulation, pending transformations are not cancelled.

Event-related activity	General information related to event procedures using KADI	General information related to event procedures using Custody
<b>Cash proceeds</b>	<p>During the customer simulation, all income events distributed in Euro, for securities where CBF acts in the role as the Issuer-CSD, will be transferred to the existing Custody Default T2S DCA, if not differently defined in the static data for the main / sub account.</p> <p>For securities that are not covered by the CBF Corporate Action Cash Payment model, the liquidity transfer will be initiated in the CBF DD1 cycle using the T2 ASI procedure 3.</p> <p>The cash movements for income events are reported via MT942 "Interim Transaction Report" and MT950 "Statement Message".</p>	<p>All income events will be transferred to the CBF-i cash account.</p>
<b>Corporate action announcement</b>	<p>Customers will be informed via MT564, if they have requested the related KADI settings in the account master and subscribed for the connectivity settings.</p> <p>The MT564 will be send out to the customers in real-time if the event was subject to a change on a record date or to a cancellation / repayment.</p> <p>The notification will be provided as shown in the event details or highlighted in the customer simulation calendar.</p>	<p>Customers will be notified via MT564 as soon as the event is announced, if subscribed. Both, new announcements and updates are sent in real time.</p> <p>The notification will be provided as shown in the event details or highlighted in the customer simulation calendar.</p>
<b>Corporate action confirmation</b>	<p>For income events distributed in Euro and for securities where CBF acts in the role of Issuer-CSD, the confirmation will be provided once the T2S settlement confirmation was received.</p> <p>For securities that are not covered by the CBF Corporate Action Cash Payment model, the confirmation will be provided once the payment authorisation has been provided by the paying agent.</p> <p>Customers will be informed via MT566, if they have requested the related KADI settings in account master and subscribed for the connectivity settings. The corporate action confirmation will be provided on payment date as shown in the event details or in the customer simulation calendar.</p>	<p>Confirmations of cash and securities transactions are sent in real time after successful settlement of corporate action instructions.</p> <p>In the event of a transformation, Custody does not transmit MT566 "Corporate Action Confirmations". Instead, customers are informed via real-time messages from the settlement system (Creation) and the settlement reporting is available via MT536 "Statement of Transactions" as well as via MT537 "Statement of Pending Transactions". The corporate action confirmation will be provided on payment date as shown in the event details or in the customer simulation calendar.</p>
<b>Corporate action reporting</b>	<p>Provisioning timings of the corporate action reporting can be found in the IMS23 daily test schedule.</p>	<p>Provisioning timings of the corporate action reporting can be found in the OCCT daily test schedule.</p>

Event-related activity	General information related to event procedures using KADI	General information related to event procedures using Custody
<b>Creation of market claims</b>	The related free of payment (FoP) instructions or payment free of delivery (PFoD) instructions are generated and forwarded to T2S depending on the successful settlement of the underlying transaction. The hold and release status for FoP market claims is set due to the respective account setup.	The information of the underlying instruction is used. Regardless of whether market claims result in an NCSC or CSC security, the processing will be done via CBF-i account using 41 / 51 or 4F / 5F. Instructions of CSC securities will be forwarded to T2S and compensated in status "matched already".
<b>Creation of reverse claims</b>	The related free of payment (FoP) instructions as well as payment free of delivery (PFoD) instructions are generated and forwarded to T2S.  The hold and release status for FoP reverse claims is set due to the respective account setup.	The information of the underlying instruction is used. Regardless of whether market claims result in an NCSC or CSC security, the processing will be done via CBF-i account using CBL internal instruction types (41 / 51 or 4F / 5F). Instructions of CSC securities will be forwarded to T2S and compensated in status "matched already".
<b>Detection period for market claims and transformations</b>	During the customer simulation, the market claims and transformation period is five business days.  Customer acting in DCP mode have to consider that the Transformation Detection Period (TDP) at T2S is defined as 20 business days. Even if customers can set up instructions during the entire T2S Transformation Detection Period of 20 business days, only instructions set up in the first five business days will be transformed by CBF.	During customer simulation, the market claims period is 20 business days, while the transformation period is <b>one</b> business day.
<b>Instruction management</b>	Customers can enter settlement instructions on their demand, if they want to test market claims, reverse claims, or transformations. Based on the compensation rules, instructions require the final settlement; therefore, customers need to agree with their counterparties on the respective instruction details.  Customers who wish to settle free of payment (FoP) instructions can set up such instructions against the account "CBF W/KUNDENSIMU CRC (PASSIV), account number 1117 000 / BIC11: DAKVDEFFT77", if no other counterparty is available.	Customers can enter settlement instructions on their demand, if they want to test market claims, reverse claims, or transformations. Based on the compensation rules, instructions require a pending matched status; therefore, customers need to agree with their counterparties on the respective instruction details.
<b>Security positions</b>	Please refer to section "4.4. Creation of holdings" for an overview of the holdings provided for each registered account as defined in "Table 3 - List of ISINs in custody type CSC for the customer simulation of SET-GO ICSD Migration (Phase 1)".  Customers must ensure that they have sufficient holdings in the respective ISIN on the registered accounts to successfully participate in the customer simulation.	Please refer to section "4.4. Creation of holdings" for an overview of the holdings provided for each registered account as defined in "Table 4 - List of ISINs in custody type NCSC for the customer simulation of SET-GO ICSD Migration (Phase 1)".  Customers must ensure that they have sufficient holdings in the respective ISIN on the registered accounts to successfully participate in the customer simulation.

Event-related activity	General information related to event procedures using KADI	General information related to event procedures using Custody
<b>Taxation</b>	In general, the market tax rate will be applied. However, for German and US taxation the customer specific tax rate is applied.	In general, the market tax rate will be applied.
<b>Usage of OPT-OUT flag and Ex / Cum flag</b>	Market and reverse claims as well as transformations will be processed according to the compensation rules.  Customers can still overrule the general record date criteria to generate claims by using the respective flags (opt-out flag / cum flag / ex flag) within their OTC instructions. These flags cannot be set for SE instructions in custody type CSC / NCSC-T. For more details, please refer to the CBF <a href="#">Compensation Handbook</a> .	Market and reverse claims as well as transformations will be processed according to the compensation rules.  Customers can still overrule the general record date criteria to generate claims by using the respective flags (opt-out flag / cum flag / ex flag) within their OTC instructions. These flags cannot be set for SE instructions in custody type NCSC. For more details, please refer to the CBL <a href="#">Customer Handbook</a> .

Table 3 – IMS23 and OCCT system parameters for corporate actions processing in KADI and Custody

## 4.7 Issue Declaration Form

The [Issue Declaration Form](#) is a fillable form for the written submission of any issue encountered during the customer simulation period regarding SET-GO ICSD Migration (Phase 1). The form is requested to be sent if a test issue raised by a customer cannot be resolved immediately by the respective support team. The completed declaration form will initiate an investigation of the issue. This procedure aims to avoid misunderstandings and to accelerate the solution process.

If the test issue relates to a test case as described in chapter 6 “Execution of test cases – guided simulation”, please mention it in the description.

Completed Issue Declaration Forms can be sent to [connect@clearstream.com](mailto:connect@clearstream.com).

## 5. Customer simulation calendar

Clearstream defined a customer simulation calendar that gives an overview of the testing for each stage of the customer simulation period. The calendars are also available as an Excel file on the Clearstream website under [Testing and Simulation](#).

The simulation calendars for the two stages are specified on a daily basis including the dates for:

- Availability of all environments participating in the simulation (IMS23, OCCT, UTEST, T7);
- Availability of the interface between T7 and LION;
- CCP Simulation business days ("Execution of Batch Days");
- Test cases of guided simulation covering the XONTRO test activities, migration test, and free simulation.

Since both calendars are subject to change, customers are kindly requested to ensure they always refer to the most up-to-date version which will be published on the Clearstream website.

The overall test schedule shown below indicates the downtimes already communicated for the CBF customer simulation environment (IMS23), CBL test environment (OCCT), T2S Pre-Production environment (UTEST), and T7 test. Customers need to align their processing schedules with the test execution run times. There might be additional downtimes, if one of the environments is not available or the testing is limited because of specific measures ensuring a proper test execution. Clearstream will inform customers about such downtimes in due time by email to their contact nominated in the SET-GO Customer Simulation Registration Form.

**Customer simulation calendar: Stage 1, 16 August - 23 September 2021**

CI*	Test Day	Availability of IMS23	Availability of OCCT	Availability of T2S Pre-production (UTEST)	Availability of T7-LION Interface	CCP Simulation Execution of Batch Day	Dedicated Test Case / Focus Day	
	Monday, 16 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	ClearstreamXact settlement reporting test: Creation of SE instructions in custody type NCSC using a loader sheet with trade date 16 August 2021 and ISD 18 August 2021	
	Tuesday, 17 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day		
	Wednesday, 18 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Party Hold Release Day	
	Thursday, 19 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	ClearstreamXact settlement reporting test: Creation of SE instructions in custody type NCSC using a loader sheet with trade date 19 August 2021 and ISD 23 August 2021	
	Friday, 20 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable		
	Saturday, 21 August 2021	Weekend						
	Sunday, 22 August 2021	Weekend						
	Monday, 23 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	ClearstreamXact settlement reporting test: Creation of SE instructions in custody type NCSC using a loader sheet with trade date 23 August 2021 and ISD 25 August 2021	
	Tuesday, 24 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day		
	Wednesday, 25 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Party Hold Release Day	
	Thursday, 26 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	ClearstreamXact settlement reporting test: Creation of SE instructions in custody type NCSC using a loader sheet with trade date 26 August 2021 and ISD 30 August 2021	
	Friday, 27 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable		

CI*	Test Day	Availability of IMS23	Availability of OCCT	Availability of T2S Pre-production (UTEST)	Availability of T7-LION Interface	CCP Simulation Execution of Batch Day	Dedicated Test Case / Focus Day	
	Saturday, 28 August 2021	Weekend						
	Sunday, 29 August 2021	Weekend						
	Monday, 30 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	Creation of SE instructions (NCSC) using a load procedure Custody Announcement Day INTR/REDM	
	Tuesday, 31 August 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day		
	Wednesday, 1 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Record Date INTR/REDM	
	Thursday, 2 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Focus Day INTR/REDM Custody Announcement Day DVCA	
	Friday, 3 September 2021	Closed	Closed	Closed	T7 closed	Not applicable		
	Saturday, 4 September 2021	Weekend						
	Sunday, 5 September 2021	Weekend						
	Monday, 6 September 2021	Open for free simulation and C7 SCS testing	Open	Open	T7 closed	Not applicable	Custody Announcement Day SPLT Ex-Date DVCA	
	Tuesday, 7 September 2021	Open for free simulation and C7 SCS testing	Open	Open	T7 closed	Not applicable	Record Date DVCA	
	Wednesday, 8 September 2021	Open for free simulation and C7 SCS testing	Open	Open	T7 closed	Not applicable	Focus Day DVCA Ex-Date SPLT	
	Thursday, 9 September 2021	Open for free simulation and C7 SCS testing	Open	Open	T7 closed	Not applicable	Record Date SPLT	
	Friday, 10 September 2021	Open for free simulation and C7 SCS testing	Open	Open	T7 closed	Not applicable	Focus Day SPLT	
	Saturday, 11 September 2021	Weekend						
	Sunday, 12 September 2021	Weekend						

CI*	Test Day	Availability of IMS23	Availability of OCCT	Availability of T2S Pre-production (UTEST)	Availability of T7-LION Interface	CCP Simulation Execution of Batch Day	Dedicated Test Case / Focus Day	
	Monday, 13 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Custody Announcement Day INTR/REDM	
	Tuesday, 14 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Custody Announcement Day DVCA	
	Wednesday, 15 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	Record Date INTR/REDM Custody Announcement Day SPLT	
	Thursday, 16 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Focus Day INTR/REDM Ex-Date DVCA	
	Friday, 17 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	Ex-Date SPLT Record Date DVCA	
	Saturday, 18 September 2021	Weekend						
	Sunday, 19 September 2021	Weekend						
	Monday, 20 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	Record Date SPLT Focus Day DVCA	
	Tuesday, 21 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Focus Day SPLT	
	Wednesday, 22 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	CCP Batch Day	Verification of test results	
	Thursday, 23 September 2021	Open for free simulation and C7 SCS testing	Open	Open	Open for C7 SCS testing	Not applicable	Verification of test results	
	Friday, 24 September 2021	Closed	Closed	Closed	Closed	Not applicable	End of customer simulation Stage 1 Clean up OCCT environment	

Table 4 - Customer simulation calendar Stage 1

\* CI stands for change indicator

Customer simulation calendar: Stage 2, 11 October - 17 November 2021

CI*	Test Day	Availability of IMS23	Availability of OCCT	Availability of T2S Pre-production (UTEST)	Availability of T7-LION Interface	CCP Simulation Execution of Batch Day	Dedicated Test Case / Focus Day	
	Monday, 11 October 2021	Closed	Open	Open	Closed	Not applicable	Loading of SE instructions (NCSC) to be migrated with snapshot data of 30 July 2021	
	Tuesday, 12 October 2021	Closed	Open	Open	Closed	CCP Batch Day	Migration test: Cancellation of pending SE instructions in LION ("Restanten")	
	Wednesday, 13 October 2021	Closed	Open	Open	Closed	CCP Batch Day	Migration test: Dedicated migration reporting via Host Fileservice LION cancellation reporting Xact A2A status reporting	
	Thursday, 14 October 2021	Closed	Open	Open	Closed	CCP Batch Day	Migration test: LION cancellation reporting	
	Friday, 15 October 2021	Closed	Open	Open	Closed	Not applicable	Migration test: New trade confirmations "Tagesgeschäfte" to be loaded in OCCT	
	Saturday, 16 October 2021	Weekend						
	Sunday, 17 October 2021	Weekend						
	Monday, 18 October 2021	Closed	Open	Open	Closed	Not applicable	Creation of SE instructions (NCSC) using a load procedure	
	Tuesday, 19 October 2021	Open for LION	Open	Open	Open	CCP Batch Day	LION interface is opened for T7 trades: Ongoing generation of trades by customers Partial Release Request Functionality for NCSC is available Xact U2A Multi Hold and Release functionality is available	
	Wednesday, 20 October 2021	Open for LION	Open	Open	Open	CCP Batch Day	Start of free simulation for settlement activities (NCSC)	
	Thursday, 21 October 2021	Open for LION	Open	Open	Open	CCP Batch Day		
	Friday, 22 October 2021	Open for LION	Open	Open	Open	Not applicable		
	Saturday, 23 October 2021	Weekend						
	Sunday, 24 October 2021	Weekend						

CI*	Test Day	Availability of IMS23	Availability of OCCT	Availability of T2S Pre-production (UTEST)	Availability of T7-LION Interface	CCP Simulation Execution of Batch Day	Dedicated Test Case / Focus Day	
	Monday, 25 October 2021	Open	Open	Open	Open	Not applicable	Start of end-to-end test with XONTRO: SE instruction flow is enabled by 5 November 2021	
	Tuesday, 26 October 2021	Open	Open	Open	Open	CCP Batch Day	Regression testing with LION using T7 for CSC / NCSC-T ISINs	
	Wednesday, 27 October 2021	Open	Open	Open	Open	CCP Batch Day	KADI Announcement Day CONV (CSC in NCSC) Custody Announcement Day INTR/REDM	
	Thursday, 28 October 2021	Open	Open	Open	Open	CCP Batch Day	<a href="#">Custody Announcement Day MRGR</a>	
	Friday, 29 October 2021	Open	Open	Open	Open	Not applicable	KADI Ex-Date CONV Custody Record Date INTR/REDM Custody Announcement Day DVCA	
	Saturday, 30 October 2021	Weekend						
	Sunday, 31 October 2021	Weekend						
	Monday, 1 November 2021	Open	Open	Open	Open	Not applicable	KADI Record Date CONV <a href="#">Custody Ex-Date MRGR</a> Custody Focus Day INTR/REDM Custody Announcement Day SPLT	
	Tuesday, 2 November 2021	Open	Open	Open	Open	CCP Batch Day	KADI Focus Day CONV <a href="#">Custody Record Date MRGR</a> Custody Ex-Date DVCA	
	Wednesday, 3 November 2021	Open	Open	Open	Open	CCP Batch Day	<a href="#">Custody Focus Day MRGR</a> Custody Record Date DVCA Custody Ex-Date SPLT	
	Thursday, 4 November 2021	Open	Open	Open	Open	CCP Batch Day	Custody Focus Day DVCA Custody Record Date SPLT	
	Friday, 5 November 2021	Open	Open	Open	Open	Not applicable	Completion of end-to-end test via XONTRO Custody Focus Day SPLT Once the test execution day is closed, loading of SE instructions (NCSC) to be migrated with snapshot data of 24 September 2021.	
	Saturday, 6 November 2021	Weekend						
	Sunday, 7 November 2021	Weekend						

CI*	Test Day	Availability of IMS23	Availability of OCCT	Availability of T2S Pre-production (UTEST)	Availability of T7-LION Interface	CCP Simulation Execution of Batch Day	Dedicated Test Case / Focus Day	
	Monday, 8 November 2021	Open	Open	Open	Open	CCP Batch Day	Migration test: Cancellation of pending instructions in LION ("Restanten")	
	Tuesday, 9 November 2021	Open	Open	Open	Open	CCP Batch Day	Migration test: Dedicated migration reporting via Host Fileservice LION cancellation reporting Xact A2A status reporting	
	Wednesday, 10 November 2021	Open	Open	Open	Open	CCP Batch Day	Migration test: LION cancellation reporting KADI Announcement Day MRGR (CSC in NCSC)	
	Thursday, 11 November 2021	Open	Open	Open	Open	CCP Batch Day		
	Friday, 12 November 2021	Open	Open	Open	Open	Not applicable	KADI Ex-Date MRGR	
	Saturday, 13 November 2021	Weekend						
	Sunday, 14 November 2021	Weekend						
	Monday, 15 November 2021	Open	Open	Open	Open	Not applicable	KADI Record Date MRGR	
	Tuesday, 16 November 2021	Open	Open	Open	Open	CCP Batch Day	KADI Focus Day MRGR	
	Wednesday, 17 November 2021	Open	Open	Open	Open	CCP Batch Day	End of customer simulation Stage 2	

Table 5 - Customer simulation calendar Stage 2

\* CI stands for change indicator

## 6. Execution of test cases – guided simulation

Clearstream offers a guided simulation and supports the creation of various new stock exchange instructions in custody type NCSC. The test cases for the guided simulation are designed and set up by Clearstream. It is planned to perform the testing in two stages. Clearstream will support the guided customer simulation for stock exchange instructions in custody type NCSC. This is valid for Stage 1 from 16 August 2021 to 24 September 2021 and Stage 2 from 11 October 2021 to 17 November 2021.

The lifecycle for the SE instructions (NCSC) follow the standard Creation OTC process for CBL internal instructions (41, 51 / 4F, 5F) as planned in production starting 22 November 2021. The existing OTC functionality offered via Creation will be used for SE instructions (NCSC). For the description of the standard OTC settlement, please refer to the [ClearstreamXact](#) website.

During the simulation period, customers will be able to receive settlement reporting for SE instructions (NCSC) via the CBL test environment (OCCT) for Creation. The settlement reporting will be offered via ClearstreamXact. The focus of the predefined test cases is on the simulation of the settlement instruction procedures allowing a verification of the Xact report definitions and instruction maintenance via A2A and Xact Web Portal.

This chapter provides the detailed test data and steps for a successful test execution. Based on this framework, customers can define further requirements on their demand. If so, customers are requested to consider potential test execution for ECAG C7 SCS and SET-GO ICSD Migration (Phase 1).

As a prerequisite for the participation in the guided simulation, the SET-GO Customer Simulation Registration Form (see section 4.2). needs to be completed.

### 6.1 Instruction management

During Stage 1, the T7-LION interface will stay closed meaning no stock exchange trades will be forwarded via Eurex Clearing AG (CCP) to LION. All SE instructions (NCSC) will be entered via loader sheet by CBF. A load procedure is used to transmit predefined SE instructions via SETI to Creation for instruction management in OCCT. This will enable customers to test ClearstreamXact settlement reporting as well as the SEME concept and creation of market claims. Allowing a successful settlement, CBF will create necessary holdings and balances, where applicable.

During Stage 2, further stock exchange trades can be entered via T7 on customer demand. As of 19 October 2021, the interface to LION will be opened allowing customers to execute an end-to-end test as part of the free simulation. For more information, please refer to chapter 7 "Execution of test cases – free simulation". In addition to the scope of Stage 1, instructions will be available from migrated pending SE instructions (NCSC) and newly presented stock exchange trades.

All instructions can be maintained via Xact U2A and / or A2A mode in OCCT. The instruction maintenance offered via ClearstreamXact consists of several functionalities. Please find below a table providing an overview of offered functionalities during Stage 1 and Stage 2.

Modification request for	Connectivity mode	Scope of Stage 1	Scope of Stage 2
Party Hold Release	A2A	Yes	Yes
Settlement Period	U2A and A2A	Yes	Yes
Settlement Priority	U2A and A2A	Yes	Yes
Transaction Linking	U2A and A2A	Yes	Yes
Partial Settlement	U2A and A2A	Yes	Yes
Partial Release Request	U2A and A2A	No	Yes
Multi Hold and Release	U2A	No	Yes

Table 6 - Functionalities for instruction maintenance

### 6.1.1 Testing of SEME Concept

The CBF Stock Exchange Transactions Interface (SETI) creates a unique identifier presented as Sender's Message Reference (SEME). The generation of the SEME follows a predefined concept. For more information, please refer to the appendix.

Customers are in the position to set up modification requests (MT530) before the reference has been provided in the ClearstreamXact settlement reporting to the customers. For verification of the new SEME concept, Clearstream will provide customers with a test tool based on Excel. The tool can be filled with all relevant parameters needed to validate the SEME that is built by customers. The Excel file is available for download on the Clearstream website under [Testing and Simulation](#).

### 6.1.2 Predefined stock exchange trades

During Stage 1, the aim of predefined stock exchange trades is to enable customers participating in testing to verify the Creation lifecycle management of instructions generated via Stock Exchange Transaction Interface (SETI). Based on the functional solution, Clearstream will create deliver and receipt instructions that content meet the requirement of a stock exchange trade. The instruction details are outlined in a dedicated Excel file named "[SE Trades Sample 1234.xlsx](#)". Customers can retrieve the generic test data from the Clearstream website under [Testing and Simulation](#). The test data will be presented with the following characteristics:

- For each registered account three buys and sells are available, the counterparty is CBF W/KUNDENSIMULATION CRC (account 4424 with the BIC "DAKVDEFFT80", CBF-i account 64424), and the customers are requested to enable this counterparty in their testing environment.
- Instructions are created with the following ISINs, and customers are requested to set up these securities in their testing environment.
  - AU0000000RE0 (SHS OROCOBRE LIMITED ORD REG);
  - CNE100000296 (SHS BYD CO.LTD);
  - IE00B58JVZ52 (SHS SEAGATE TECHNOLOGY PLC ORD REG);
  - IE00B6X95T99 (EUR 3,40 IRELAND, REPUBLIC OF (REGS));
  - XS1417876163 (EUR 11,25 4FINANCE S.A) ; and
  - XS1744024859 (UNT SG ISSUER (00206)).
- The quantity will be aligned with the holdings allowing a settlement except for one transaction in AU0000000RE0 (SHS OROCOBRE LIMITED ORD REG) that partial settlement can be executed. [If the underlying instruction was initially set on hold based on the static data, the customer is requested to release the leg. CBF will initially create the holdings as defined in chapter 4.4. "Creation of holdings". Further holdings will be made available for this ISIN on Settlement Date plus one business day \(SD+1\).](#)
- The balances will be aligned with the settlement amounts needed. If necessary, Clearstream will enable the liquidity in EUR and USD. One transaction in XS1744024859 (UNT SG ISSUER (00206)) will be set up with a settlement amount in USD.
- [The deal price in settlement currency, the EUR foreign exchange rate, the number of accrued interest days and the pre-calculated accrued interest are defined trade by trade. Also, the custody currency is added, if the trade is set up in a fixed income product.](#)
- Trade Date and Intended Settlement Date (ISD, T+2) are predefined based on the customer simulation calendar. [The Excel sheet represents in the column Trade-ID the input date \(YYMMDD\) and the trade number \(7-digits\). The trade number consists of the customer account registered and a consecutive number given by CBF.](#)
- For the verification of the SEME concept, instructions [are created for buyer and seller and refer to different stock exchange locations. A Trade-ID is added and the six-character WKN is provided.](#)
- Trade confirmations do not indicate:
  - The flag "Hold / Release". Production like the indicator is retrieved from the static data of the seller account and for the buyer the flag is always "YPRE". Customers can register for a "Party Hold

Release Day” on two dedicated test days. On behalf of the customer, CBF will release pending SE instructions (NCSC) in OCCT. The CBF customer readiness account (4424) will act as counterparty and these instructions are always flagged as released (“YPRE”) because the account master data show in the field “Lieferfreigaben” the value “Negativ-Verfahren”.

- The Partial Settlement Indicator (PSI). Production like the partial settlement flag is always “PART” and is set up by SETI.
- The predefined trade reference “LP”.

Based on the information provided, for each registered account predefined buy and sell instructions will be presented via loader sheet to SETI for further processing at OCCT. Customers may use the data of the loader sheet as baseline information for their testing environments as initial instruction details for the upcoming ClearstreamXact settlement reporting. In July 2021, CBF will present the loader sheet as Excel file on the Clearstream website under [Testing and Simulation](#).

Upon customer’s Xact A2A report definitions related to MT537 “Statement of Pending Transactions” report and / or MT548 “Settlement Status and Processing Advice”, information about the instruction lifecycle management via Creation (e.g. accepted, matched) will be presented. After successful settlement, MT54x “Settlement Confirmations” will be transmitted.

With the implementation of SET-GO ICSD Migration (Phase 1) the generation of allegements is suppressed. Customers using the Xact A2A report definitions MT578 “Settlement Allegements” or MT586 “Statement of Settlement Allegments” may receive messages for stock exchange instructions in custody type NCSC. This functionality will be delivered in OCCT in Stage 2.

Customers can modify pending instructions via MT530 “Transaction Processing Command” or by using Xact Web Portal. During Stage 1, modification is allowed for the flag “Hold / Release”, “Settlement Priority” and “Settlement Period”. In addition, “Transaction Linking” can be set up. If bilaterally agreed with the SET-GO Customer Readiness team (T2S-Support@clearstream.com), the instruction can be cancelled.

During Stage 1, customers are requested to execute all predefined test trades so that no pending SE instructions (NCSC) will remain after 24 September 2021. In the closing period while preparing the test environment for Stage 2, CBF will clean up all pending SE instructions (NCSC). Therefore, customers need to consider that there might be no cancellation reporting provided.

### 6.1.3 New trade confirmations based on snapshot data

During the guided simulation, CBF will offer the processing of new trade confirmations (“Tagesgeschäfte”) only within the migration testing run 1. That is, during Stage 2 production-like trade confirmations will be transferred via SETI to Creation in OCCT. The data is based on the snapshot from 30 July 2021. For the selection criteria, please refer to section 3.2 “Snapshot data”.

The objective of this test scenario is to enable customers to modify and delete pending SE instructions (NCSC) that have been copied from production. Different to the loader-based instructions where only synthetic test data is provided, business-like information can be processed. In general, all settlement functionality and settlement reporting can be used to validate the future processing for SE instructions (NCSC) on the settlement platform Creation. The scope of the settlement functionality can be found in section 6.1, table 8. The future Xact A2A reporting options are defined in section 3.5.2 “Connectivity report definitions”.

The snapshot data may contain ISINs that are defined for corporate action events (Focus Days). Hence, customers need to decide whether they would like to consider these pending instructions as potential test case or bilaterally cancel the instruction prior to the notification date of the event.

Further information about the migration test run 1 can be found in chapter 6.3 “Migration testing”.

### 6.1.4 Script based trading via XONTRO

In close collaboration, BrainTrade and CBF will offer a guided customer simulation for the trade execution via XONTRO. Based on request of the market members, both entities agreed to offer a mutually test concept for the SET-GO ICSD Migration (Phase 1) customer simulation.

In general, the end-to-end test will start with the trade execution via XONTRO using the testing environment IMS27. Via an automated interface, the trade confirmations will be transmitted in a production-like mode to CBF

for further processing. The ISINs [used are limited to AU000000NCM7 and DK0060094928](#). Both shares are in custody type NCSC, which allows settlement on Creation in OCCT. As capacity is reduced in OCCT compared to production, there is a need to restrict the instructions presented. Therefore, customers must take into account that tests beyond the agreed scope cannot be supported and these trades will not be processed.

The testing is planned to be executed in Stage 2 between 25 October and 5 November 2021. During this time frame dedicated tests will be offered. These test steps will be integrated in the customer simulation calendar defined in chapter 5.

At the moment, the test concept is being detailed by BrainTrade and CBF. However, the following cornerstones are already defined for CBF customers being a member of XONTRO:

- Creation of orders for a pre-defined set of ISINs using the existing XONTRO interface (“Fix-Anschluss”);
- Price fixing (“Kursfeststellung”) by XONTRO for pre-defined ISINs;
- Transmission of order executions (“Orderausführungsbestätigungen”) and real-time trades via XONTRO; and
- Transmission of trade confirmations (“Geschäftsbestätigungen”) towards CBF customer simulation environment (IMS23) based on an agreed test schedule.

BrainTrade will enable the framework for execution of trades, whereas CBF will ensure that the trade confirmations are processed in the future OTC-like mode via SETI. The settlement flows of the related instructions will be managed by CBF. Enabling the settlement of these SE instructions (NCSC), CBF will validate the settlement accounts for trading members and the related broker accounts, the setup of ISINs and holdings. Therefore, a close alignment in the communication towards the market participants has been considered in the test plans of both entities.

Customers interested to participate in this dedicated end-to-end test are requested to register for XONTRO using the SET-GO Customer Simulation Registration Form by 23 July 2021. More details about the registration can be found in section 4.2.

## 6.2 Corporate actions

During guided customer simulation period, Clearstream offers its customers test cases on focus days for corporate actions. These test cases require special preparation and therefore cannot be offered on a daily basis. Customers must decide about their active participation in one or more of these focus days. The participation in the test cases will be enabled, if the related SET-GO Customer Simulation Registration Form was provided by 23 July 2021.

The corporate action test cases are designed to show the harmonised processing for OTC and SE instructions using Custody. Clearstream will prepare non-income and income events for testing related to instructions resulting from corporate actions, market claims, the transmission of Corporate Action Announcement (MT564) and the related Corporate Action Confirmation (MT566), if applicable. New announcements and updates are sent in real time.

Since stock exchange instructions in custody type NCSC will be processed via Creation in the future, the corporate actions will be processed via Custody and the related corporate action reporting will be enabled via ClearstreamXact. In addition, pending “LION” stock exchange instructions will be migrated and available as OTC instructions for further processing via Creation [and Custody](#). The confirmation message for non-income market or reverse claims created by the Custody application will be enriched to inform about the seller or buyer.

Allowing customers a verification of the existing Custody functionality and testing of corporate action processing, Clearstream will set up several event types. [In addition, CBF will create pending instructions using a loader sheet. The instruction details are outlined in a dedicated Excel file named “SE\\_Trades\\_Sample\\_1234.xlsx”. Customers can retrieve the generic test data from the Clearstream website under \[Testing and Simulation\]\(#\).](#) The following event types will repeat cyclically, two times in Stage 1 and one time in Stage 2:

- Interest payment (INTR);
- Final redemption (REDM);
- Dividend payment (DVCA);

- Split (SPLT); and
- Merger (MRGR) – executed only in Stage 2. Customers who register for the Split automatically participate in the test for the Merger.

In Stage 2, the corporate action testing will be supplemented with reorganisation events, in which the underlying CSC security is transformed to a NCSC security. The transformation is processed by cancellation of the underlying pending matched instruction and creation of a new instruction with changed ISIN and / or nominal. Following reorganisation events with securities proceeds are offered, [if trades have been entered via T7 by the trading member participating in the customer simulation](#):

- Conversion (CONV);
- Merger (MRGR).

All Focus Days will be executed based on the conditions outlined in “Table 5 – IMS23 and OCCT system parameters for corporate actions processing in KADI and Custody” in section 4.6. On the following pages, event-driven details are defined for all offered corporate event types. For SE instructions (NCSC) that are pending after the SET-GO ICSD Migration on 22 November 2021, the Creation corporate action procedure via Custody will be offered for the CBL internal instructions (41, 51 / 4F, 5F).

## 6.2.1 Test narratives for test cycle 1

Focus Day	Interest payment
<b>Event type</b>	CORP200 – Mandatory event
<b>SWIFT event ID</b>	INTR
<b>ISIN</b>	USU8810LAA18
<b>Security description</b>	TESLA MOTORS INC/5.3 BD 20250815
<b>Instrument type</b>	Bond
<b>Notification date</b>	30 August 2021
<b>Payment details</b>	Interest rate: 5.3%; payment will be executed in USD upon receipt of funds.
<b>Record date</b>	1 September 2021
<b>Value / payment date</b>	2 September 2021
<b>Event-specific details</b>	The cash distribution will be initiated on record date and forwarded to NCCIP CBF-i cash account approximately at 19:00 on payment date.  The test case will support the market claim procedure.

Focus Day	Final redemption
<b>Event type</b>	CORP210 – Mandatory event
<b>SWIFT event ID</b>	REDM
<b>ISIN</b>	USU8810LAA18
<b>Security description</b>	TESLA MOTORS INC/5.3 BD 20250815
<b>Instrument type</b>	Bond
<b>Notification date</b>	30 August 2021
<b>Payment details</b>	Redemption amount 100%; payment will be executed in Euro upon receipt of funds.
<b>Record date</b>	1 September 2021
<b>Maturity date</b>	2 September 2021
<b>Value / payment date</b>	2 September 2021
<b>Event-specific details</b>	The cash distribution will be initiated on last trading date and forwarded to NCCIP CBF-i cash account approximately at 15:30 on payment date.  The security withdrawal will be initiated after successful cash distribution.  The test case will support the transformation procedure.

<b>Focus Day</b>	<b>Dividend payment</b>
<b>Event type</b>	CORP220 – Mandatory event
<b>SWIFT event ID</b>	DVCA
<b>ISIN</b>	CA1380351009
<b>Security description</b>	SHS CANOPY GROWTH CORP
<b>Instrument type</b>	Equity
<b>Notification date</b>	2 September 2021
<b>Payment details</b>	Distribution amount: CAD 1,50; payment will be executed in CAD upon receipt of funds.
<b>Ex-date</b>	6 September 2021
<b>Record date</b>	7 September 2021
<b>Value / payment date</b>	8 September 2021
<b>Event-specific details</b>	The cash distribution will be initiated on record date and forwarded to NCCIP CBF-i cash account approximately at 19:00 on payment date.  The test case will support the market and reverse claim procedure.

<b>Focus Day</b>	<b>Split (CBL in its role as Investor CSD)</b>
<b>Event type</b>	CORP230 – Mandatory event
<b>SWIFT event ID</b>	SPLT
<b>ISIN</b>	IE00BD1RP616
<b>Security description</b>	SHS BANK OF IRELAND
<b>Instrument type</b>	Equity
<b>Notification date</b>	6 September 2021
<b>Issuance details</b>	Ratio 1:2 (upon receipt of shares)
<b>Ex-date</b>	8 September 2021
<b>Record date</b>	9 September 2021
<b>Value / payment date</b>	10 September 2021
<b>Event-specific details</b>	The security distribution will be initiated on record date and forwarded to the NCCIP CBF-i account on the end of business day.  The test case will support the market and reverse claim procedure as it is processed via addition of shares.

## 6.2.2 Test narratives for test cycle 2

Focus Day	Interest payment
Event type	CORP200 – Mandatory event
SWIFT event ID	INTR
ISIN	AU000KFWHAF2
Security description	KFW/2.9 MTN 20220606 TRA-1
Instrument type	Bond
Notification date	13 September 2021
Payment details	Interest rate: 2.9%; payment will be executed in AUD upon receipt of funds.
Record date	15 September 2021
Value / payment date	16 September 2021
Event-specific details	The cash distribution will be initiated on record date and forwarded to NCCIP CBF-i cash account approximately at 05:00 on payment date.  The test case will support the market claim procedure.

Focus Day	Final redemption
Event type	CORP210 – Mandatory event
SWIFT event ID	REDM
ISIN	AU000KFWHAF2
Security description	KFW/2.9 MTN 20220606 TRA-1
Instrument type	Bond
Notification date	13 September 2021
Payment details	Redemption amount 100%; payment will be executed in AUD upon receipt of funds.
Record date	15 September 2021
Maturity date	16 September 2021
Value / payment date	16 September 2021
Event-specific details	The cash distribution will be initiated on last trading date and forwarded to NCCIP CBF-i cash account approximately at 05:00 on payment date.  The security withdrawal will be initiated after successful cash distribution.  The test case will support the transformation procedure.

<b>Focus Day</b>	<b>Dividend payment</b>
<b>Event type</b>	CORP220 – Mandatory event
<b>SWIFT event ID</b>	DVCA
<b>ISIN</b>	KYG875721634
<b>Security description</b>	SHS TENCENT HOLDINGS LIMITED ORD REG
<b>Instrument type</b>	Equity
<b>Notification date</b>	14 September 2021
<b>Payment details</b>	Distribution amount: HKD 1,00; payment will be executed in HKD upon receipt of funds.
<b>Ex-date</b>	16 September 2021
<b>Record date</b>	17 September 2021
<b>Value / payment date</b>	20 September 2021
<b>Event-specific details</b>	The cash distribution will be initiated on record date and forwarded to NCCIP CBF-i cash account approximately at 09:15 on payment date.  The test case will support the market and reverse claim procedure.

<b>Focus Day</b>	<b>Split (CBL in its role as Investor CSD)</b>
<b>Event type</b>	CORP230 – Mandatory event
<b>SWIFT event ID</b>	SPLT
<b>ISIN</b>	LU0156801721
<b>Security description</b>	SHS TENARIS SA
<b>Instrument type</b>	Equity
<b>Notification date</b>	15 September 2021
<b>Issuance details</b>	Ratio 1:2 (upon receipt of shares)
<b>Ex-date</b>	17 September 2021
<b>Record date</b>	20 September 2021
<b>Value / payment date</b>	21 September 2021
<b>Event-specific details</b>	The security distribution will be initiated on record date and forwarded to the NCCIP CBF-i account on the end of business day.  The test case will support transformation in securities as it is processed as a conversion of shares. For this purpose, LU0088087324 will be used.

### 6.2.3 Test narratives for test cycle 3

Focus Day	Interest payment
<b>Event type</b>	CORP200 – Mandatory event
<b>SWIFT event ID</b>	INTR
<b>ISIN</b>	USU8810LAA18
<b>Security description</b>	TESLA MOTORS INC/5.3 BD 20250815
<b>Instrument type</b>	Bond
<b>Notification date</b>	27 October 2021
<b>Payment details</b>	Interest rate: 5.3%; payment will be executed in USD upon receipt of funds.
<b>Record date</b>	29 October 2021
<b>Value / payment date</b>	1 November 2021
<b>Event-specific details</b>	The cash distribution will be initiated on record date and forwarded to NCCIP CBF-i cash account approximately at 19:00 on payment date.  The test case will support the market claim procedure.

Focus Day	Final redemption
<b>Event type</b>	CORP210 – Mandatory event
<b>SWIFT event ID</b>	REDM
<b>ISIN</b>	USU8810LAA18
<b>Security description</b>	TESLA MOTORS INC/5.3 BD 20250815
<b>Instrument type</b>	Bond
<b>Notification date</b>	27 October 2021
<b>Payment details</b>	Redemption amount 100%; payment will be executed in Euro upon receipt of funds.
<b>Record date</b>	29 October 2021
<b>Maturity date</b>	1 November 2021
<b>Value / payment date</b>	1 November 2021
<b>Event-specific details</b>	The cash distribution will be initiated on last trading date and forwarded to NCCIP CBF-i cash account approximately at 15:30 on payment date.  The security withdrawal will be initiated after successful cash distribution.  The test case will support the transformation procedure.

<b>Focus Day</b>	<b>Dividend payment</b>
<b>Event type</b>	CORP220 – Mandatory event
<b>SWIFT event ID</b>	DVCA
<b>ISIN</b>	CA1380351009
<b>Security description</b>	SHS CANOPY GROWTH CORP
<b>Instrument type</b>	Equity
<b>Notification date</b>	29 October 2021
<b>Payment details</b>	Distribution amount: CAD 1,50; payment will be executed in CAD upon receipt of funds.
<b>Ex-date</b>	2 November 2021
<b>Record date</b>	3 November 2021
<b>Value / payment date</b>	4 November 2021
<b>Event-specific details</b>	The cash distribution will be initiated on record date and forwarded to NCCIP CBF-i cash account approximately at 19:00 on payment date. The test case will support the market and reverse claim procedure.

<b>Focus Day</b>	<b>Split (CBL in its role as Investor CSD)</b>
<b>Event type</b>	CORP230 – Mandatory event
<b>SWIFT event ID</b>	SPLT
<b>ISIN</b>	IE00BD1RP616
<b>Security description</b>	SHS BANK OF IRELAND
<b>Instrument type</b>	Equity
<b>Notification date</b>	1 November 2021
<b>Issuance details</b>	Ratio 1:2 (upon receipt of shares)
<b>Ex-date</b>	3 November 2021
<b>Record date</b>	4 November 2021
<b>Value / payment date</b>	5 November 2021
<b>Event-specific details</b>	The security distribution will be initiated on record date and forwarded to the NCCIP CBF-i account on the end of business day. The test case will support the market and reverse claim procedure as it is processed via addition of shares.

<b>Focus Day</b>	<b>Merger (CBL in its role as Issuer CSD)</b>
<b>Event type</b>	CORP240 – Mandatory event
<b>SWIFT event ID</b>	MRGR
<b>ISIN</b>	US6960774031
<b>Security description</b>	SHS PALATIN TECHNOLOGIES INC. ORD REG
<b>Instrument type</b>	Equity
<b>Notification date</b>	28 October 2021
<b>Issuance details</b>	Ratio 1:1
<b>Ex-date</b>	1 November 2021
<b>Record date</b>	2 November 2021
<b>Value / payment date</b>	3 November 2021
<b>Event-specific details</b>	<p>Transformation to LU0552385295</p> <p>The security conversion will be initiated on record date and forwarded to the NCCIP CBF-i account on the end of business day.</p> <p>The test case will support the transformation procedure.</p>

## 6.2.4 Transformation for reorganisation events

Focus Day	Conversion (CBF in its role as Issuer CSD)
Event type	TA232 – Mandatory event
SWIFT event ID	CONV
ISIN	DE0005009104
Security description	CASH.LIFE AG
Instrument type	Equity
Notification date	27 October 2021
Issuance details	Ratio 1:1
Ex-date	29 October 2021
Record date	1 November 2021
Value / payment date	2 November 2021
Event-specific details	<p>Transformation to LU0271695388</p> <p>The security distribution will be initiated on record date and forwarded to the NCCIP CBF-i account on the end of business day.</p> <p>The test case will support the transformation procedure.</p> <p>Pending SE trades in the underlying security need to be entered via T7 by the trading member participating in the customer simulation:</p>

Focus Day	Merger (CBF in its role as Issuer CSD)
Event type	TA232 – Mandatory event
SWIFT event ID	MRGR
ISIN	DE0005035505
Security description	ALLGAEUER BRAUHAUS
Instrument type	Equity
Notification date	10 November 2021
Issuance details	Ratio 1:1
Ex-date	12 November 2021
Record date	15 November 2021
Value / payment date	16 November 2021
Event-specific details	<p>Transformation to LU0390221256</p> <p>The security distribution will be initiated on record date and forwarded to the NCCIP CBF-i account on the end of business day.</p> <p>The test case will support the transformation procedure.</p> <p>Pending SE trades in the underlying security need to be entered via T7 by the trading member participating in the customer simulation:</p>

## 6.3 Migration testing

### 6.3.1 General information

The aim of the migration test is to simulate the migration activities of Clearstream with regards to SET-GO ICSD Migration (Phase 1). For more information on the transition weekend defined for production, please refer to the SET-GO Migration Guide that is aimed to be published by Clearstream mid-July 2021.

Customers interested in participating in the migration testing need to complete the SET-GO Customer Simulation Registration Form (see section 4.2). In order to retrieve the dedicated migration reporting, the SET-GO Migration Reporting Registration Form needs to be submitted (see section 4.3).

For migration testing, customers need to consider that the static data for the CBF and CBF-i accounts shall be in a production like stage. Customers are requested to verify the settings by end of July 2021.

Different to the transition weekend defined for production, in customer simulation Stage 2 the steps will be performed within four business days. Two separate runs are scheduled for the migration testing:

- 11 October 2021 to 15 October 2021 (run 1); and
- 5 November 2021 to 10 November 2021 (run 2).

SE instructions (NCSC) will be migrated production-like with predefined data resulting from the snapshot date of 30 July 2021 for run 1 and 24 September 2021 for run 2. To be in sync with CBF, customers are recommended to consider taking a data snapshot of their own production environments as of the same date and use the filter criteria defined by CBF. For more information, please refer to section 3.2 "Snapshot data".

Migration testing is conducted in the following steps:

1. Predefined snapshot data containing the pending instructions SE ("Restanten") in custody type NCSC is loaded into IMS23.
2. Once the data upload in LION is completed, MT537 "Statement of Pending Transactions" is transmitted to customers, if the report configuration is set up.
3. Production-like, the pre-migration reports (number 1 and 2) are created and can be retrieved via Host Fileservice, if registered. For more details on the specification of the reports, please refer to section "Migration reporting".
4. The migration is executed. Pending SE instructions ("Restanten") are presented to SETI and forwarded to Creation. The lifecycle of SE instructions in OTC-like mode is started after the instructions have been accepted by the settlement platform. On customer demand, the pending SE instructions can be maintained via ClearstreamXact functionality.
5. After successful migration, the snapshot data of new trade confirmations ("Tagesgeschäfte") is presented to SETI and forwarded to Creation. The lifecycle of SE instructions in OTC-like mode is started after the instructions have been accepted by the settlement platform. This is only applicable for migration testing run 1. If customers would like to test the processing of new trade confirmations ("Tagesgeschäfte") in migration testing run 2, they are requested to enter trades in T7. Like in step 4, the pending SE instructions can be maintained via ClearstreamXact functionality.
6. Production-like, the post-migration report (number 3) is created and can be retrieved via Host Fileservice, if registered. For more details on the specification of the reports, please refer to section "Migration reporting".
7. Production-like, the LION settlement reporting informing about the cancellation of pending SE instructions ("Restanten") in custody type NCSC is created on two subsequent business days. MT537 "Statement of Pending Transactions" is transmitted to customers, if the report configuration is set up.

For more information regarding the schedule of the migration testing (run 1 and run 2), please refer to chapter 5 "Customer simulation calendar".

In sum the migration tests encompass the following activities:

- Simulate production-like days as planned during the actual SET-GO Migration Weekend;
- Verify the migration of pending SE instructions (“Restanten”) in custody type NCSC;
- Receive / retrieve the migration related reporting.

The migration testing will allow the presentation of the related migration reporting via Host Fileservice as well as the settlement reporting via LION and ClearstreamXact to customers participating. While migration reporting is explicitly defined, the default operational day continues to apply for IMS23 and OCCT. In addition, the schedule for the distribution of settlement reporting remains unchanged. Please find more information about the daily test schedule in IMS23 and OCCT which will be available on the Clearstream website under [Testing and Simulation](#).

The instructions that have been migrated to the Creation platform in OCCT will be available for reconciliation and instruction maintenance. These test instructions are not intended to complete the settlement lifecycle. If customers aim to achieve a successful settlement and there is a lack of cash and / or securities, they need to contact the SET-GO Customer Readiness team (T2S-Support@clearstream.com). Support will be given on best effort basis.

### 6.3.2 Pending instructions (“Restanten”)

The customer simulation includes the migration process in which all selected pending SE instructions (“Restanten”) in custody type NCSC are being cancelled in LION (instruction type AA10) and will be reinstructed as unmatched CBL internal instructions (41, 51 / 4F, 5F) via SETI in Creation. This applies also for instructions, which have been unilaterally cancelled. Using CBF snapshot procedure, only SE instructions (NCSC) with an ISD (Intended Settlement Date) less than or equal to 400 business days will be presented to Creation.

Only if the customer and counterparty are registered for the migration testing, SE instructions (NCSC) can be considered. The snapshot data will be taken from production and provided in IMS23 (LION) for migration testing activities. The data is retrieved on 30 July 2021 for the first migration testing (run 1) and on 24 September 2021 for the second migration testing (run 2). For more information about the snapshots, please refer to section 3.2 “Snapshot data”.

### 6.3.3 New trade confirmations (“Tagesgeschäfte”)

In general, the new trade confirmations (“Tagesgeschäfte”) will be processed via SETI and hence available for settlement on Creation (OCCT). Any newly created instructions will follow the Creation business validation and are presented for settlement, if applicable.

The new trade confirmations (“Tagesgeschäfte”) of the first migration testing (run 1) are based on the corresponding production data taken from the snapshot day of 30 July 2021. The settlement reporting via ClearstreamXact (U2A, A2A) is available on 13 October 2021.

In the second migration testing (run 2), customers will be able to enter stock exchange trades via T7 on their own. The test trades entered on 5 November 2021 can be considered as new trade confirmations for the processing on 9 November 2021 after the migration of pending SE instructions (NCSC) has been successfully completed. These instructions will not be presented to LION.

### 6.3.4 Customer reporting

#### Migration reporting

During customer simulation, CBF will offer a dedicated migration reporting via Host Fileservice. This reporting reflecting the status of the pending SE instructions (NCSC) can be retrieved by customers registered via the Host Fileservice website. Different to production, during customer simulation the migration reports available on Host Fileservice can only be retrieved via the website. Access is available under:

[www.deutsche-boerse.com](http://www.deutsche-boerse.com) / Logins / More Logins / Market Data + Services / Host file service

or via direct link:

<https://deutsche-boerse.com/dbq/app/open/hostfileservice?lang=en>

For customers that already have access to the Host Fileservice, there is no action required as credentials remain unchanged. Customers having no access need to contact [secuadmin@deutsche-boerse.com](mailto:secuadmin@deutsche-boerse.com).

All customers registered will receive up to three migration reports providing a comprehensive overview regarding the status of their SE instructions. Please find more information about the migration reports in the table below.

#	Report purpose	Availability	Header English	Header German	System
1	The list contains all pending SE instructions (NCSC) that are selected for the migration process. These instructions have already been cancelled in LION and will be forwarded to Creation.	Immediately after LION migration	List of to be migrated trades	Liste der zu migrierenden Geschaefte	LION
2	The list contains all pending SE instructions (NCSC) that have <b>not</b> been selected for the migration process. The lifecycle of these instructions ends with the cancellation in LION. They will not be forwarded into the new Creation OTC-like process.	Immediately after LION migration	List of not migrated trades	Liste der nicht migrierten Geschaefte	LION
3	The list contains those SE instructions (NCSC) from the report 1 that have either been rejected by SETI or Creation or they are in SETI recycling process. An error code is displayed for each instruction documenting the reason for the rejection.	After SETI migration	List of not successfully migrated trades	Liste der nicht erfolgreich migrierten Geschaefte	LION / SETI

Table 7 - Dedicated migration reporting

All three migration reports will be provided as defined in the customer simulation calendar via Host Fileservice. Please see Appendix 2 for detailed examples of the migration reports. For more information on the migration reporting for the ICSD Migration (Phase 1) go-live, please refer to the relevant SET-GO Customer Migration Guide which is planned to be published mid-July 2021.

### LION reporting

During the migration testings planned for Stage 2, the standard LION reports will be available via the various CBF connectivity channels (SWIFT, MQ, File Transfer (FT)). Customers will receive LION reporting upon the message subscription created in IMS23. Like in production, customers are requested to check if the existing message configuration allow a reporting of cancelled instructions during the migration test. Customers shall consider that only MT537 "Statement of Pending Transactions" will contain information about dedicated cancellation status. In line with the existing procedures in production, cancellations will be reported on the two following business days

Once the selected pending SE instructions (NCSC) has been cancelled the instructions are marked for the final deletion in LION. The schedule below defines the cancellation codes displayed in MT537 that is provided for migration run 1 and run 2.

Migration run	LION Cancellation Code LC – LOESCHUNG DURCH CBF	LION Cancellation Code LG – LOESCHUNG DURCH CBF VOM VORTAG	No further LION reporting as of
1	13 October 2021	14 October 2021	15 October 2021
2	9 November 2021	10 November 2021	11 November 2021

Table 8 - LION reporting schedule

### ClearstreamXact settlement reporting

With the implementation of SET-GO ICSD Migration (Phase 1), the entire settlement reporting for NCSC securities will be available only via the ClearstreamXact functionality. During the customer simulation, the future settlement reporting options will be offered to customers participating.

In Stage 2, CBF will offer migration testing in two runs. All selected pending instructions (“Restanten”) in custody type NCSC which has been successfully migrated will be reported via ClearstreamXact. No settlement reporting for SE instructions (NCSC) is provided any longer via LION besides the final cancellation reporting of the pending instructions “Restanten” (see previous section).

As the instruction management for SE instructions (NCSC) is handled in Creation instead of LION, SE instructions (NCSC) can be maintained by the customers only after the instruction has been successfully migrated to Creation. MT548 “Settlement Status and Processing Advice” is sent to confirm that the instruction was accepted. In addition, MT548 is presented in the case of a rejection or if the instruction has been recycled in Creation. For the description of the standard OTC settlement, please refer to the [ClearstreamXact](#) website.

Upon customers report definition, the information will be presented as defined in the connectivity settings. For the migration activities the reporting options used by the customers will be applicable. ClearstreamXact offers various selection and filter criteria for OTC and stock exchange instructions. With the implementation of the Clearstream releases in June 2021, an enhanced service offering for the Xact A2A report definitions is available. For more details, please refer to [Announcement C20053](#).

## 7. Execution of test cases – free simulation

In contrast to the guided simulation, customers can perform test cases on their demand during the free simulation using T7. In general, the free simulation is not limited to the simulation activities for the project SET-GO. Customers are encouraged to analyse which additional test cases have to be executed to confirm their readiness by considering their specific business setup and corresponding usage of CBF and CBL services. The guided test cases defined by CBF may have to be enriched that the readiness for the SET-GO Migration ICSD (Phase 1) is given. CBF suggests customers acting as Settlement Agent and / or Head Office to execute a minimum number of basic test cases (regression) for stock exchange instructions in custody type CSC / NCSC-T. In addition, it is recommended to these customers to consider wider operational or organisational procedures during the simulation for example, liquidity management, as the processing via SET-GO might also impact these aspects.

### 7.1 Instruction management

Clearstream offers the free simulation to provide customers with the opportunity to test the interaction of their applications with CBF and CBL. Customers can actively enter test trades via T7 to verify the existing stock exchange instructions management in LION. Customers may consider in their own testing the verification of the future LION functionality. As of Stage 2, SE instructions (NCSC) will neither be displayed via LION selection screen nor presented via the CBF automated connectivity channels (SWIFT, MQ, File Transfer (FT)). The LION screen will advise that users must access the Xact Web Portal. Only information about stock exchange instructions in custody type CSC / NCSC-T will be reported as today.

During the simulation period for the project SET-GO Migration ICSD (Phase 1) for CSC / NCSC-T securities, no changes are envisaged in the current flow for SE instructions. Customers can continue entering stock exchange instructions in T7 test environment. The settlement instructions will be processed in ICP and DCP mode as at present. That is, as part of the regression testing offered in Stage 2, the reporting for securities in custody type CSC will be provided via the CBF customer simulation environment (IMS23). The standard reporting connectivity channels (SWIFT, MQ, File Transfer (FT)) for CSC securities will remain unchanged. Customers acting in DCP mode can also receive the reporting via the T2S Pre-Production environment (UTEST). Even though the LION functionality is offered in ICP mode and no changes are announced by CBF for November 2021, customers acting in DCP mode have to consider potential XSD changes induced by T2S Release 5.2.

If test cases for NCSC securities need to be executed in CBL test environment OCCT that are not part of the dedicated list of ISINs, security holdings can be created by SET-GO Customer Readiness team on customer's request on best effort basis. The position will be enabled on the CBF-i account which has been defined in the SET-GO Customer Simulation Registration Form. If it will be necessary to create holdings, customers are requested to provide their requests a week prior to the aimed test execution day. This will allow CBF to check and validate if the position can be set up. CBF will inform customers about the result of the investigation. If the holding can be set up, it will be created using Clearstream's customer simulation account (64424). CBF will advise on the ISD.

### 7.2 Scope

The free simulation meaning end-to-end test will be offered from 20 October 2021 via T7 during Stage 2. Starting 26 October 2021, regression tests with LION for stock exchange instructions in custody type CSC / NCSC-T can be performed. The service offering is based on the following guiding principles:

- No volume tests are allowed.
- Customers have to execute test trades via T7 test environment.
- Customers are responsible that the holdings in predefined ISINs will remain. This requested to ensure a successful participating in Focus Days.
- Instruction maintenance for trades in non-cleared stock exchange trades will be offered. The modification of instructions can be requested using LION functionality for CSC / NCSC-T securities or via ClearstreamXact for NCSC securities. For the later, please refer to "Table 8 - Functionalities for instruction maintenance" in section 6.1.
- CBF does not monitor the execution of test cases created for free simulation. Customers are responsible for organising the scope of their testing in their organisation.

## 8. Contacts

The following team at Clearstream will answer your questions regarding the Clearstream environment used for the SET-GO test execution and necessary set up requirements. In addition, any questions regarding SET-GO specific functions and procedures for the migration of stock exchange instruction in “OTC-like” can be addressed.

All issues encountered by customers with Clearstream or related SET-GO functionality during the simulation should be reported to the email below. For this reason, Clearstream asks its customers to use the “Issue Declaration Form for Customer Simulation” which will be published on the Clearstream website under [Testing and Simulation](#). Clearstream collects all raised items, analyses them and reverts back to customers.

SET-GO Customer Readiness team

Email: [T2S-Support@clearstream.com](mailto:T2S-Support@clearstream.com)

## Glossary

Acronym or abbreviation	Description
<b>41 / 51</b>	Against payment transfer (receipt) / Against payment transfer (delivery)
<b>4F / 5F</b>	Free of payment transfer (receipt) / Free of payment transfer (delivery)
<b>A2A</b>	Application to application
<b>AKV</b>	Custody type NCSC
<b>BIC</b>	Bank identifier code
<b>CA</b>	Corporate actions
<b>CBF</b>	Clearstream Banking Frankfurt (CSD)
<b>CBF-i</b>	CBF international 6-series account
<b>CBL</b>	Clearstream Banking Luxembourg (ICSD)
<b>CCP</b>	Central counter party
<b>CSC</b>	Collective safe custody
<b>CSD</b>	Central Securities Depository
<b>DCA</b>	Dedicated Cash Account
<b>DCP</b>	Direct Connected Participant
<b>ECAG</b>	Eurex Clearing AG
<b>EoD</b>	End of day
<b>FoP</b>	Free of payment
<b>FT</b>	File Transfer
<b>GUI</b>	Graphical user interface
<b>ICP</b>	Indirect Connected Participant
<b>ICSD</b>	International Central Securities Depository
<b>IMS23</b>	CBF simulation environment
<b>IMS27</b>	CBF pre-production environment
<b>ISD</b>	Intended Settlement Date
<b>ISIN</b>	International Securities Identification Number
<b>KADI</b>	Kapitaldienste
<b>LION</b>	Lieferfreigabe Online
<b>MT</b>	Message type
<b>NCSC</b>	Non-collective safe custody in accordance with German depository law
<b>NCSC-T</b>	Non-collective safe custody ISINs eligible for settlement in T2S
<b>OCCT</b>	CBL test environment
<b>OTC</b>	Over the counter
<b>PFoD</b>	Payment free of delivery instruction
<b>SE</b>	Stock exchange
<b>SEME</b>	Sender's Message Reference
<b>SETI</b>	Stock Exchange Transaction Interface
<b>SET-GO</b>	Stock Exchange Transactions Go OTC
<b>SCS</b>	Securities clearing service
<b>SPOC</b>	Single Point Of Contact
<b>SWIFT</b>	Society for Worldwide Interbank Financial Telecommunication
<b>T2S</b>	TARGET-2 Securities
<b>T7</b>	Trading system for Eurex and Xetra market including local exchanges
<b>TDP</b>	Transformation Detection Period
<b>U2A</b>	User to application
<b>UTEST</b>	T2S pre-production environment
<b>WKN</b>	Wertpapierkennnummer
<b>WPR</b>	Wertpapierrechnung

## Appendix 1 – Daily test schedules

### **CBF customer simulation environment (IMS23)**

Please find more information about the daily test schedule in IMS23 on the [Clearstream website](#). The document has been updated in March 2021.

### **CBL test environment (OCCT)**

Please find more information about the daily test schedule in OCCT on the [Clearstream website](#). The document has been updated in July 2021.

## Appendix 2 – Examples of the migration reports

### List of to be migrated trades (J\_26M000)

CLEARSTREAM BANKING AG	ESCHBORN, 06.04.2021			
MERGENTHALERALLEE 61	TELEFON	+49-69-211-11177		
	TELEFAX	+49-69-211-61177		
TEST EXAMPLE LIMITED				
ONE EXAMPLE SQUARE				
GB LONDON E12 34AB				
BANK-NUMMER: 3 456	BIC: ABCDE12XXX			
CURR. DATE: 06.04.2021				
PAGE : 1				
LIST OF TO BE MIGRATED TRADES				
THE CANCELLATION IS DONE BY CBF				
CURRENCY : EUR				
CTDY. TYPE: AKV PURCHASE				
SEC.CD	TR-DATE	NOMINAL	ORIG-NOM	CASH AMOUNT CP-A
TR.NO BRKR	VAL/SET-D	PART-NOM	INFO	ERROR-NO
KYG875721485	14.05.14	240	240	651,95 7086
276673 7501	16.05.14	13	LV XE TB	
	NUMBER	NOMINAL	CASH AMOUNT	
TOTAL	1		13	651,95

#### Description of fields:

- NOMINALE / NOMINAL: remaining to be settled
- TEIL-NOM / PART-NOM: pending partial release (LION "Bemerkung": TB)
- URSPR-NOM / ORIG-NOM: always filled with original quantity
- Cancellation request for one leg only will be flagged with LION "Bemerkung":
- LK ("Löschung durch Käufer")
- LV ("Löschung durch Verkäufer")

List of not migrated trades (J\_26M000)

CLEARSTREAM BANKING AG		ESCHBORN, 06.04.2021		
MERGENTHALERALLEE 61		TELEFON	+49-69-211-11177	
		TELEFAX	+49-69-211-61177	
TEST EXAMPLE LIMITED				
ONE EXAMPLE SQUARE				
GB LONDON E12 34AB				
BANK-NUMMER: 3 456 BIC: ABCDE12XXX				
CURR. DATE: 06.04.2021				
PAGE : 1				
LIST OF NOT MIGRATED TRADES				
DELETED BY BOTH COUNTERPARTS OR CANCELLED				
CURRENCY : EUR				
CTDY. TYPE: AKV PURCHASE				
SEC.CD	TR-DATE	NOMINAL	ORIG-NOM	CASH AMOUNT CP-A
TR.NO BRKR	VAL/SET-D	PART-NOM	INFO	ERROR-NO
CA74386V1004	28.03.12	600	600	5.312,04 2099
250265 2099	02.04.12		LB VZ	
AMOUNT	NUMBER		NOMINAL	CASH
TOTAL	1		600	5.312,04

Description of fields:

- NOMINALE / NOMINAL: remaining to be settled
- TEIL-NOM / PART-NOM: pending partial release
- URSPR-NOM / ORIG-NOM: always filled with original quantity
- LION "Bemerkung":
  - LB ("Löschung beidseitig")
  - LT ("Löschung beidseitig Vortag")
  - ST ("Storno")

List of not successfully migrated trades (J\_26P000)

CLEARSTREAM BANKING AG		ESCHBORN, 06.04.2021		
MERGENTHALERALLEE 61		TELEFON	+49-69-211-11177	
		TELEFAX	+49-69-211-61177	
TEST EXAMPLE LIMITED				
ONE EXAMPLE SQUARE				
GB LONDON E12 34AB				
BANK-NUMMER: 3 456 BIC: ABCDE12XXX				
CURR. DATE: 06.04.2021				
PAGE : 1				
LIST OF NOT SUCCESSFULLY MIGRATED TRADES				
FINALLY REJECTED OR IN RECYCLING				
CURRENCY : EUR				
CTDY. TYPE: AKV PURCHASE				
SEC.CD	TR-DATE	NOMINAL	ORIG-NOM	CASH AMOUNT CP-A
TR.NO BRKR	VAL/SET-D	PART-NOM	INFO	ERROR-NO
KYG875721485	14.05.14	240	240	651,95 7086
276673 7501	16.05.14	13	LV XE TB	SE1010F
	NUMBER	NOMINAL	CASH AMOUNT	
TOTAL	1		13	651,95

Description of fields:

- NOMINALE / NOMINAL: remaining to be settled
- TEIL-NOM / PART-NOM: pending partial release
- URSPR-NOM / ORIG-NOM: always filled with original quantity

A list with the respective error and information codes will be provided in the SET-GO Migration Guide ICSD Migration (Phase 1).

## Appendix 3 – SEME Concept

### Composition of Sender's Message Reference ("SEME")

This section defines the calculation of "Function of Date and Trade Number" (digit 10-16):

The input parameters for the calculation of digits 10-16 are:

- Input date in YYYYMMDD format
- Trade Number in *nnnnnnn* format (7-digit number)

#### Step 1: Transform input date in YYYYMMDD format into a number DATE

- Formula:  $DATE(YYYYMMDD) = (DD-1) + 31 * (MM-1) + 372 * (YY \text{ modulo } 20)$

#### Step 2: Generate a second number RESULT out of DATE and TRADE NUMBER

- Formula:  $RESULT = 10.000.000 * DATE + TRADE \text{ NUMBER}$

#### Step 3: Represent RESULT in base 36

- Represent RESULT in base 36 via 7 coefficients  $a_0 - a_6$  so that:
- $RESULT = a_0 + a_1 * 36 + a_2 * 36^2 + a_3 * 36^3 + \dots + a_6 * 36^6$
- Where each coefficient can take values between 0 and 35:  $a_n = 0, \dots, 35$

#### Step 4: Fill digits 10 – 16 according to the coefficients from the base 36 representation of RESULT:

Define mapping array to derive the character from coefficient  $a_n$

Character set to be used:

- 0-9 A-Z
- Where 0-9 are represented as 0-9
- Where 10, 11, 12, ... is represented as A, B, C, ...
- Where 35 is represented as Z.
- Then digits 10 – 16 are mapped as follows (note that coefficient are mapped in backward order, i.e. coefficient  $a_0$  is mapped in the last digit 16, then coefficient  $a_1$  is mapped into digit 15, etc., until coefficient  $a_6$  is mapped into digit 10:
- Mapping logic:  $a_n \Rightarrow \text{Value}(a_n)$
- Where  $\text{Value} = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, \dots, Y, Z\}$
- Fill digits from coefficients  $a_n$  in backward order
- $a_0 \rightarrow \text{Value}(a_0)$  mapped to digit 16
- $a_1 \rightarrow \text{Value}(a_1)$  mapped to digit 15
- $a_2 \rightarrow \text{Value}(a_3)$  mapped to digit 14
- $a_3 \rightarrow \text{Value}(a_4)$  mapped to digit 13
- $a_4 \rightarrow \text{Value}(a_5)$  mapped to digit 12
- $a_5 \rightarrow \text{Value}(a_6)$  mapped to digit 11
- $a_6 \rightarrow \text{Value}(a_7)$  mapped to digit 10

### Calculation example:

Trade Number = 1234567

Input Date = 11.04.2032, that is, 320411 in YYMMDD format.

⇒ DATE(320411) =  $10 + 3 \cdot 31 + 12 \cdot 372 = 10 + 93 + 4464 = 4567$

⇒ RESULT = 45671234567

=  $23 + 4 \cdot 36 + 2 \cdot 36^2 + 17 \cdot 36^3 + 11 \cdot 36^4 + 35 \cdot 36^5 + 20 \cdot 36^6$

i.e.  $\{a_0, a_1, a_2, a_3, a_4, a_5, a_6\} = \{23, 4, 2, 17, 11, 35, 20\}$

With the array Value =  $\{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, \dots, Y, Z\}$

We have

- Digit 16 = Value( $a_0 = 23$ ) = N
- Digit 15 = Value( $a_1 = 4$ ) = 4
- Digit 14 = Value( $a_2 = 2$ ) = 2
- Digit 13 = Value( $a_3 = 17$ ) = H
- Digit 12 = Value( $a_4 = 11$ ) = B
- Digit 11 = Value( $a_5 = 35$ ) = Z
- Digit 10 = Value( $a_6 = 20$ ) = K

⇒ SEME = „SD581005EKZBH24N“

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