

Client Information

Important information about the market acceptance tests (MAT) of the KELER Service Development Program (KSDP)

12 May 2021

Dear Clients,

Following the commencement of connectivity tests in April, the KELER Service Development Program (hereinafter: KSDP) will soon reach a new milestone: from 1 June 2021, the market acceptance test (hereinafter: MAT) will start. Below we would like to draw your attention to some important information relating to the MAT testing.

Purpose of the MAT

The purpose of the MAT is to check the functioning of the services and function groups changed by IT developments implemented by KELER in the KSDP, which is based on interface connections, and to test the coordinated operation between the participants of the securities settlement system and the KELER IT systems, as well as to check the efficiency of IT developments, and not least, to test transactions used in live business operation in a manner that is integrated with the market practices of counterparties, by carrying out complete process tests.

Testing is mandatory for participants also who are not preparing any developments but only access KELER via the KID interface. Considering the major changes, clients in that category are also required to manually test the changes to the KID system interface and the transactions and processes that are part of daily live business operation.

Participation in the MAT

Participation in the market acceptance test is mandatory for all of our clients that have a securities account in KELER and access the settlement system via the KID (eKID), SWIFT or WARP applications.

The MAT tests covering business process testing can be started by clients who have successfully completed the connectivity tests.

In order to implement a sufficiently tested business process and functional testing, we recommend our clients to participate in both MAT phases.

MAT period

The market acceptance test consists of two phases:

1. 1 June 2021 - 9 July 2021 (MAT1)
2. 1 September 2021 - 5 November 2021 (MAT2)

Accessing the MAT environment

In the MAT tests KELER ensures the performance of complete process tests coordinated with the MNB test environment, in line with the VIBER (RTGS) opening hours. Due to VIBER's closing at 4.00pm, the KELER MAT test environment will be available between 10:00am-4:00pm on weekdays.

The reference data corresponding to the live closing status at the end of the day on 26 February 2021 (e.g. securities, account numbers, WARP settings and passwords) and balances will be loaded into the test environment. Migration of the transactions pending settlement on that live day will take place in a later phase of the project, and thus those transactions will not yet be accessible for testing purposes in the first phase of the MAT.

MAT access options

The MAT test environment provided by KELER can be accessed via the following channels:

- via the new KID thick client
- via the eKID thin client
- via the SWIFT link
- via the WARP system

The technical connection conditions for accessing the KID, eKID, and SWIFT systems are available on KELER's website, on the Strategy/KSDP-KELER Service Development Program page.

Starting from the MAT test, the test version of the current live WARP system will not longer be accessible, instead the WARP version containing the functional developments of the KSDP will be accessible.

The KSDP WARP application will be available from 1 June 2021 at the following address, using the current live or test certificate:

<https://warp.test.keler.hu/warp>

Using the live username and the pertaining e-mail address, users can request a new password in case they can't login, and new users can be created by the client's IT administrators.

In the market test, accessing eKID will also change. To access the test system please use the URL <https://ekid.test.keler.hu>.

MAT test support, error reporting

During the MAT test, our clients can use the KELER ServiceDeskPlus application to report errors. The datasheet necessary for registration and the system description (access, login, menu items, entering and monitoring requests, etc.) had already been published on KELER's website before the connectivity test.¹

The version of the **ServiceDeskPlus user guide** adapted to the MAT test will be issued during the week preceding the market test, and will also be based on the practical experience acquired from using the ticketing system during the connectivity test, in order to make the performance of the MAT testing and the error reporting process smoother.

¹ [english.keler.hu/Strategy/KSDP - KELER Service Development Program](https://english.keler.hu/Strategy/KSDP-KELER%20Service%20Development%20Program)

Errors reported or questions asked about the testing can be followed by all clients in the MAT, to avoid duplicates.

Business content of the MAT

The business content of the first phase of MAT (MAT1) is comprised by the transaction types and functionalities relating to the settlement within KELER (without payment or, except for EUR, for payment in foreign currency) of Hungarian securities issued in KELER, as well as the day-end portfolio and turnover reports. We include here the instructions that can be placed by clients and those that are received already matched in the KELER system.

KELER does not define any test cases supporting the MAT testing, and does not restrict the number of test cases executed. Any number of instructions can be submitted during the MAT within the availability hours of the test environment. Carrying out mass, volume or performance testing is neither sought nor required. If there is such a need, we ask you to contact the KELER staff in advance via the client test support application.

However, we would like to give some help in compiling the test scenarios, by defining the types of transactions and function groups that must be tested as a mandatory requirement and those that can be tested optionally, as described in **Attachment 1** (“Test Statement”). In general, all participants are required to test securities transfers (FOP), securities sales (DVP), bilateral cancellation of securities settlement instructions, and end-of-day client reports; starting from the second phase of MAT (MAT2) the processes relating to dealing with penalties of failed transactions, a part of the new market practice, will also be included.

Regarding the items that can be tested optionally we recommend that transactions and functions used in production be tested.

We also inform our clients that prior to starting MAT1 we will send detailed information about known functional errors affecting certain transaction types.

Please note that we prepare distinct scenarios during the MAT period for testing transactions instructed by market infrastructures (BSE, KELER CCP, KELER) and received as matched in the KELER system. Based on the test statements sent back, we will bilaterally inform our clients who plan to test these transaction types on the testing days and testing data.

In order to define the exact test scenario, we ask our clients who intend to start the testing in the first MAT phase to fill in the function categories (column C) in Attachment 1, sign it duly, and send it back no later than **28 May 2021**. Clients who only intend to join the market acceptance tests in the second phase are expected to send back the filled in statement no later than **31 August 2021**.

The transactions and function categories indicated in the statement may be compared and, if necessary, supplemented according to KELER’s records.

MAT test groups

In order to facilitate efficient testing, we grouped our clients into test groups, according to their plans to participate in MAT tests. Participants in the same group are asked to consult each other about test data and test scenarios relating to the successful transactional and functional runs intended to be tested during the MAT. The group composition can be found in **Attachment 2**.

During the testing of primary transactions and related FOP transactions the affected clients will, of course, be given a possibility to test with the State Debt Management Agency as counterparty regardless of the group to which they were assigned.

BIC code list

The current BIC code list required for BIC code-based counterparty identification and matching is contained in **Attachment 3**.

MAT success criterion

The success criterion for the MAT is the successful and KELER-validated test cases run by our customers in connection with the transactions and function groups pre-defined in the test statement. You will be asked to submit the test reports with the test cases properly documented and proven by reference numbers, confirming the successful test, by the end of each MAT period.

Successful testing exclusively in the first MAT phase cannot be done, considering that the mandatory testing of processes relating to the management of fines will become accessible in the second phase. So, while clients participating in MAT1 will be able to successfully complete the tests relating to transaction management, participation in the second MAT phase will be mandatory even for them, because the tests relating to the management of penalties must be carried out. T2S-related functions will also become accessible in MAT2.

Our clients who start the market testing in MAT2, must complete all the test cases during the fall period.

Services not affected by the MAT

This development phase of the KSDP covers only securities settlement instructions and functionalities related to them, which means that the following service categories and services will not be tested:

Service category	Service
Issuer services	ISIN code issuance Services relating to dematerialised securities Services relating to incentives for shareholder involvement Services relating to the management of corporate events Payment of consideration for dematerialisation procedures and transfer management Dividend payments Keeping the shareholder register Paying agent activities
General depository activities	Physical securities' transactions
Settlement services relating to foreign securities	Settlement and corporate action management processes relating to foreign securities
Payment transactions	HUF and FX transactions (e.g. crediting, debiting, IG2, IG3, VIBER, FX)
Other services	Collateral management and valuation services Trade Reporting (TR) LEI code issuance
Fee calculation, billing	

Test environment parameters

The parameters required for successful and efficient testing that were set in KELER's test environment are detailed below:

Parameter description	Parameter value
Default custodian priority assigned to instructions	4
KELER BIC code (=place of settlement and matching BIC)	KELRHUH0XXX
KELER sender BIC in the case of messages sent to customers registered for Reverse Billing	ZYAFHUH0XXX
KELER settlement bank BIC code (returned in confirmations)	KELRHUH0ABC
Technical BIC code assigned by KELER to customers that have no unique matching BIC	KELEHUH1XXX
KELER CCP BIC code	KSZFHUH0XXX
Number of future business days from the date when instruction is sent, by which the planned settlement date may be accepted	20
Number of past business days from the date when instruction is sent, by which the planned settlement date may be accepted	20
Number of recycling days of matched transaction	3
Number of recycling days of unmatched instruction	3

Parameter description	Parameter value
Settlement windows authorised for partial settlement	11:00 - 11:15 12:00 - 12:15 13:00 - 13:15 14:00 - 14:15 15:00 - 15:15
Reverse Billing BIC code needs to be sent only in these messages	MT544, MT545, MT546, MT547, MT548, MT578, MT598
Time passed after unsuccessful matching following which Allegement is sent out	15 seconds
Settlement tolerance level	Under EUR 100 000 = > EUR 2 Over EUR 100 000 => EUR 25; Under HUF 36 389 000 => HUF 728 Over HUF 36 389 000 => HUF 9 097; Under USD 122 710 => USD 2.45 Over USD 122 710 => USD 30.68 (In the case of tests to be done in other currencies please contact our staff in advance.)
Receiving securities account settings required for automatic transfer generation	Parameterisation corresponding to - production

Reference data settings based on client statements

Default communication channel

KELER will send back the status and settlement confirmation messages referencing the settlement instructions submitted by our clients via the same communication channel on which the instruction was submitted, that is:

- Via SWIFT, in the case of instructions submitted according to the ISO15022 standard,
- Via KID, in the case of instructions submitted according to the ISO20022 standard.

However, for so-called unsolicited messages relating to settlement instructions (not including messages relating to reports) the communication channel indicated as default by our clients will be applied on main account level. In connection with settlement instructions, the following unsolicited messages may be sent to our clients:

- Notification on unmatched transaction (allegement), its cancellation and removal
- In the case of pre-matched settlement instructions not initiated by clients via KID/SWIFT, the status notification messages and settlement confirmation messages sent to the relevant client (Multinet settlement, FISZER, BSE fix and auction transactions, WARP settlement instructions)
- In the case of securities accounts with automatic transfer generation setting, the status notifications and settlement notifications of FOP transactions

Please indicate on the datasheet in **Attachment 4** the default communication channel (KID/SWIFT) you wish to apply for your main account (in the case of multiple main accounts, for each one of

them)! Where SWIFT is indicated as the default communication channel, the unsolicited messages will be sent to every one of the BIC codes added to the Sender BIC list indicated for the main account.

Deadline for sending back the datasheet: **19 May 2021**.

Report delivery data

The KSDP implementation will allow the possibility to select, for new reports, the delivery channel (KID/SWIFT), where applicable, the report language and frequency, on main account level.

In the case of the various reports, it is possible to set whether it should be prepared only when there has been activity (change) or in every case (zero report). In the market testing environment, the above parameters will be set based on our clients' statements.

Reports that can be selected:

- EP01N - Securities account statement - daily, Hungarian
- EP01NA - Securities account statement - daily, English
- EP01H - Securities account statement - monthly
- EP02N - Executed securities transactions - daily
- EP02H - Executed securities transactions - monthly
- EP03 - Pending and cancelled securities instructions
- EP05 - Executed blockings
- EP06 - Cancelled and non-executed blockings
- PBNR - Fines report (daily)
- PBHR - Fines report (monthly)

Note: Penalty reports will be accessible in the second phase of the market tests (MAT2).

Please indicate on the datasheet in **Attachment 5** the following data pertaining to the various reports:

- Main account number
- Channel (KID/SWIFT)
- BIC code (in the case of SWIFT channel)
- Request zero report (yes/no)

Please note that delivery by e-mail or to a postal address in market tests is not possible.

Deadline for sending back the datasheet: **19 May 2021**.

Securities account-Cash account mapping

Based on our clients' current cash account use practices, KELER has completed the default cash account number settings for settlement instructions involving movement of funds in the test environment serving the MAT tests, according to the following rules:

- for credit institutions, in the case of HUF settlement: MNB account number
- for credit institutions, in the case of FX settlement: KELER account number (own/client's) according to segregation
- for non-credit institution clients, for all currency settlements: KELER account number according to segregation.
- cash account matching pertaining to specific transaction types, by taking over the current settings (primary transactions).

The above mappings will apply if the cash account has not been indicated in the instruction submitted to KELER.

We will make deviations from the above default settings upon specific request by the client. Please indicate such requests on the datasheet in **Attachment 6**, detailing the data.

Instructions for filling in the datasheet:

Main account number:	First four characters of the securities account held in KELER (main account).
Segregation:	S or M mark (own/client'). The setting applies to all own or all client-type securities accounts connected to the main account. (If instead of the main account a specific securities account is indicated, the nature of segregation does not need to be filled in.)
Securities account:	Securities account held in KELER in 10 characters. It does not need to be filled in if the securities and cash account mapping takes place on main account+segregation level.
Transaction type:	Possible value set: <ul style="list-style-type: none"> • DVP TRAD (Securities trading) • KELR/PRMT (Primary market transaction) • REPU, RVPO (Delivery repo) • <ALL>
Currency:	Currency of the cash account associated with the securities account/main account.
IBAN:	IBAN number of the cash account associated with the securities account/main account.

Deadline for sending back the datasheet: **19 May 2021**.

Sincerely,
KELER Ltd.